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THE

ALIENIST AND NEUROLOGIST

A QUARTERLY JOURNAL

—OF—

SCIENTIFIC, CLINICAL AND FORENSIC

Psychiatry and Neurology.

*Intended especially to subserve the wants of the
General Practitioner of Medicine.*

“Quantam ego quidem video motus morborum fere omnes a motibus in systemate nervorum
ita pendent, ut morbi fere omnes quodammodo Nervosi dici queant.”—*Cullen's Nosology: Book
II., p. 181—Edinburgh Ed. 1780.*

VOLUME IV.

—EDITED BY—

C. H. HUGHES, M. D.,

And an associate corps of collaborators.

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INDEX TO VOLUME IV.

ORIGINAL CONTRIBUTIONS.

Page.	Page.		
Bibliography, report on.....	655	Importance of a knowledge of insanity by general practitioners of medicine.....	276
Bilateral secondary descending scler- osis and atrophy, mainly of pons varolii and medulla oblongata; slight diffuse myelitis.....	1	Influence of age upon the mind and body in relation to mental derange- ment.....	220
Cerebral syphilis manifested by iso- lated involvement of the trigeminal nerve; persistent conjunctivitis and facial anaesthesia.....	58	Insanity from quinine.....	608
Clinical phenomena and therapeutics of delirium tremens.....	91	Management of chronic inebriates and insane drunkards.....	36
Contribution to the question of the mental status of Guiteau and the history of his trial.....	201	Maniaco-uræmic delirium in renal affections.....	439
Continuation of the study of the mi- nute anatomy of the central organs of the nervous system.....	383	Minor treatment of insane patients.....	675
Concealed insanity.—As illustrated by the case of Mark Gray	461	Myxedema—pachydermic cachexia... ..	14
Curability of insanity; new observa- tions.....	61	Neuratrophia.—The cause of inebriety; a clinical study.....	104
Experience of an opium eater during the withdrawal of the drug.....	26	Ophthalmoma.....	687
Extract from report on diseases of old age.....	97	Pathogeny of hallucinations in refer- ence to a case of voluntary psycho- sensory hallucination.....	119
Female diseases among the insane.....	113	Progress of psychiatry and neurology.....	270
Folie a deux—its forensic aspects.....	285	Reciprocal insanity	591
Guiteau.—A case of alleged moral insanity.....	193	Reflections on the development, move- ments and transmission of mind.....	291
Guiteau.—A case of alleged moral in- sanity.....	621	Rights of the insane.....	183
Guiteau, mental status of.....	543	Sexual perversion, case of.....	87
Guiteau, <i>in re.</i> —Reply to J. J. Elwell, M. D.....	417	Simulation of insanity by the insane... ..	355
Handwriting in relation to pathology, changes in.....	566	Some new experiments in muscle reading (thought reading.).....	175
		Studies on the minute anatomy of the central organs of the nervous system.....	236
		Syphilis in its relations to progressive paresis.....	450
		Syphilitic Gumma of the brain, case of.....	190
		Therapeutic value of cephalic and spinal electrizations.....	77
		Traumatism in relation to insanity....	646
		Trifacial neuralgia, report of cases of.....	611

SELECTIONS.

Page.

ANATOMY AND PHYSIOLOGY.—	
Action of the vagus.....	488
Cerebral color center.....	486
Electro-physiology of human nerves.....	489
External acoustic nucleus and restiform body.....	489
Nerve endings in the epidermis.....	489
Optic nerve.....	487
Rapidity of nerve force.....	490
Reflexes in childhood.....	490
Structure of the spinal cord.....	487
Terminations of olfactory nerves.....	707
CEREBRO PHYSIOLOGY.—	
Posterior lobes of the brain and the seat of intellectuality.....	322
Retreating foreheads and intellect....	321
Suavitor in modo, etc.....	322
CLINICAL NEUROLOGY.—	
Act of rotation.....	140
Arsenical paralysis, cases of.....	315
Arthropathies in progressive paresis.....	485
Bulbar lesions in ataxia.....	701
Functions of the phrenic nerve.....	140
Hereditary transmission of artificially produced lesions.....	320
Localized cortical atrophy, secondary to an extremity amputation.....	483
Low temperature in alcoholism.....	701
Myxœdema, case of.....	139
Note on the action of continued currents, studied from a physiological stand-point.....	312
Paralytic dysphagia from typhoid.....	701
Progressive total hemiatrophy.....	699
Reflex palmar emeses.....	321
Sexual perversion.....	485
Transient albuminuria as it occurs particularly in children, and adolescents in apparent health.....	484
Trophoneurosis of the skin in tabetics.....	484
Variola and vaccination in insanity.....	482
CLINICAL PSYCHIATRY.—	
Chronic iodoform psychoses.....	311
Delusions and executive ability.....	698
Early progressive paresis.....	695
Eye lesions of progressive paresis.....	474
Folie avec conscience.....	137
Gout and insanity.....	309
Hemiatrophy of the face in a monomaniac.....	698
Insanity in a child.....	311
Insane from fear.....	696
Insanity and Addison's disease.....	475
Locomotor ataxia terminating in progressive paresis.....	696

Page.

CLINICAL PSYCHIATRY—Continued.	
Meningeal tuberculosis of the cerebral convexity, abstract on.....	135
Mental symptoms and ear disease.....	697
Moral insanity—What is it?.....	298
Moral insanity.....	311
Non-Parietic forms of syphilitic insanity.....	306
Pathology of athetosis, Schutz on the, "Phobias" and the "Schwindels.".....	473
Post scarlatinal insanity.....	699
Primary monomania.....	694
Puerperal insanity.....	311
Pulse among the insane.....	474
Restraint.....	311
Senile progressive paresis.....	138
Stenger on cerebral affections of sight in general paralysis.....	303
Sudden recoveries from amnesia.....	697
Systematized alcoholic insanity.....	138
Temperature in insanity.....	310
Vicariation of nerve function.....	304
Transitory furor from lead poisoning.....	698
Transitory insanity.....	699
FORENSIC PSYCHIATRY.—	
Il Processo Guiteau.....	129
NEUROTHERAPY.—	
Action of narcotics.....	706
Actual cautery in neuralgia.....	481
Administration of choral.....	475
Alterations of the cord in phosphorus poisoning.....	140
Amanita muscaria in negative typhomania.....	481
Amyl nitrite.....	702
Capsicum enemata in opium poisoning.....	476
Carbon bi-sulphide in neuralgia.....	481
Coniin.....	481
Cure of a case of "rebellious neuralgia".....	482
Diabetes insipidus and central nerve lesion.....	479
Excitation of vascular nerve-centers.....	477
Ether douche or lavement for local pain.....	703
Gold bromide in epilepsy.....	482
Hydrobromic acid as a bromide substitute.....	705
Hyoseyama in psychiatry.....	478
Indian hemp in epilepsy.....	482
Nerve stretching.....	707
Nerve stretching and temperature.....	481
Nerve suture and transplantation.....	704
Nicotine in tetanus.....	482
Paraldehyde.....	704

SELECTIONS.

	Page.
NEUROTHERAPY—Continued.	
Paraldehyde.....	705
Paraldehyde as an hypnotic.....	707
Poisoning, case of.....	479
Silver in locomotor ataxia.....	480
Spinal lesions in ergotism.....	705

	Page.
NEUROTHERAPY—Continued.	
Succus conii in chorea.....	706
Therapeutic use of the magnet.....	479
Therapeutic value of nitro-glycerine.....	480
Tonga, in neuralgia of the face.....	482
Treatment of Meniér's disease.....	706

EDITORIALS.

ALIENIST AND NEUROLOGIST.....	714
Annales Medico-Psychologiques.....	500
Announcements.....	501
Aphasia and insanity.....	149
As others see us. (<i>Louisville Med. News</i>).....	328
Association of American Medical Editors.....	329
As others see us.....	492
Brass poisoning and insanity.....	152
Center for the salivary secretion.....	331
Commendable religious journal.....	325
Cortical sensory discharging lesions.....	494
Correction.....	297
Cotoin.....	331
Coupling of irresponsibility with insanity.....	151
Cure of a case of epilepsy.....	152
Dr. L. S. McMurty.....	715
Gazetteer men.....	151
General functional neurasthenia.....	330
Good periodical discontinued.....	152
Gospel of fatness, Dr. Clouston's.....	500
Government's tribute to the medical profession.....	147
Guiteau mania.....	497
Guiteau verdict.....	713
Hammond prize.....	331
Higher education of medical men.....	330
Honor to whom honor is due.....	147
How the jealous public protect the insane.....	329
Hypnotism.....	496
Insanity in hysterical women.....	499
Intimidation and compassion in the cure of insanity.....	708
Journalistic.....	324
Judicial psychology of the Guiteau trial.....	141
Kalamia vs. Uremia.....	151
Kleptomania.....	330
Large brain.....	151
Letters of the insane.....	327
London <i>Medical Times and Gazette</i>	498
Low temperature in insanity.....	148
Lunatics at large, Dr. Curwen.....	150
Malaria in skin diseases; a correction.....	150

"Many are called, but few are chosen.".....	494
Memory of Baron Munchausen revived.....	326
Medical management of hospitals for the insane, political changes in.....	715
Michigan law as to wills.....	711
Misconceptions of moral insanity.....	146
Moral character in insanity.....	714
More light on Guiteau's ancestry.....	148
Narrow view of insanity.....	151
New Antipyretic Kairn.....	501
New England <i>Medical Monthly</i>	501
Other channels of audition.....	498
Personal liberty and jury trials for insanity.....	495
Persistent double consciousness.....	151
Plea of insanity brought into disrepute.....	325
Power of vicarious nerve function.....	145
Premeditation as legal evidence of insanity.....	712
Psychical effects of nerve stretching.....	711
Public prejudice against the plea of insanity.....	145
Recent insane asylum investigations.....	491
Reign of the "Ines" in therapy.....	323
Reply to Dr. Elwell.....	501
Rights of the insane.....	143
Rights of the insane in Illinois.....	709
"Sane Lunatics.".....	714
Sensitive cardiac nerves.....	500
Simulation of insanity.....	496
Society for the protection of insane.....	152
Specialism in medicine.....	331
Stevens, Dr. Chas. W.....	742
Style of men who read the ALIENIST AND NEUROLOGIST.....	324
Term imperative conception.....	331
Thirty-seventh annual meeting of the Association of American Medical Superintendents.....	354
To the friends of the ALIENIST AND NEUROLOGIST.....	715
Trephining in a syphilitic.....	499
Tri-State Medical Society.....	329
Yearning for higher medical education.....	149

INDEX.

vii

HOSPITAL NOTES.

	Page.		Page.
A retired American superintendent.....	343	State Homœopathic Asylum for the Insane, Middletown, New York.....	725
Central Lunatic Asylum (for colored insane), at Richmond, Virginia.....	725	State Hospital for the Insane at Weston, West Virginia.....	721
Cincinnati Sanitarium.....	722	State Hospital for the Insane, Warren, Pa.....	515
Dakota Hospital for the Insane, at Yankton.....	729	State Insane Asylum, Augusta, Maine..	727
Dixmont, Pa., Hospital for the Insane.....	514	State Insane Asylum, at Cleveland, O.	723
Eastern Lunatic Asylum, at Williamsburgh, Virginia.....	717	State Insane Hospital, at Tuscaloosa, Alabama.....	724
Eastern Michigan Asylum.....	334	State Insane Asylum, Jackson, Louisiana.....	716
Eastern North Carolina Insane Asylum.....	724	State Insane Asylum, Stockton, California.....	729
First Minnesota Hospital for Insane, at St. Peter.....	722	State Insane Asylum, at Athens, Ohio.	719
Government Hospital for the Insane, Washington, D. C.....	728	State Lunatic Asylum, No. 2, St. Joseph, Missouri.....	719
Hospital for the Insane, Topeka, Kas.	514	State Lunatic Asylum, Jackson, Mississippi.....	720
Illinois Eastern Hospital for the Insane, at Kankakee.....	716	State Lunatic Asylum, Trenton, New Jersey.....	727
Indiana Hospital.....	514	State Lunatic Asylum, Columbus, S. C.	717
Missouri State Lunatic Asylum.....	342	State Lunatic Asylum, at Little Rock, Arkansas.....	718
North Carolina Insane Asylum.....	718	"The Retreat," Hartford, Conn.....	514
State Asylum for the Insane, at Topeka, Kansas.....	728	Western Lunatic Asylum, at Staunton, Virginia.....	725
Second Minnesota Hospital for Insane, at Rochester.....	721		

REVIEWS.

American Journal of Neurology and psychiatry.....	351	Higher education of medical men, and its influence on the profession and the public.....	347
American nervousness, Herbert Spencer.....	351	How to avoid insanity.....	539
Burr's index to medical subjects.....	171	Insanity; its causes and prevention..	736
Character and hallucinations of Joan of Arc.....	351-540	Insanity, its classification, diagnosis and treatment.....	523
Clinical lectures upon epilepsy.....	169	Insanity; its causes and prevention...	538
Compensazioni Funzionali Della Corteccia Cerebrale.....	730	Introduction a L'Etude De'Electrotonus des nerfs moteurs et sensitifs chez l'homme.....	539
Continental Magazine.....	739	La psychiatrie, la neuropathologie e la scienze affini.....	540
Crime of suicide, and how to prevent its increase by legislation and otherwise.....	348	Lecture on artistic anatomy and the sciences useful to the artist.....	351
Disease of the Scythians, and certain analogous conditions.....	168	Luys.....	527
Diseases of the nervous system.....	539	Medico-Legal Society of New York..	169
Dr. Mann's book on insanity.....	738	Medico-Legal relations of insanity, etc.	352
Giornale di neuropathologia.....	166	Medico-Legal Journal.....	540
Greisinger's mental pathology and therapeutics.....	170	Medical education and regulation of practice of medicine in the United States and Canada.....	739
Hartford <i>Courant</i>	170	Naso-antral catarrh, and its treatment.	351
Hand-book of medical electricity.....	540		

REVIEWS—Continued.

	Page.		Page.
Nervousness	165	Sulla compensazioni Funzionali del la	
Order of disorder in mental diseases...	163	corteccia cerebrale.....	537
Physician's daily record.....	740	Transactions of the Colorado State	
Proceedings of the Association of med-		Medical Society.....	345
ical officers of American institutions		Truth and removal.....	350
for idiotic and feeble-minded persons	343	Treatise on insanity in its medical rela-	
Reports of the insane hospital for the		tions	531
year 1881.....	153	Ueber die Summirung von Reizen in	
Rights of the insane, and their enforce-		den sensiblen Nerven des Menschen.	540
ment.....	349	Walsh's physicians' combined call-	
Scrofula and its gland diseases.....	351	book and tablet.....	171
Shoemaker's oleates.....	170	What shall we do for the drunkard.....	350
Sympathic diseases of the eye.....	349	Yonth's Companion.....	171

PROCEEDINGS OF SOCIETIES.

American Neurological Association...	512	British Medical Association	511
Association of Superintendents of		Pennsylvania State Medical Society...	508
American Institutions for the Insane.	502		

OBITUARIES.

Clement Adams Walker.....	520	Hervey Backus Wilbur.....	516
Geo. M. Beard, M. D.....	332	Prof. Chas. Laségua.....	522

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No. 1.

ORIGINAL CONTRIBUTIONS AND PREFERRED TRANSLATIONS.

**Bilateral Secondary Descending Sclerosis
and Atrophy, mainly of Pons Varolii
and Medulla Oblongata; Slight Diffuse
Myelitis.**

By WM. JULIUS MICKLE, M. D., M. R. C. P.,

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UNILATERAL secondary descending fasciculated sclerosis of the pyramidal tracts is, not infrequent, consecutively to certain cerebral lesions. It courses downwards through the basis of the crus cerebri through the pons and medulla oblongata, and mainly accompanies the decussation of the pyramidal columns of the latter into the post-lateral columns of the opposite side of the cord, but usually also, to a slight extent, takes on a direct distribution in the median segment of the anterior column of the same side. It supervenes in certain cases of hemiplegia, and its chief clinical manifestations are a rigid contracture, distortion and marked paralysis of the limbs of the affected side, to which also an exaggeration of the tendon-reflexes may in some cases be added.

This condition is almost invariably unilateral, the primary encephalic lesions capable of originating it being almost always unilateral. Bilateral it may be, if it is consecutive to certain considerable destructive lesions of

the pons, or oblong medulla, or spinal cord. Bilateral, also, the sclerosis usually is in a very different affection—namely, *primary lateral spinal sclerosis*.

But even the secondary form of cerebral origin may also, though rarely, be bilateral; and in what follows reference is made solely to cases in which bilateral and similarly situated cerebral lesions have given origin to double descending atrophy and sclerosis equally developed, or nearly so, on the two sides, and symmetrically situate in the crura cerebri, pons Varolii, medulla oblongata and spinal cord. And of these, attention will be limited to the examples in which the pons and medulla oblongata mainly suffer, and in which the spinal changes are comparatively moderate and diffuse.

These cases, no doubt, are rare; for it seldom happens that bilateral local cerebral lesions are of sufficient extent, and so situated, as to cause well-marked, symmetrical, and nearly equal, secondary sclerosis descending on each side. Ere this can occur certain strands of fibres passing from the pyramids of the oblong medulla through the crura cerebri and internal capsule—or their upward continuations, apparently must suffer symmetrically from decisive lesion.

Where this bilateral form of the atrophy and sclerosis chiefly and severely affects the pons Varolii and medulla oblongata, but also the cord in some degree (although here the change is more diffuse), it appears, judging by the case related below, that a group of symptoms arises which is distinct from the symptom-group attending primary or idiopathic lateral sclerosis of the cord, as described by Dr. W. H. Erb and others, and also from the symptoms attending ordinary paraplegia, as well as from those found in locomotor ataxy.

Although, during the earlier periods, at least, the clinical differences between the two affections are marked, yet in its ultimate course the tendency here perhaps would be for the locomotor and other symptoms to become those found in primary lateral spinal sclerosis.

But this is not certain, inasmuch as symptoms like these latter may occur without the said sclerosis, and the sclerosis without some of the symptoms in question.

It is worthy of note, too, that in the case to be related the lesion itself was rather an atrophy, with shrinking and disappearance of the affected nerve-elements, and some induration which tended to diffuse itself, than an ordinary gray degeneration and strictly systematic encephalitis or myelitis. Also, that certain cranial nerves had undergone atrophy and induration, apparently as the result of a chronic descending neuritis. Also, that the atrophy and sclerosis descending from the internal capsule mainly affected the pons Varolii and medulla oblongata; the lateral columns of the cord not suffering in any extreme degree, and the posterior sharing in the undue firmness; while the only alteration in color of the cord was the somewhat increased pallor and whiteness of the several columns. Clinically, the affection of the lateral and posterior columns would tend to partially neutralize each other.

SYMPTOMS.—To describe the symptoms in detail:

Earlier periods. The gait is slow, unsteady, somewhat shuffling, and has a rather jerking, springy appearance. The heels are in some measure brought down first, although not in the highly marked manner usual in locomotor ataxy. At each step, also, the lower limb is planted in a heavy and clumsy manner, and with a quaking and shakiness simultaneously due to quivering, jerking, flexion and extension movements at the knee-joint, as if it was loose. There is now no marked tactile anæsthesia or analgesia of the legs. The reaction to tickling impressions on the soles of the feet is somewhat lessened. The patient does not sway or fall on closing the eyes, and, indeed, he can walk blindfolded. There is an occasional hesitation in speech, and even quasi-stammering, especially when speech is commenced.

Later on, the gait is shaky and unsafe; the toes are somewhat turned out, the heels brought down, and the

feet planted jerkily and convulsively. As the patient walks (but not when he is^s at rest), the arms are at times held stiffly, and a little from the sides of the trunk, and the fingers rigidly extended, separated and bent back at the first phalangeal joint. And at this period, on standing with feet together and closing the eyes, the patient sways and inclines to fall, and soon violent tremblings and shakings of the whole frame come on.

And later still, in walking at times the legs are bent forward, but the trunk bent backward. In its more marked degrees this produces a strange distortion of the frame either in standing or in walking; the legs and knees being bent forward, and the latter brought nearer to the ground, the thighs and trunk being bent much backward, the head a little forward, and the posture being that of one about to fall backwards upon the scapulæ; as, indeed, the patient would sometimes fall if not prevented. In walking the heels are still planted first, and the toes are more or less turned out; nevertheless, the latter at times scrape the floor slightly. The steps are still shaky, and after taking each one the limb is convulsively shaken backward and forward at the knee-joint.

After standing awhile, the body becomes tremulous and shaky all over.

In the feet, tactile sensibility is now slightly impaired, but there is great failure in their sensibility to thermic impressions. Reflex action in them (as to pinching, touch, tickling,) is also lessened. Patellar tendon-reflex is present, even well-marked; no ankle-clonus is found.

In prehensile movement, the fingers are extended and separated widely and the act is slow, uncertain and accomplished after slow approaches.

Speech is now pausing, hesitating and spasmodic; *i. e.* there is an occasional long pause, a slowness to reply and a spasmodic speech-effort during the pause; after which comes a rapid, clear, fluent rush of words until interrupted by another quasi-stammering.

The affection of locomotion fluctuates considerably. Intercurrent attacks occur in which there are increased motor helplessness, numbness and loss of power in lower limbs, with momentary loss of consciousness, vertigo and temporary ocular paralysis causing strabismus.

In the case below, the patient died with cerebral symptoms which came on at a time when walking was still accomplished.

DIFFERENTIAL DIAGNOSIS.

1. From the gait and other symptoms of locomotor ataxy.

The condition above described must be distinguished from locomotor ataxy:—

By the presence of well-marked patellar tendon-reflex.

By the failure of thermic sensibility in the legs and hands.

By the absence until very late, and then the slightness of any ordinary cutaneous anæsthesia of the feet and of any decided increase of impairment of equilibration, and of locomotion on closure of the eyes.

By the absence of lightning pains and of engirdling sensations.

By the differences between the special and more minute details of the act of walking itself, in the two affections.

2. From the Spasmodic spinal paralysis and the spastic gait.

The spastic characters were defective and points of difference, from spasmodic spinal paralysis, obvious. For there was not marked increase of the so-called tendon-reflexes; the toes were turned out, and the heels brought down in walking (instead of the patient getting on the toes); and in the later periods there was a backward leaning and tendency to fall backwards (instead of a forward leaning and a tendency to fall forwards.)

Then, again, on the positive side, the convulsive shaking and jerking at the knee-joint at each step; and on the negative, the absence of spontaneous spasms,

ankle-clonus and of any permanent contracture, rigidity or distortion of the limbs, were all unlike the features of lateral spinal sclerosis.

REMARKS:—The changes in the calvaria and dura mater in the following case may have been due to a long-past syphilitic pachymeningitis and those in the basal ganglia and corpus callosum, to blocking of arteries affected with syphilitic disease. If so, the prolonged treatment by anti-syphilitic remedies had, for the most part, cleared up the syphilitic morbid processes, and their secondary results alone remained, namely, the wasting of certain nerves, the chronic meningeal changes and the local destructive lesions in the basal ganglia and other parts; while linked thereto, and one remove later, was a consecutive change, occupying the third place in a series of lesions successively dependent upon one another—namely, the descending atrophy and sclerosis of pons Varolii, medulla oblongata and upper part of cord.

The incipient induration of the cord, however, was rather diffused, being observed more or less in all its columns.

CASE.—M. M., Private, 79th regiment, single, æt. 35, service 17 years, partly in India and Ashantee. Admitted Feb. 1, 1876. First attack of mental disease and of four months duration. There was a history of syphilis and of some old injury to the head. He fell in a "fit" on parade, in Nov. 1874; this was followed by hemiplegia and by some affection of speech. From these he recovered to a considerable degree, but complained of severe frontal pain; went on furlough, and was found to be insane. He became incoherent, was sometimes restless, noisy and violent and suffered from delusions and hallucinations having reference to personal annoyance, persecution and danger.

On admission: Height, 5 ft. 9 in.; weight, 137 lbs.; appearance, cachectic. The pulse was soft and small. The gait was now heavy and slow; the feet were slightly shuffled along the floor; the grasping power of

the hands was lessened; the right limbs were the more paretic. A slight scar on the glans marked the site of a sore incurred in 1861-2, and one on the prepuce, that of a sore incurred several years later. In the groin was a bubo-scar; there had been several attacks of gonorrhoea. Traces of former tibial periostitis were obvious. This, he said, had afflicted him about eleven years previously and also had been associated with severe frontal pain and cranial tenderness and swellings. For a long period also, there had been cranial pain and tenderness, they still existed both by day and night—the pain dull, heavy, remitting or disappearing for days together; the tenderness mainly frontal and more marked on the right than on the left side of the head. On the lower face and trunk were cicatrices from acne and brownish stains on the skin of the back and arms. He said the forehead had been hurt during childhood, and the right side of the head in his fall in Nov., 1874, three or four months after which he had paralysis on the right side of the body, lasting four or five months and at that time was unable to speak; "the words were in his head, but he could not get them to come away,"

To return to the state on admission. The patient looked dazed and was easily depressed and fatigued, suffered from extreme impairment of memory and from auditory hallucinations. He also stated that people who had followed him from Ashantee, took away his meat and tobacco, caused the ceilings to flake over him and put gunpowder in his food.

Iodide of iron was ordered: also ammonia and quassia; and afterwards full doses of potassium iodide were added.

Subsequently, many of the delusions and hallucinations passed away, but mental impairment was still pronounced. Speech was deliberate, at times slightly hesitating, with elision or slurring, of syllables and a somewhat explosive utterance. No decided facial or lingual tremor or twitching was observed.

In Nov. 1876; vomiting, hepatic pain, tenderness and

increased dullness-area; pain over cœcum, ascending colon and splenic flexure of colon. The patient also, was now unusually stupid and dazed, he looked pale, complained of vertigo, was emotional and wept. Cranial pain had ceased. These symptoms passed away but the gait became more impaired than before.

Dec. 1876. Walked in a somewhat jerky, springy manner, the heels also being in some measure brought down first and the right leg planted the more clumsily and shakily. About this period, and later, he was paroxysmally more confused, stupid and helpless and the articulation worse. At times, also, he appeared to have auditory and visual hallucinations and his conversation was often incoherent and fragmentary. At each step a quivering, unsteady flexion and extension movement occurred at the knee-joint, as if it was loose. The heels were somewhat brought down. Yet he could still do the "balance step." The grasping power of the hands was about equal.

In 1877, the gait became more like that of locomotor ataxy, but was distinguished therefrom by the facts that the patient did not sway or fall when the eyes were closed and the feet planted closely together, that he could even walk a little when blindfolded, that there was no apparent anæsthesia and no analgesia of the lower limbs, though their reflex action to tickling of the soles was lessened. The body also was bent backward in walking. The writing was more irregular and erratic than before. Speech was slow, deliberate and somewhat fragmentary and at times there was a confused mumbling. Thus he would begin to speak, would pause, seem about to make explosive utterance and at last articulate utterance would come with a sort of quiet rush; then came a sudden stoppage and finally a drawling and partially broken speech. On the hands, pinches and thermic impressions were appreciated well and thermic and tactile impressions on the feet; the reaction of the latter to tickling was only slight. Incontinence of urine began to be troublesome; the pupils still were sluggish and irregular in shape.

July: Gait, delusions and hallucinations as at end of 1876.

Sept. 1877. A sudden attack of numbness and loss of power, particularly in the lower limbs, and momentary loss of consciousness, the speech being worse after it. Next day he could walk only unsafely, with the legs much shaken, the toes turned out, the heels brought down and the feet planted jerkily and convulsively, the right limb being rather the worse. On standing and closing the eyes, he now swayed and inclined to fall, and soon violent trembling and shaking of the whole frame came on. As he walked, the arms were held stiffly and a little from the sides, and the fingers were rigidly extended, separated and bent backwards at the first phalangeal joint. Slight left divergent strabismus was present but no ptosis, diplopia or mydriasis. Slight tactile anæsthesia of the feet was evinced and great failure of their sensibility to thermic impressions; reflex action to tickling, etc., was diminished in both, but rather less in the right foot, the one in which sensory failure was the greater. As regards impressions of temperature, he felt the same cold gold pencil case to be "warmer" when applied to the left foot as compared with the right one; and on neither could he distinguish between the same and a warm wooden pencil.

He improved and lost the strabismus. The long occasional pause in speech, the slowness to begin a reply and the preceding speech-effort remained. In grasping an object, the fingers were widely separated and extended, the act was slow, uncertain and accomplished after slow approaches. At each step after the foot was planted, were violent, spasmodic to and fro shakings of the limb, due to flexion and extension movements at the knee-joint. The patient stood unsteadily, swaying backwards, and forwards. Vertigo was complained of. In October, the former quasi-stammering condition of speech was exaggerated; also long words were sometimes slurred or mumbled and with speech were slight tremors of the upper lip and zygomatici. On December 14th, the manual

grasping dexterity was improved; left pupil the larger, both sluggish. On the 27th, patient weaker; gait worse; swayed much when the eyes were closed. Blisters applied frequently over spine.

1878. At times the legs were bent forward, the trunk bending backwards as if about to fall supine, and even to actual falling, if not prevented. The gait varied from time to time, in degree of defect. Not now wet or dirty. Rambling incoherent ejaculations. Speech as in October, 1877. The skin became drier, duller, more sallow and parchment-like. Later on, he staggered, or stood unsafely, particularly if the eyes were closed. Spasm of muscles of the face and tongue. Caligraphy worse.

May, 1878. Improved. Gait now but little affected by eye-closure. (Blister spine).

Sept., 1878. Ejaculatory, irrelevant, incoherent, imprudent in his replies and remarks. Still stood and walked with legs and knees bent forward, and with thighs and trunk, from the knees upwards, bent backward, as if about to fall on the back of the head, but the head itself being bent slightly forwards; the patient walking with the heels planted first, and the toes, especially the right ones, turned out, the right toes at times scraping the floor. After taking each step the limb still was convulsively shaken backwards and forwards at the knee-joint. Tactile sensibility of the feet and hands was now fair, but their sensibility to thermic impressions was lessened; a cold key and a wooden pencil alike seemed "neither hot nor cold" to him. Patellar tendon-reflex was present in both legs, especially the right. There was no ankle-clonus. Grasp of right hand the weaker. After standing awhile the body became tremulous and shaky all over. Tongue very slightly tremulous, and protruded slightly to the left. Pupils equal, irregular in shape, sluggish, of medium size. Omit the iodides of potassium and iron, and take perchloride of iron and cod liver oil.

March, 1879. Ecthymatous patches over left first

metacarpo-phalangeal joint; over fronts of thighs, especially of the left; and on the back and inner part of the right calf. Subsequently, boil on lower front part of left thigh, ulcer on dorsal root of right fourth toe.

13th.—Convulsion; enema chloral hydrate. 20th.—Convulsion, followed by slight right hemiplegia; drowsiness. 21st.—Short, shallow respiration, varying much in frequency, 16 to 48; tongue dry and brown; pulse 58; "pain in shoulders;" slight stertor; face flushed; urine free; sluggish, contracted pupils. Attempts to swallow produced violent cough, and he was fed by enemata. Replied fairly well. 22nd.—Same in day; at night 13 epileptiform convulsions (enemata chloral). 23d.—Modified Cheyne-Stokes' respiration; coma; contracted, immobile pupils; imperceptible pulse; face livid; skin rather cold, and of leaden hue generally; occasional twitches about face, especially about the left angle of the mouth. Later, the hands and arms became purplish, and the pauses in respiration became more marked. Death took place on March 24th, 1879.

ABSTRACT OF NECROPSY, 32 hours after death.

Calvaria, of slightly worm-eaten appearance internally, thin, part removed 12 3-4 ozs.

Dura-mater, rusty hue, and filmy formation, on its internal surface in the left temporal region, and slightly, also, in the right, and on the right orbital surface.

Cranial nerves, atrophy of the sixth pair, especially of the left; of the eighth and ninth pairs; of the second (optic) pair, which were small and hard; and doubtful slight atrophy of the portio-dura of the seventh.

Pons Varolii and medulla oblongata pale, atrophied, shrunken, and somewhat indurated on their anterior aspect. This was found on both sides; the anterior surface of the pons Varolii was irregularly sunken longitudinally, being retracted to fill up the place of longitudinal fibres now wasted or destroyed. The anterior pyramids of the medulla oblongata were shrunken; induration of its posterior columns was doubtful.

Meninges, thickened, stripped off from the brain with undue facility, no adhesions to cortex, pale; their veins contained less blood than usual.

Arachnoid, unduly thickened and dense, its patchy opacity considerable in degree and of customary distribution, on the superior, external, and median aspects of the cerebral hemispheres.

Pia-mater, slightly œdematous, the œdema being distributed in its relative degrees in correspondence with the arachnoidal opacity.

*Convolution*s, of fair size; *cortex* of fair depth, rather soft, turning of a lilac hue on exposure to the air in the greater part of the extent of its upper aspect, elsewhere pale, as in the cortex of the base and insula, in both of which it is alike on the two sides. Yellowish softening, and brownish-black pigmentation, of gray cortex at left sulcus interparietalis, one-half inch behind the anterior limit of the postero-parietal lobule.

White medullary substance of brain, of fair consistence, *puncta cruenta* small.

Corpus callosum; yellowish softening of its *genu* and adjacent portion.

Lateral and fifth ventricles enlarged, their ependyma as well as that of the *third* and particularly of the *fourth ventricles*, much granulated and of a sanded appearance and feel.

Corpora striata. On the ventricular surface of the left corpus striatum were two patches of softening and atrophy, shrunken, yellowish, each of the surface-area of a sixpence bit; one occupying the anterior tip, the other immediately external to and behind the first and separated from it by a narrow ridge of tissue and extending transversely from the external borders of the candate nucleus to within 1-8 of an inch of the internal. In the right corpus striatum was a softened and atrophied patch, almost symmetrical with the second of those just described in the left. The nervous tissue beneath each of them, to the depth of nearly half an inch, was reduced to turbid, yellowish,

detritus; and the tissues surrounding the irregular cavities thus formed were also invaded and modified in texture.

Optic thalami, general shrinking, pallor, and defective consistence; but no localized softening except a small patch in the depth of the right thalamus.

Gray commissure not visible. [Nothing special as to cerebral arteries at base.]

Cerebellum pale, its arachnoid opaque.

Spinal cord, pale, unduly firm in all its columns, but perhaps more so in the lateral columns; a somewhat diffuse leuco-myelitis, more marked laterally.

Weights. Right cerebral hemisphere, 21 1-2 ounces; left, 22 1-2 ounces; cerebellum, 5 1-2 ounces; pons and med. obl., 1 ounce; spinal cord and meninges, 1 1-2 ounces; blood and fluid from brain, 7 fl. ounces.

It need only be added that there were congestion and œdema of *lungs* and hypostatic pneumonia and at the right apex, traces of former arrested phthisis. L., 42 1-2 ounces; R., 22 ounces.

Liver, a capsular cicatricial patch as if from old gumma, 58 1-2 ounces.

Spleen, 10 1-2 ounces, firm, of flesh color, old perisplenic adhesions and cartilaginoid local thickening of capsule, which elsewhere was pigmented brown and yellow.

Kidneys, healthy.—L., 5 ounces; R., 5 1-4 ounces.

Myxœdema or Pachydermic Cachexia.*

A Critical Review by DR. G. SEPPILLI.

UNDER the name *myxœdema or cachexia pachydermica*, there has been described a morbid state, which has long been confounded with other affections of the organism, and particularly with *polysarcia*. Although it does not belong to the domain of the diseases special to the nervous system, we regard it as not outside our province to give to the readers of the *Rivista* some information as to its nature, as it is characterized, besides the singular aspect of the external configuration of the body and the alterations in the skin, by sensory, motor and psychic disturbances; and furthermore, as several observances of the disease have been made in individuals received into asylums for the insane.

The first to draw attention to it was Dr. Wm. Gull, in a memoir presented in October, 1873, to the Clinical Society of London, in which he related the observations made on five women, in whom he had noted, as characteristic, a general œdema, very consistent and extended in the skin and the subcutaneous connective, which deformed the whole body, but in an especial manner the face and the extremities, and was attended by a grade of intelligence very analogous to that of cretinism; he therefore designated this new morbid state *cretinoid œdema*.

A few years later, in 1878, Dr. Ord reported some personal observances, with phenomena perfectly similar to those stated by Gull in his cases, and he further described pretty fully the anatoma-pathological results of an autopsy which he, for the first, had the opportunity of making in such cases. Ord, having regard to the nature of the

* Translated by Joseph Workman, M. D., Toronto, Canada, from the *Rivista Sperimentale di Freniatria*, etc.

œdema, quite special, which, as we shall presently describe it, is observed in the course of the affection, substituted for the name given to it by Gull, that of *myxædema*.

In the meantime Charcot had, in his practice, noted some singular facts, which he proposed to bring under attention, under the designation of *pachydermic cachexia*, before he became aware of the observations of Ord, which exactly agreed with his own.

Up to the present time the number of cases found in medical literature has been more than forty. These cases are so analagous, in both their symptoms and course, as to enable us to delineate the general physiognomy and the principal characteristics of the disease with sufficient completeness.

In observing the patients we are, first of all, struck with the general deformity of body, which, at the first view leads to the belief that they are affected with Bright's disease. The face is swollen, broad, and of an ashy pale color, with which the rosy tint of the breasts is in marked contrast. The eyelids are tumefied and semi-transparent and are widened with difficulty; the distance between the eyes seems to be increased, the nose is gross, broad and flattened at the base, and the nostrils are dilated; the lips are tumid, drooping and bluish; the mouth is enlarged transversely, and but little movable. All these traits give a characteristic imprint to the physiognomy, deprive it of all expression, and make it appear as if covered with a mask. The limbs, too, are notably increased in volume, consistence and weight; they resemble real cylindrical columns, and seem to be all formed of a piece; the hands and feet become so tumefied and deformed as to resemble the extremities of a pachydermous animal; their movements are accomplished with slowness and a certain difficulty. Gull compares the singular form assumed by them to that of a spade. The abdominal walls are also tumid and resisting. The skin is pale and thick; it presents folds corresponding to the various regions of the body (the forehead,

neck, etc); it is dry to the touch, rough and resisting, as if it had been bathed with some strong alkaline solution; on the palm of the hands and the soles of the feet, it acquires the consistence of leather, and gross large scales of epidermis cover it. The secretion of sweat and sebaceous matter is suppressed, the hairs become scarce and fragile, sometimes the nails fall off deformed, or break and become detached.

The œdematous aspect of the whole cutaneous envelope is analagous to that of anasarca, from which, however, it differs in substance through the anatomical condition that determines it, and the almost stony hardness which the skin assumes, in consequence of which it does not pit under pressure of the finger, nor maintain the imprint, as observed in true œdema.

Besides the skin, the mucous tissues also participate in the morbid process. A tumefaction, more or less considerable, of the mucose of the gums, the tongue and the velum pendulum is met with, which in some cases extends to the larynx, in consequence of which the voice acquires a special tone, and becomes hoarse. Sometimes thickening of the rectal mucose is observed, from which defecation is obstructed; the vaginal and uterine mucose also is thickened. The dyspepsia observed in some cases renders it probable that the mucose of the stomach also shares in the general infiltration of the external and internal investment of the body, as Dr. Ord believed he had established in an autopsy made by him.

The nervous system is the seat of various disturbances. All the mental processes are usually manifested with considerable slowness, the association of ideas is defective and difficult; memory is imperfect and diminished, the will is feeble; in short, a true cerebral torpor is present. Sometimes, however, psychical activity remains intact. This was observed by Dr. Morvan in fifteen cases, and he has furnished the richest exemplification of the disease.

In some cases, on the other hand, there was observed

a state of maniacal excitement with delirious ideas, or of melancholia with illusions and hallucinations. Hammond relates the case of a woman affected with myxœdema, who had frequent hallucinations of sight and hearing, and insisted that vitriol was put into her milk and food by certain Frenchmen, in order to make her suffer. Inglis reports two cases: one of a man who, three months before presenting myxœdema, had fallen into a state of lypemania with suicidal tendency; the other, of a woman of thirty years, the mother of eight children, who, for two years past, had given signs of mental enfeeblement, and was attacked by a true maniacal access.

The case recently published by Blaise is very interesting—that of a woman who, at the age of twenty-seven years, began to present a progressive thickening of the skin, which was associated with alterations of the special senses. She found her food, however well prepared, tasting and smelling nastily, she accused the persons about her of speaking evil of her, insulting her and making obscene proposals to her; it seemed to her that her body exhaled a repugnant odor, and that her head was changed into that of a dog. The sensorial alterations and her ideas of persecution lasted through several months, and then progressively disappeared. It is noteworthy that the improvement in the mental state of this patient, advanced *pari passu* with the diminution of the infiltration which had been formed in the skin and the mucose.

The torpor of cerebral activity is exhibited beyond the psychic domain, also in the functions of motion and sensation. The movements of the body are tardy, ambulation is unsteady, slow and difficult; the most simple acts, such as dressing, raising a light weight, or even raising food to the mouth, are accomplished with effort, which seems to stand in relation with defect of energy of cerebral excitement, rather than with muscular enfeeblement. In the first case of Inglis, above cited, there existed a diminution of the Faradic contractility of the muscles where œdema was most marked.

The movements requisite for language take up so much time in accomplishment, that the words follow each other with a surprising tardiness; the voice is monotonous, hoarse, and, in consequence of the œdema which infiltrates the mucose of the larynx and the isthmus faucium, it takes on a nasal tone. At the moment when the patient has to speak, says Dr. Ord, he commences to close the mouth, then he depresses the lower lip, makes a movement of deglutition, and executes an inspiration, opening the mouth widely, and at the same time he drives the air with noise through the nostrils. According to Ord, this movement of deglutition has for its object the retraction of the velum palatinum.

The general sensibility is usually obtuse; sensorial impressions are but little and slowly perceived; sometimes the special senses are also debilitated.

Among the subjective symptoms most frequent, we may mention cephalæa, which may be intense, a tendency to sleep, sometimes irresistible, and a sensation of cold. The temperature is almost always below the normal, but sometimes one degree above it. The extremities are very cold. Haddon examined the mean temperature in five cases, and in only one did he find it a little above normal, 37.3 C. (99.14 Fahr). The lowest temperatures noted by him, oscillated between 35.5 and 25 C. (?) 95.9 and 77 Fahr. The last marking was met with a few minutes before death. In a case of Hammond's a lowering of temperature was noted, which never exceeded 35.5 (95.9). In another, described by Bourneville and D'Olier, the rectal temperature, taken morning and evening through eight consecutive days, was invariably 37.2 in the evening—(98.96).

As regards the organs of vegetative life, it has been observed that in the majority of cases the heart presented no abnormality; in only a few cases the second sound was accentuated. Respiration is generally difficult, and is accompanied with a sense of dyspnœa. The digestive functions are disturbed; dyspepsia and constipation

are almost always constant; sometimes sialorrhœa is observed. Menstruation is difficult and irregular; usually amenorrhœa is present. The urine does not contain albumen, unless in the last periods of the disease, in which there may supervene an alteration in the kidneys analagous to the vulgar interstitial nephritis. Unless this complication is realized, the urine does not become albuminous. Haddon observed in the urine a notable diminution of urea, and Hammond an excess of urates.

From the preceding description it is seen that the deformity of the body, and more particularly that of the face and limbs, consequent on the tumefaction of the skin, the torpor of cerebral activity, manifested as well in the psychic functions as in those of motion and sensation, the diminution of temperature, the absence of albumen in the urine, are the morbid phenomena most salient and characteristic of the special affection which has been called *myxædema* or *pachydermic cachexia*.

The causes of this disease are yet unknown to us. It was, for some time, believed that women only were subject to it, but it has since been seen that men also may present it. Nevertheless, it appears that the disease is most readily developed in women; from our collected observations we conclude that its frequency in the two sexes stands in the proportion of five women to one man. Some of the women had been married and had children before the signs of the disease presented. Adult age is the most predisposed to this affection; it was observed almost always in persons between thirty-five and sixty; very rarely before thirty years of age. Only two cases have been known in which the symptoms appeared in infancy. These occurred in two children of four years, one of whom, reported by Goodhart, was affected with cretinism, and the other by Charpentier, with idiocy. Some writers adduce as causes, affliction, emotions, the climacteric period, prolonged fatigues; but in our opinion these have little value. It appears that syphilis, excesses in drinking and eating, climate, have no influence in the genesis of the disease.

Myxœdema has a very slow but progressive course ; it lasts for many years. It is difficult to fix the time or manner of its commencement, because the majority of the patients have come for examination by physicians when the affection had progressed some time, and they could not give precise information as to its origin. It seems that in some cases it had commenced rather suddenly, as in the observation of Prof. Charcot, reported by Thaon, in which the œdema manifested itself cotemporarily in all the four extremities. In one patient of Ord, the first signs of the disease were chills which were followed by general debility, pains along the back and tumefaction of the skin. Death occurs after some visceral complications and especially lesions of the kidneys. It has been recorded in only two or three of the cases described.

What is the nature of the phenomena we have detailed? To what anatomical lesions do they correspond? Dr. Gull, who was the first to engage in the study, restricted himself to a very neat description of the morbid phenomena observed by him, leaving to others the task of determining the nature of the disease. He made choice of the designation cretinoid œdema, with the sole view of representing the exterior aspect of the patients, which much resembles that of cretins. Ord had opportunity to make the autopsy of a female patient. By some clinical and histological researches, he established that the general cutaneous and sub-cutaneous infiltration, which in a characteristic manner deforms all the body, is not due to a collection either of fat or of serum, but to a special substance of gelatinous aspect, which gives to all the tissues the characters of mucous tissue ; the sudorific glands are manifestly atrophied ; the nerve extremities in the skin appear to be enveloped in a transparent substance ; the adventitious tunic of the arteries is three or four times thicker than normal. Besides the lesions of the skin, œdema of the vocal cords and of the gastric mucose observed, atheroma of the aorta and of the cerebral

arteries, hypertrophy of the muscular interstitial connective, especially in the heart, from collection of mucine, with diminution of the muscular elements were also noted. In the liver also the intercellular substance was increased in volume, because of which the hepatic cells appeared very distant from each other and in part atrophied. The alveoli of the thyroid gland were compressed and in a large measure destroyed by neoform interstitial substance. The kidneys were notably thickened, and finely granulous on the surface, with obliteration of the glomerules.

On the basis of these data, Ord sought to explain all the morbid phenomena of the disease, making them uniquely to depend on the presence of mucous tissue, and for this reason he designated the disease myxædema. According to him, not only the deformity of the body and the principal visceral disturbances and especially those of the digestive functions, but also all the morbid sensuous motor and psychic phenomena are due to the infiltration of mucine into the connective of the skin, the muscles and the mucose. He believes that the mucous substance which is collected in abundant quantity among the meshes of the subcutaneous connective, finding itself in contact with the nerve terminations, forms around these a species of isolating envelope, by reason of which the nerves respond to the action of peripheral stimuli only feebly and imperfectly and hence become incapable to arouse, conveniently, as in normal conditions, the activity of the nerve centers. These remain in a state of inertia, which affords us the explanation of the slowness of movements, and of the tardy and monotonous articulation of speech and the enfeeblement of all the mental processes. In a word, the brain, coming under want of its habitual stimuli, falls into a state of stupor and becomes habituated to tardiness of reply, as happens to a limb whose function is enfeebled when it remains unexercised.

But this theory of Ord, which subordinates all the symptoms of the disease to the accumulation of mucous tissue on the periphery of the body, has appeared to

several other observers, and to ourselves also, as not to be accepted in an absolute manner. The idea of trying to explain in all cases, the cerebral torpor by diminished functional activity of the peripheral nerves of sense, and consequently a less reaction to stimuli, is inexact and absolutely contrary to what experience teaches. Some morbid states are known, in which, although general sensibility is notably diminished, cerebral activity is by no means torpid. Proof of this is given by certain hysterics who are insensible to any stimulus applied on any part of the body, in whom the mental processes are yet manifested with uncommon promptitude, activity and energy: certain insane persons, quite insensible to dolorific and thermic stimuli, show in the midst of their mental disorder, very evident signs that their minds still live and act. In lepers, despite their general anæsthesia, the cerebral faculties remain active through many years.

The interpretation of Ord might have a certain value had it been first shown that in all cases of myxœdema, the infiltration of the skin and the cellular tissues had preceded for a long time the appearance of cerebral phenomena. But in none of the cases was this chronological sequence of symptoms verified; in some, indeed, the inverse order was observed. In the case cited by Blaise, the cutaneous infiltration and the sensory and psychic disturbances were presented coterminally and disappeared so, from which we might hold them as the effect of the same morbid condition.

Goodhart was among the first to combat the interpretation of Ord, noting the fact that no affection of the skin, such as myœdema, is capable, *per se*, of disturbing the mental faculties, when once the brain has acquired its complete development. This influence, he adds, may be admitted only in infancy, in which the nervous centers have not yet been fully developed.

It seems to us much more probable that the cerebral torpor may be the cause of diminished cutaneous sensibility, rather than the effect of it; it would then seem to

be not a subordinate morbid symptom, but would form rather a cardinal symptom of the disease. Thaon shows himself inclined to ascribe to the state of the brain the greater part of the morbid phenomena of myxædema. Goodhard thinks that in the nervous centers, modifications analogous to those observed in the connective of the other organs take place; but this opinion is opposed to the fact, that the researches of Dr. Ord on the central organs of the nervous system gave negative results.

Dr. Hadden has advanced another hypothesis on the nature of myxædema, which is, that it is a primitive affection of the vaso-motor system, on which depend the physical and mental torpor, the subnormal temperature, the diminution of the quantity of urea, &c. But this hypothesis is untenable, for it is not known that either a paralysis or a spasm of long duration of the vaso-motor fibres can give origin to morbid phenomena similar to those of myxædema. (Ord)

Thaon makes the observation, that in this affection all the organism takes part; the decadence is general, the blood is impoverished, the functions are languid. Such a state, then, represents a true cachexia.

It is therefore evident, that it is not granted to us to establish, with precision, anything on the nature of the disease. In order to arrive at conclusions of some value, further observations are required, which may serve to exhibit better, the clinical course of the disease, and the anatomopathological alterations, about which we know but little.

Almost all the observers are found in accord in holding that the morbid state described, constitutes a nosological species quite distinct. It may be differentiated from the *morbus Brightii* by the following characters: absolute absence of albumen in the urine and of uremic phenomena in the course of the affection (excepting however in the last stages), solid consistent œdema which does not pit under digital pressure, as in the case of serous œdema, persistent cerebral torpor. Dr. Mahomed, however, believes that myxædema is not an autonomous

morbid affection, but a symptom of the chronic disease of Bright, without albuminuria.

The analogy of morbid phenomena, (tumefaction of the skin, tardy articulation, cerebral inertia) which is observed between the myxœdema of adults and cretinism, might lead, according to Ord, to the belief that cretinism commences in a simple general myxœdema, in consequence of which the stimuli of sensation necessary to favor the development, and to excite the functions of the nerve centers, are interrupted in their action; the absence of external sensations deprives the brain of one of its principle means of education.

In this hypothesis of Ord, on the genesis of cretinism, an exaggerated importance is given to the lesions of the skin. In cretinism we have a slow poisoning of the blood by a special miasmatic principle, which, associated with other circumstances, as hereditary defect of race-crossing, bad hygiene, &c., impresses on the general economy, modifications more or less profound, impedes the development of the organs, and above all, of the cerebro-spinal system.

In a case of myxœdema described by Bourneville and D'Olier, observed in a certain idiot of nineteen years, the solid œdema of the skin, the deformity of the limbs and face appeared tardily. The authors, therefore, in this case considered the appearance of the myxœdema as a complication of the pre-existing state—the cretinisms—which would weaken the hypothesis of Ord.

It may now not be denied that a certain similitude exists between myxœdema and cretinism, in the external configuration of the body, the inertia of the cerebro-spinal centers and the special characters of the skin observed in the two cases. Dr. Gull, who had already noted it, defined the special morbid state observed in his cases, as a cretinoid state developed in adults. It is known, however, that whilst hypertrophy of the thyroid body is met with frequently in cretins, it is generally wanting in persons affected with pachydermic cachexia.

Up to the present day but little is known as to the treatment of this disease; milk diet, sulphur baths, residence in a dry temperate climate may promote improvement. It is worthy of note that hygienic means prove much more efficacious than medicine used internally. These are, in general, badly tolerated in consequence of the gastric disturbances so frequently observed, and perhaps, also, because of the obstacle which the infiltration of the skin presents to the functions of excretion, through which the accumulation of medicinal substances within the organism is favored.

We shall close by calling the attention of our physicians to this as yet little known and little studied disease, hoping that the description we have given, by profiting from the observations hitherto published, may serve as an incitement to the initiation among us also of appropriate researches, and to the bringing into notice of those cases which any may have had opportunity to observe.

Experience of an Opium Eater During the Withdrawal of the Drug.

*BEING THE CONFESSION OF A PATIENT WHILE UNDERGOING
TREATMENT FOR THE CURE OF THE HABIT, AT A
DISTANCE FROM HIS PHYSICIAN.*

Recorded by C. H. HUGHES, M. D., St. Louis.

SINCE DeQuincy and Coleridge published to the world their experience with the drug that enslaved them, medical literature has been but little enlightened by the self-recorded testimony of such as have yielded to the neuropathic thralldom of opium. Since the highly sensational records of these *litterati* first appeared in print, an occasional auto-biography has been printed like those that may be found written down in "The Opium Habit," a book published a few years ago by the Harper Bros.; the contributions of Calkins, Kane and others also contain histories of cases. But it is rare to encounter among one's patients, a person with enough persistent courage and fidelity and determination of purpose to honestly and successfully aid in the management of his own case, while living at a distance from his physician and having to rely upon his own volition in the trying emergencies always associated with the perfect emergence, even in the best managed cases, from the slavery of opium. The patient whose self-recorded history in great part appears in the letters that follow, was one of this kind—a man of rare courage and exceptional fidelity to truth for an opium eater, respecting his enslaving habit, as he who publishes these records of the true inwardness of the feelings and effects of the victim manfully struggling and determined to be free, can attest, having had him a sufficient length of time under his own eye and roof, after the victory, to know that he was in truth "redeemed,

regenerated and disenthralled." The writer of this record has had sufficient experience with the victims of chronic meconism to know how cautiously their words are in general to be taken, when they pertain to their vice and its abandonment. The letters are given without the dotting of an "i" or the crossing of a "t;" *verbatim et literatim*.

When the patient on one occasion found himself fearful that no self-resistance aided by what medicines he had, would alone save him from relapse, he came speedily by rail, a distance of several hundred miles, to his physician, remaining until his pangs were relieved by additional medication. This he did in accordance with his promise that if he at any time feared he could not hold out, he was not to resort to morphine, but to come at once to us for help. This was his last and triumphal effort. An increase in the amount of his cannabis indica, quinine and camphor during the day, some timely galvanism and chloral and the bromides at night, for three days, turned the scale. The minimum daily quantity of morphine taken by this patient was ten grains before he began to break off the habit.

October 20th, 1875.

DEAR DOCTOR.—I have almost begun to think we are going rather fast. Last night was fearful; slept considerable, but very poor sleep; and worse dreams; and this A. M., feel like I had been stewed. Have not energy enough to move if I was not compelled to move to rest my aching bones. Can't keep myself in one position more than a second; every inch of bone has ached continually since eleven o'clock yesterday. I think I turned over 185,000,000,000 times last night; didn't count 'em however, and may have got it two or three too many; have tolerable appetite at times; but when I do eat, the food stops just as soon as possible and torments me for two or three hours; can't get it to go on down; sometimes I feel hungry and sit down to eat, but as soon as I commence the appetite leaves and my stomach says no more. If I continue to go down as fast as I have so far, it will be but few days until I can't get out

of bed. I have taken the medicine according to direction as near as possible, and think I have taken very little if any, more or less than one tablespoonful daily. You did not say at what time of day, or how I should take the black looking drops from small bottle, those that I am to increase two drops daily; thus far I have taken them in morning, by dropping into the spoon with the solution—is this correct?

Yours truly,

R. S. McM—

October 21st., 1875.

DEAR DOCTOR.—I wrote to you yesterday that I was then feeling rather badly and thought perhaps we were going a little too fast, but, by ten o'clock yesterday, I was feeling better and slept better last night than usual, and to-day do not feel so weak as yesterday, and now rather hope I am good for it. But, from about three o'clock A. M., I slept but little on account of soreness in chest and across kidneys; suppose it is liver; have been subject to spells of same kind for many years; they usually hang on two or three weeks at a time unless I take something; but I have very seldom taken medicine for it; usually let it wear off. Have been troubled rather worse than common for two or three days, so much that I have to breathe very short, as a long full inspiration *seems* to tear the *lining* out of my chest, and at the above mentioned time, it is impossible to move the body without pain. But, after I get up and move around awhile, the soreness leaves me. I concluded I would adopt a new plan to-day, namely: In morning take only about half a dose of the solution, and at noon, little or none, and at night take more so as to get better rest. Can get along much better in day time than in night, for during the day, if I conclude I can't sit still any longer, I can get up, but in night it is not pleasant to do so. However, if it does not meet with your approval, of course I will discontinue it and follow directions.

Yours truly,

R. S. McM—

October 23d, 1875.

DEAR DOCTOR.—Nothing new. Think I feel fully as well as when I last wrote, and rather think the idea of taking light doses of solution, morning and noon and more at night is a good one, at least it seems to work

well. Yesterday morning I took, as near as I could guess, about forty drops, and at noon the half of that, and at night about three-fourths of a tablespoonful, and rested very well; however, I got pretty shaky late in afternoon, but think I can make it go.

Yours truly,

R. S. McM——

October 25th, 1875.

DEAR DOCTOR.—Yours of 21st. received. At present, I have not a shadow of a doubt but I shall get through in good shape, with considerable of the old frame, which I can weather-board and fix up so as to look almost as good as new. I flatter myself that I am getting along first-rate. I rest better and feel better. For the past three or four nights have slept pretty well, feeling as well as one could expect. I understand that unless I can't get along with the solution [acidulated solution of quinine] and black drops [tincture of cannabis indica], I am to get the other prescriptions filled. But, if I can get along without them, I had better do so; unless I am mistaken I think I can make it with those alone, at least for a while.

I emptied the bottle of tonic which I had put up while in St. Louis, into the bottle of substitute last night, and as I take from solution, add the substitute. The pills you mentioned in your last, I will do without as long as possible, with your permission, for I really don't believe I could get one down.

Yours truly,

R. S. McM——

October 27th, 1875.

DEAR DOCTOR.—Yours of 21st. received. Am still getting along finely; have not had the hypnotic prescription filled and have some idea that I will not want it, at least for some time. I understand that I am not to take any more of either the solution or neurotic than is necessary to keep me on my pins; thus far I have taken only two doses daily of latter, twenty to twenty-two drops each. Am I right to take just as little as I can?

I chew but little tobacco, but smoke a great deal. I find the more I smoke, the better I feel. But as tobacco does not taste right, I chew but little. Would it not be a good plan to take solution and neurotic both, or

rather either, only when necessary? I think I take both sometimes when not really needed. Yours truly,
R. S. McM————

October 30th, 1875.

DEAR DOCTOR.—Yours of the 28th, received this A. M. I am still feeling first-rate; however, night before last I had a terrible old head-ache; I had been at office all day; head ached a little, but not bad until about 5 o'clock; went home and by time I got there, was fearfully sick; thought head would burst; bathed it with the evaporation lotion [aeth. sulph.] and laid down; head eased off in a couple of hours; felt weak next morning, but am all O K this A. M.; have the utmost confidence in result of your treatment, and am satisfied will take less than half the drugs and medicines you expected. Since 3 o'clock, Thursday, to the present, 10 A. M. Saturday, I have taken two tablespoonfuls of solution and sixty drops of neurotic only, [cannabis indica, camphor and ammonium bromide] and expect to reduce the neurotic to twenty drops to-day, and if that works all right will still further reduce amount to-morrow.

Will keep you fully posted and will try no experiments without your knowledge; but I am just fool enough to firmly believe that if I was there with you now, I could drop the entire lot, and by walking around and having plenty of amusements could get along without any medicine of any kind; and I also think by the time I get the bottle of substitute [quinine solution] all emptied into solution bottle, that I will be O K, and never lose a day from office. I have felt better for last two weeks than I have a long time; but, of course imagination helps some. I have not the least shadow of a doubt as to result. The thing is settled; I will make it O K.

Yours, etc.,

R. S. McM————

November 3d, 1875.

DEAR DOCTOR.—Again I write to say, all goes well, am getting along finely; feel first-rate; sleep very well and work every day at my desk; think I feel fully as well if not better than when I wrote last, with the exception of nausea at meal time. Have good appetite and go to table hungry, but by time I get one-fourth enough, begin to feel slight nausea; sometimes it leaves me on

quitting table and sometimes have to vomit, especially in morning—on several occasions within a week have had to leave breakfast table to vomit; otherwise, I feel as well as usual; that is, I feel as well as before commencing the *remedy*, and am not certain but better. At any rate I feel five hundred per cent. better than I expected to at this time.

I think I am too much constipated; my bowels move only every other day. Would have written yesterday, but have been so very busy I could not get time.

Yours truly,

R. S. McM————

P. S.—So far have had no occasion to use anything but the solution and neurotic. Have not had hypnotic prescription put up, and hope will not need it.

R. S. McM————

November 23d, 1875.

DEAR DOCTOR.—I still live; stomach getting so weak can hardly eat, especially breakfast. Took a look at sand box* this morning to see how it was holding out; can't find bottom, guess have good supply yet; but if I get down much lower its going to take a good deal to run me—bowels pretty loose, back pretty weak and energy all gone. Have to scribble over four quires foolscap before I can get nerves steady enough to write legibly; however, I still rest well at night. Last night slept first-rate, but when I got up could hardly stand; eat no breakfast. Have taken nothing yet but solution and neurotic; don't intend to until forced or at least necessity demands it.

From what I have read and heard of such cases, I flatter myself that I am getting along better than the majority of cases, if not better than any heretofore. If my stomach could stand food so I could get a little strength, I think I could stand anything else. But it is this abominable weakness that beats me. Occasionally I have an appetite and eat a pretty good meal, but it hurts my stomach so fearfully for hours after, that I don't dare to eat more than just enough to keep me on my pins. But still, I am thankful its no worse; and have not yet had a doubt as to the result. Yours, etc.,

R. S. McM————

*Medicine.

December 2d, 1875.

DEAR DOCTOR.—Yesterday morning I got up with severe head-ache, which so increased, that by ten o'clock had to go to bed; pain appeared seated in back of head and neck and extended for [from] I [eye] to eye, sometimes left and then right; it was intense; the evaporating lotion had no effect whatever only to apparently increase the pain; never suffered such pain before; *almost* wanted to die. About five o'clock P. M., my wife sent for a physician; he gave hydrate of chloral, and left about twenty quinine powders and a box cathartic pills; chloral was to be given every fifteen minutes until relief, but it did no good; I would take it until I got about so full and then throw it up; all the time the pain continuing. About ten o'clock P. M., I decided that something must be done or I would have spasms; sent to drug store and got two grains sulphate morphia; took one-fourth grain and in twenty minutes, one-eighth grain. About 10:45 o'clock, pain began to subside; suppose it was the morphia, but could not feel it in blood. Before taking the morphia, however, I could hardly feel any pulse; it was very low, but *sharp* and *quick*; could feel it only in temples; my wife said she could feel it at wrist, but I could *not*. You need not be surprised to see me at St. Louis most any morning, for, unless I feel better to-morrow, I shall skip out. Yours, etc.,

R. S. McM——

December 4th, 1875.

DEAR DOCTOR.—I guess I am feeling better this A. M.; kept up all day yesterday and day before, and think am gaining strength since the terrible old spell I had on Wednesday. Shall postpone visit to St. Louis for present, unless I get worse again. Have written for passes so if it becomes necessary to skip out, can do it. Think will work at office to-day; did but little yesterday, and nothing day before.

Yours truly,

R. S. McM——

December 8th, 1875.

DEAR DOCTOR.—Am still on my pegs and have been doing very well; got through with pretty good day's work yesterday, and will do same to-day. Rest pretty well at nights, and have given up going down to St. Louis for the present; want to put it off as long as

possible. I have a little head-ache to-day, but otherwise feel pretty well, considering.

Yours truly,
R. S. McM——

December 13th, 1875.

DEAR DOCTOR.—Am still on my feet and getting along as well as could be expected if not better; have my ups and downs, more of latter than former; but have plenty sand [pluck] left; shall not get discouraged unless I get down so can't help myself; and I still have faith that I will yet weather it through without [getting] down. But oh! Cæsar, what work it is to do anything. It takes almost all the sand I have to stick to desk sometimes, but I do it; but if I was to go to bed, I could easily believe I was sick.

Yours truly,
R. S. McM——

December 22d, 1875.

DEAR DOCTOR.—Am still able to move around, but rather slow. Think I will go to St. Louis last of this week; probably call on you Saturday morning; am not positive, but hope to be able to get away on Friday; would have written you oftener lately, but have felt so little like such work that I have neglected it; in fact have neglected everything in shape of work that I possibly could; hoping to see you soon.

I remain, yours, etc.,
R. S. Mc M——

[Came to city December 24th, and stayed four days.]

January 24th, 1876.

DEAR DOCTOR.—Must beg your pardon for putting off writing to you so long; but, for a week after my return I was feeling so lazy and bad that I never attempted to write a letter to any one; and then I took a train and have been running on road since and have no convenient place to write, and consequently, have neglected it. I am now entirely out of woods and can crow; am feeling first-rate, only don't like this cough which sticks to me. I took a severe cold coming home and have been barking a great deal since. Went to drug store when first came home and got bottle of cough syrup; but three doses were enough; slept too nice and sound that night;

spoke to physician next day for prescription for cough syrup without opium; he gave it to me and I think am getting along in pretty good shape. After I run a train 219 miles and take up 150 to 350 tickets, I can go to bed and sleep sound, five and a-half to six hours.

Your Friend, R. S. McM——

Memoranda of directions made at the time this patient came under treatment.—Mr. R. S. McM—— is chief clerk in passenger department of the —— Iowa R. R. He has taken as much as two drachms of morphiæ sulphas weekly. He now takes the contents of a one-drachm vial every week, or eight grains daily in three equal portions. He began the habit for neuralgia and an obstinate headache. The medicine was prescribed by a physician. His general physical health is good. Complexion somewhat sallow; but he says this is natural. Began treatment by reducing amount to four grains, and gradually reducing that at the rate of $\frac{2}{15}$ of a grain reduction daily. Gave the following prescription, with accompanying directions:

℞ Morph. Sulph. - - - 3 ij.
Aq. Ment. Pip. - - - ʒ xv.

M. Sig. *The Solution.*

℞ Quin. Sulph. - - - 3 ij.
Pulv. Ipecac - - - gr. v.
Aqua Distill. - - - ʒ x.
Elix. Tarax Co. - - - ʒ v.
Acid. Sulph. dilut. q. s. ft. sol.

Sig. *The Substitute.*

℞ Tr. Cannabis Indica - - ʒ iij.

Sig. *The Neurotic.*

DIRECTIONS:—Take from the solution four tablespoonfuls daily in three equal doses. Replace each daily quantity from the solution bottle with a similar quantity from the substitute bottle. Take of the *neurotic* two drops the first day, increasing two drops daily up to 60 drops.

Prescribed also a tonic of iron, quinine and strychnia (*nux vomica*) to be taken as needed, and a solution of chloral hydrate, as a hypnotic, in fifteen grain doses, at night time, when needed between sleep and keep nervous system thereby sufficiently recuperated for each succeeding day's labor and trial.

We do not now treat the opium habit precisely in this same way, preferring to diminish the number of doses daily, dropping off one at the beginning and counteracting the depressing effects of withdrawal by galvanism and tranquilizing neurotics, finally getting the patient to rely on the one dose and gradually reducing that.

Whatever question there may be as to the propriety of the withdrawal of the opium in certain of these cases, especially in old persons long inured to the drug, in whom marked psychical changes have appeared either before or since the formation of the habit, when slight reduction in the daily quantity consumed is attempted, there can be no question as to the justification of the "weaning process" in the young or middle-aged and vigorous, still engaged in the active duties of life, and possessing sufficient reserve vitality to justify reasonable recuperation, in reconstructive response to such therapeutic measures as we may find it necessary to employ, as we remove from the system the peculiar influence of this singular drug, which both weights the nervous energies as an incubus and supports them like a scaffold.

The Management of Chronic Inebriates and Insane Drunkards.*

By ALBERT N. BLODGETT, M. D., Boston, Mass.

IN approaching a question of such magnitude as the present one, certain facts which have been proved by the experience of the past must be touched upon as a fundamental necessity to any intelligent discussion of the subject. Among these are the following:

It is a recognized fact that the peoples of to-day are different in many respects from their native ancestors, or from the peoples of those countries from which they may have emigrated. These gradual changes have long been observed, but in later years they have progressed with accelerated rapidity. This result is not confined to one language or continent, but is distributed in varying degrees of development throughout the whole civilized world. The changed condition is noticeable in many ways, principally, however, in features relating to the nervous system—that is, in those departments of the human organization controlled or specially influenced by the great central ganglia, the brain and spinal cord.

The most prominent evidences of such a change consist in an increased excitability, an abnormal activity of all the cerebral and nervous functions, a restlessness and nervousness, a precocity which is not the healthy development of normal powers, but is a strained and overwrought activity resulting from unnatural and disordered excitability. This condition, if developed suddenly in an individual, is considered indisputable evidence of disease, and is quite as properly reckoned a diseased action when its march is slow and insidious, so that its progress is unnoticed by the individual affected.

*Read at the Annual Meeting of the Social Science Association at Saratoga, Sept. 6th, 1882, by Albert N. Blodgett, M. D.

The expression of increased nervous excitability, is observed in nearly all the ordinary walks of life and in all conditions of people. Within the memory of most of us there have been such changes within the limit of personal observation to verify the truth of this assertion. The ground was well covered by the remark of a gentleman with whom I was recently conversing, who said, "I would prefer to live seventy years in thirty rather than to consume seventy years in living thirty."

The causes of the generally elevated tension in which we live are manifold, and reach into almost every avenue of life. They invade the most humble home and intrude into the drawing-rooms of our modern palaces. It is impossible to enumerate all, or nearly all, the influences which have united to produce such a baneful effect upon our population; but a few of the more potent causes may be briefly touched upon. Among these may be mentioned, as one now acting most powerfully in this country, the modern science of *politics*, by which I would not be understood as alluding to the science of true statesmanship, but the petty, miserable abortion of statesmanship—which is now everywhere disseminated throughout the land—in which personal ambition usurps the place of principle, and private advantage controls those acts which should be directed to the public good.

The abolition of *principle*, which is to the mind what the pole-star is to the mariner, is one of the most fatal accidents which can befall any individual. Its absence leaves the mind without a proper degree of rectitude, without that necessary steadfastness of purpose and consistency of method which are essential to healthy and vigorous mental activity. Weakness and debility of the mental functions must as surely follow its loss as physical infirmity succeeds the loss of any material condition of animal life.

The cumulative result of this defect is continually augmenting, like that of the opium habit or any other

profound and growing influence operating upon the foundations of being in the individual.

The recent great mania for speculation, which has swept like a cyclone over this country, has been another powerful agent in disturbing the mental equilibrium of very many people in the past few years. The insatiable desire for wealth, the excitement attending the fluctuations of values, the anxiety regarding the favorite investment, the giddy exhilaration produced by sudden riches, and the despair at the shipwreck of the labors of a lifetime, all exert a most powerful influence in unsettling the mental balance of many individuals, thus exposing them more easily to the effects of accidental influences, by which their debilitated mental and moral natures may now become more or less profoundly disturbed.

The rapid dissemination of intelligence from one part of the world to another, thus bringing the events of distant locations to our earnest attention, with the added elements of exaggeration and sentiment, with almost the same force as those affecting our personal relations, must act as a constant excitant or spur to the emotional and sympathetic parts of human nature, and operate to strain these qualities of the mind to an unusual and harmful degree. In fact, one of the most dangerous forms of mental disease at this time is the so-called "emotional insanity," produced, or at least developed and perpetuated, by great and prolonged excitement of these mental faculties. The "inspiration theory," with its frequent deeds of horror, comes under this class of mental disease, of which we have had several most piteous examples.

Another potent factor in the increased mental vulnerability of our recent population is the changes in the private and domestic life of the people. There is an increased tendency towards aggregation in large communities, and all large cities are overcrowded. The natural result is that much of the home life, if indeed not all, with its quiet restraint and peaceful influences, is lost upon those natures which most need them. The young

of both sexes are thus thrown into the whirlpool of modern town life, and deprived of the most necessary means of protection from its contamination.

Is it to be wondered at if irretrievable damage is done the mental and moral natures of inexperienced or susceptible individuals, which, like a slight deviation from a straight line, becomes further and further removed from its proper course?

When we add to all these the harmful practices associated with club life, now unfortunately becoming so popular among all classes, which pander to all the foregoing evils but counteract none of them, and supplement all these with late hours and their associated dissipations, the lack of friendly advice, the perils of gaming and the other social dangers, we surely have ample cause for the weakened and debilitated moral sense, and the overstrained and excited emotional nature of a large and increasing proportion of our young and middle-aged people.

If, now, these unfortunate individuals become the slaves to passion or appetite, in any specific form, their bondage will be more oppressive from the lack of a powerful will to resist and a firm principle to guide; and the danger from encroachments of other vices will be augmented, owing to diminished power of self-control, due to degeneration or abolition of standard mental qualities.

At this point, one of the prime evils of our present system of living becomes evident, in connection with the facts mentioned a moment ago. Human nature cannot indefinitely support the increased strain to which a continually enlarging number of individuals are exposed. *Natural food and natural rest will not provide for unnatural and superhuman exertion.* There is a limit to all healthy energy. Beyond this limit, labor is accomplished only at the expense of vitality. In this extremity, which is exactly the condition in which a large number of our people find themselves, the use of artificial stimulants is

necessary, in order to follow an irrational and insane ambition. The constant mental toil, the unceasing anxiety, the sleepless nights and overburdened days, gradually produce a degree of exhaustion, in which the individual is forced to one of two measures—either to relax the strain under which the system is laboring or to endeavor to support the failing energies by the use of some form of artificial stimulus. There is little need to add that the latter is the measure usually adopted at the present time. . . . There is a sensation of exhaustion which imperatively demands the aid of a stimulant, and is temporarily relieved by its employment. The individual is led to think that the remedy has been found, and continues to use an agent which has afforded such marked benefit.

It is easy to conceive that any article which thus becomes necessary to the performance of daily labor may gradually acquire such power over the individual that the force of habit, combined with the physiological action of the substance, may at length render all efforts at its abandonment entirely futile. . . .

The cumulative effect of prolonged over-stimulation is twofold; first, the action upon the nervous system, as a spur, by which an extra amount of energy may be temporarily evolved, with a gradual encroachment on the normal powers of the organism, until no extra energy *can be awakened* except from the effect of stimulation; and, second, a change in the physiological and organic relations of the structural elements composing the nobler functional organs, with gradual degeneration of the higher mental and moral qualities, so that the foundations of character are undermined and the powers of reason are perverted, while the emotions and sympathies are excited to increased activity, and the unfortunate individual becomes a slave to sudden and irresistible impulses, the consequences of which may be disastrous to himself or others.

Probably, many unsuspected cases which claim our attention in their care and treatment are the direct results of

an attempt to prevent exhaustion of the vital powers by the use of artificial stimulants. One of the most careful writers of our day says that "cerebral exhaustion, however caused, more often leads to irresistible drink-craving than is generally supposed;" and Dr. Meyers states that "there is no form of nervous exhaustion more severe in its character than that which is induced by the abuse of stimulants."

The organic effect of prolonged over-stimulation upon the brain may be of two varieties: first, to dry up, so to speak, and to a certain extent solidify the tissues, with the symptoms of a greater or lesser deviation from mental soundness, sometimes amounting to mania; often followed, second, by softening of the cerebral structure, accompanied by a gradual blunting of many, if not all, the mental faculties, at times resulting in actual imbecility.

Dr. Sankey, in his lectures, traces the close parallel between the gradual degeneration of brain and degradation of mind in the drunkard and the insane person, and shows that these processes exactly correspond in some cases, and that the cerebral changes are almost identical. . . . It is safe to say that no person can employ alcoholic stimulants for any length of time continuously without impairing the integrity of some, or all, the great organs of life, and vitiating their functions. With this result once induced, the necessity is felt for continued use of the harmful agent; and the weakened mental faculties are powerless to oppose the demands of an abnormal and depraved appetite. Thus, the bad habit is fostered and perpetuated, and the *chronic inebriate* stands before us. The uncontrollable appetite, diminished mental vigor and complete subjection to the obnoxious substance, are the essential factors which constitute the chronic toper, whose progress is now invariably from bad to worse. Dr. Bucknill considers this condition to be a form of emotional or moral insanity. He says: "The prominent nature of this propensity is its *irresistibility*."

The second class which claims our attention at this time is that other element of society which is subject to alcoholic

influence, and which presents a series of phenomena utterly different from those we have previously considered. These unfortunate persons are generally (so far as my observation has enabled me to judge) those who are originally in some way constitutionally defective, or are, to a greater or lesser degree perhaps, congenitally "weak-minded," or, in the words of Dr. Fisher, "those who inherit an unstable, nervous constitution from drunken, neurotic or insane ancestors." They are oftener found among the more illiterate ranks of society, or, if they belong to an elevated walk in life, they are inferior to their position, and are generally regarded as deficient in some essential qualities. This group of persons does not generally become addicted to the use of alcoholic stimulants from an original necessity for them, but from inherited vicious propensities, pandered morbid appetites, and depraved mental constitution. In them, the results which obtain in the chronic inebriate are less frequently observed, organic changes in the various animal structures are more rare, and the principal deleterious effect is to be noticed in the department of the higher cerebral functions.

The nervous system in these unfortunate individuals seems to be so constituted that the effect of any powerful stimulant is developed at once, and particularly in these structures. A person who has taken but a very moderate amount of a common stimulant may present no outward sign of intoxication; the step may be firm, the face not flushed, the pulse but slightly accelerated; but the mental organization of the individual may be completely overturned. There is often not the violent aspect of mental derangement which accompanies delirium tremens, but a complete suspension of normal cerebration. The general tendency of this state is one of personal exaltation, of unlimited resources, of gigantic enterprise, of assured success in most extraordinary undertakings. Although not generally inclined to be violent, there is complete disregard of the proprieties of the person or property of others, which, coupled with the fact that any effort at restraint is at once resented,

is often the occasion of the development of a state of fury in which life is often imperilled and sometimes sacrificed.

In this state of maniacal rage there is no consistent selection of means, nor any consideration of the results which may ensue, but the unrestrained passion of the moment leads the individual to the most violent demonstrations as the result of interference with the delusions which temporarily possess the mind of the insane drunkard. Dr. Fisher, who has devoted much thought to this subject, says: "Under the influence partly of an uncontrollable impulse and partly of intoxication, they will perform truly insane acts. Closer investigation of their mental state will usually disclose the fact that they are liable to periodical recurrences of causeless exaltation and bursts of self-confidence on trifling occasions."

A case is now in my mind in which an amount of alcohol, not usually followed by any appreciable result other than a slight exhilaration, is in this patient the cause of uncontrollable rage, during which his room-mate, who is his dearest friend, becomes the object of the most malignant fury, and is in momentary danger of death from any convenient means. This impulse to violence towards others alternates with a powerful inclination to jump from the window, which is the only expression of any suicidal tendency in this patient. Some days are required for the re-establishment of his disturbed mental equilibrium, though the bodily functions are at no time seriously deranged. The effect of stimulation in this and similar cases seems to be primarily and chiefly exerted upon the nervous system, and is particularly developed in the cerebral lobes, where its action is expressed by disordered mental action as the disturbed function of these organs.

With each repetition of so dangerous an interference with these important structures, the tendency to diseased action is increased, so that the aberration of the intellect is each time more prolonged, and its character perhaps changed. The diseased condition may be produced by a lesser amount of the stimulant, and the impression upon the whole

organism may become more pronounced, until at length reason may be permanently impaired, and the patient become the object of continuous apprehension or perpetual restraint, as a protection to himself or his surroundings or both.

Dr. Blandford regards persons of inherited or acquired weak mental constitution who are impelled to periodical drinking, by which indulgence the mental impairment is increased and perpetuated, as *insane*, thus expressing exactly the condition we have endeavored to describe.

From the foregoing, it becomes at once evident that the victim of drink may become a charge to society in either of the ways described. As such, he should not be regarded in the light of a voluntary offender or a hardened criminal, but as a sick and diseased individual, who is in need of humane and considerate treatment, and who is perhaps susceptible to recovery from his disordered condition and to restoration and cure of his infirmity. The cause of his present condition, whether intemperate indulgence of vicious propensities or any other reason, is not now a subject for consideration. The *mental and physical requirements of the patient* are to be chiefly regarded. Dr. Bodington, at a recent meeting of the British Medical Association, says, "For my part, I look upon all habitual drunkenness as a disease, and I would boldly call it dipsomania." And the American Association for the Cure of Inebriates takes the broad ground that "intemperance is a disease."

Here, our greatest need in the proper care of these unfortunates becomes strikingly manifest. We have continuously in our midst a class of patients of deficient will-power, or nervous force, or principle, as we may choose to call it, who become the subjects of public care, and are daily becoming such in increasing numbers.

Their existence as a class has been recognized, and their needs partially expressed. But I believe I am right when I say that in all our broad land there is not an institution or an establishment properly adapted to their reception for remedial or curative treatment, or for their care, if

incurable. I have yet to learn of the resort so arranged as to be applicable to their needs, or so conducted as to be of practical service to this element in our society, which the public must care for.

From the nature of things, it is generally among the poorer people that these patients are met with, and therefore among those least able to properly care for them, and least likely to appreciate the fact that they are really sick, and deserving treatment rationally addressed to their condition.

The fact that they are frequently, and indeed generally brought to our notice through the commission of some act which calls for the intervention of the civil law, should not blind our eyes to the equally evident fact that accountability and moral responsibility may be more or less deficient or entirely wanting in the subject of the misdemeanor, and that he is inversely in just this degree incapable of the commission of a crime or amenable to its penalties.

The only provision which has thus far been made for the treatment of these unfortunate creatures is of two varieties: first, those conducted by private enterprise as a means of accumulating money or from charitable motives, and those controlled by the municipal or State government.

The first of these is defective in many ways. There is, as a prime objection, the fact that in these resorts the patient is a *boarder*, and as such is retained only so long as the means for keeping him there can be provided; and, upon the absence of the pecuniary element, he is dismissed without regard to his physical condition. While in these retreats he is only a voluntary inmate, he is not constrained to remain until his condition is relieved, but often, and perhaps always, the restraint proves so irksome that the patient leaves the institution before he is in fit condition to do so, and consequently derives little or no benefit from his residence in it.

Dr. Fisher says: "If able to pay and willing to go, such a patient might be kept for a short time in the Washingtonian

Home or some similar establishment on the voluntary plan. But this kind of temporary detention only restores and strengthens the confirmed inebriate for renewed indulgence.

. . . The disease has a deep root in the nervous constitution of the individual, which cannot be eradicated in this way." These institutions are also often administered upon certain dogmatic religious or hygienic ideas, which may essentially impair their usefulness as curative asylums.

The only institutions recognized by the State or municipal government for the reception of this class of patients are of two kinds: first, the various prison institutions for the confinement of felons, thieves, murderers, etc., into whose companionship the mentally and physically weakened victim of alcohol is introduced, and which can objectively and subjectively act only as an aggravation to his infirmity, and from whose walls he emerges, cursed with the moral stigma of its indelible associations.

The second and only other resort to which a patient may be referred by judicial authority is the mad-house, with all its horrors, of which words can often convey no adequate conception. I quote again the words of Dr. T. W. Fisher, when speaking of Massachusetts: "There is no provision anywhere for the treatment of delirium tremens but in the almshouse at Deer Island or Tewksbury. Cases of mania from drink, if likely to prove of short duration, are sent to the former place for observation, subsequently to be transferred to an asylum, if the insane condition seems to warrant it." To the lunatic asylum, the insane drunkard may be committed with the same degree of rigor as to the prison; and too often his case is fully as much a matter of routine in one place as in the other. The overcrowded condition of our public insane asylums, the lack of careful discrimination which I fear often prevails, with absolutely inadequate facilities or official staff for the humane and kindly treatment of so many sufferers, effectually prevents this resort from being of service to our subjects.

The confinement with maniacs, the constant association

by day and by night with those in whom the power of reason is perverted, and whose every act and word is the expression of a diseased mind, is a cruelty and an inhumanity toward the weak and helpless. We have, and shall continue to have among us, a certain definite class of invalids, who are, and will continue to be, a burden to the public, and must be cared for at the public expense. It is certainly no proper argument that, because they must be supported at the public charge, they may as well be maintained in prisons and asylums as anywhere else. We must not forget that we owe to these unfortunates a degree of humanity in their treatment which should endeavor not only to relieve their present distress, but to restore them, if possible, to the full exercise of their previous faculties. That is to say, the treatment of these individuals should have for its ultimate object, *the cure of the disease*. This beneficent result is surely not to be attained by incarceration in a prison with the most hardened and desperate characters of our heterogeneous communities, nor is it to be hoped for behind the bolts and bars of our great and crowded insane asylums. Dr. Fisher expresses the same idea in these words: "Insane drunkards would be undesirable inmates of our insane hospitals if there was no difficulty in retaining them. They need little medical treatment, but require prolonged restraint, varied employments and moral discipline. The private retreats for inebriates and insane drunkards are, so far as my experience goes, quite powerless to accomplish any result, further than is in harmony with the will of the patient, and are, on the whole, of doubtful benefit for this class of cases."

As an instance of the working of two of the above-mentioned institutions, I would cite the following cases, which occurred within my own personal knowledge. A gentleman, who had long been a hotel proprietor, met with sudden reverses and suffered considerable pecuniary loss. Always of active temperament and usually of sober habits, his present mental distress was very acute, and

he became addicted to drink. I have never seen this man in the least degree affected in speech, gait, or other physical manner, nor to a casual observer would he excite attention as being intoxicated. Yet, in this state, he is a dangerous man, and his family have often suffered violence at his hands; and with each succeeding debauch there is a decided change in his mental condition, which is gradually approaching a state of homicidal mania.

On more than one occasion, this patient has been placed in a private institution for inebriates, which has a very imposing name and a wide-spread fame, in the hope that he might be reformed, and again become a useful member of society. Each time, however, after a residence of a few days in the institution, this patient has called for his clothes, and has left the retreat to again indulge in his diseased propensities.

For such subjects as can be influenced by purely moral persuasions, these institutions may be of service, as those patients do not require restraint; but for the uncontrollable manifestations which accompany the action of alcohol upon many persons, such resorts are total failures. They have not the judicial authority to aid their work, they are powerless to restrain the turbulent subject, and are quite useless as a means of reformation or cure in any excepting mild cases.

An example of the opposite form of treatment also recently occurred within my observation. The patient was brought before the court and was adjudged an insane drunkard, and as such was judicially committed to one of the State Insane Asylums. After a time, he was released on a motion from the court, and thus describes his experience while under treatment: "The doors were barred and kept continually locked. There was no privacy, hardly the opportunity for the exercise of decency in personal toilet. Even during the day, the forced restraint was distressing, but at night it became much more so. The shouts and yells of excited patients in neighboring wards were painfully audible and disturbed sleep. The

other occupants of this room were one patient who was constantly endeavoring to take his own life, one who feared that some one was seeking to kill him, on who was confined on account of homicidal tendencies, and one who was constantly striving to kill the others. The ward went by the cheerful name of the 'suicides' room.'" The patient remarked that, "even if a person were sane, on being confined here, he might easily become insane from such surroundings,"—an opinion in which I am inclined to concur.

Another disadvantage attending the present management of insane drunkards is the uncertain length of time during which the patient is retained for treatment. Upon this point, I cannot do better than quote from the valuable monograph of Dr. Fisher, who says: "Great as is the task of getting an insane drunkard committed to an insane hospital, the difficulty of *keeping* him is still greater. This arises from the transient character of the prominent symptoms, which are only brought out under the paralyzing influence of alcohol. As one writer has said, the dipsomaniac is only sane while in the hospital. Although in his extremity, under arrest for disturbance of the peace and perhaps suffering mentally and physically from the immediate effects of drink, he acquiesces in his commitment, in a surprisingly short time he is on his feet, under perfect control, looking around for a lawyer to help him swear that his confused recollection of the the circumstances of his commitment is the true version. *No hospital can hold him a moment against his legal protest, and he is discharged as a matter of course.*"

In view of the existing facts in relation to the management of chronic inebriates and insane drunkards, I think we are safe in asserting that no wise, humane and practical plan has yet been inaugurated for this object, which shall insure the protection of society at large, and work no injustice to the individual. It is comparatively easy to see the defects of existing methods, but it is by no means easy to suggest a remedy. We may, however, perhaps learn

something concerning the direction in which our effort may be most profitably exerted, with the hope that in the fulness of time the desired result may be obtained.

What conditions, then, would be most favorable for the restoration or cure of an individual wrecked by drink and a burden to society? This is the question which in one form or another must really underlie any earnest and sincere endeavor for the practical relief of this unfortunate class of people. . . . For its solution upon any plan, one thing must evidently be premised as an essential condition, which is, *that there shall be a suitable disposition of authority which shall place these people within the control of some restraining force.* Without this indispensable provision, no effort for their benefit can be successful. With such power guarded by wise restrictions, it might be possible so to influence the life of the drunkard that his diseased tendencies and abnormal inclinations might be eradicated, and mental and physical health be restored to him.

If we consider what elements of treatment would most conduce to recovery from the state in which we find these patients, we shall not fail to recognize the great importance of two conditions, namely: a judicious amount of physical toil, which will induce a certain degree of bodily fatigue, with a consequent inclination to natural repose; and a life as much as possible in the open air; a diet composed of strong, nutritious food, but of plain, non-stimulating character, regularity of habits, and provision for abundance of undisturbed sleep.

By the present methods of dealing with the two classes of patients of which we are speaking, neither of these essential conditions are secured. The associations which now accompany their treatment are of the most unfortunate character, and cannot but be detrimental to the well-being of any person exposed to their influence. A mind congenitally defective, or unsettled by overwork or over stimulation, or a character depraved by the long continued indulgence of vicious tendencies and pernicious appetites, will certainly not be benefited by the companionship of

those with whom one is necessarily brought into contact in a prison or a mad-house. The treatment to which these patients are at present subjected cannot be properly called curative. It cannot possibly operate to relieve them to any such degree as it might do, if these features could be eliminated.

How this may best be accomplished, and how those persons addicted to the habitual use of intoxicants, and those rendered insane by the same means, may be most advantageously treated both for their own good and for the good of society, I regard as among the most serious problems of our day. I doubt if our people are ready at this time to seriously consider it with that degree of candor and disinterestedness which the subject demands; nor will they do so, until a purer and more healthy spirit pervades our governing power, and a more rationally humane and truly charitable disposition is evinced by the people.

The suggestions which I have to make may not be the wisest or most desirable; but they are the best I can advance at this time, and are presented not as a basis for any present action, but for the sake of eliciting discussion and inviting more practicable suggestions from the members of this distinguished society.

The fact must be constantly borne in mind that these individuals, whatever their former condition or ability, generally degenerate physically, morally and financially, until they become dependent upon private charity or require the official care of the State or municipality. Now, if the public can assume control of these unprofitable members of its body and institute a judicious treatment of their infirmities, treatment based upon careful and considerate study of their diseased condition and needs, these patients will not only be better cared for than they now are, but they will experience the added benefit that the result of such treatment will tend toward their radical cure. Such a plan would premise that the municipal authority should be in some way enabled to include within its limits those persons, not yet criminals perhaps, but intellectually weak and depraved,

and possibly unconscious transgressors against laws they do not comprehend. The protection of society from the violent acts of drunkards, sane and insane, is a matter of vast importance, when we consider the frequency of such occurrences. The public is shocked at each new victim of insane violence, and shudders at the unending procession of suicides, but is strangely insensitive to the existence of *potential* homicides and suicides, who meet us at every turn. If these people could be properly cared for, their indulgence in intoxicants restrained, good and sufficient food be given them instead, and they may be made to employ their bodily powers in some muscular activity, graduated to suit the requirements of each individual case, with enforced regularity in regard to repose, I am sure that a short time would be amply sufficient to turn the tide in many cases from disease to health, and from the progressive degradation of the insane drunkard to the light and liberty of a free, sane and competent man.

How this desirable result may be best achieved in America at this time, under our present system, or rather lack of system, I am not prepared to say. One thing, I think, is true beyond question. None of the so-called "Inebriates' Homes," "retreats," or asylums, as at present conducted, have proved to be of much service in the real treatment of habitual drunkards and particularly of insane drunkards. It is not in their nature to accomplish this result, as they are entirely without authority to exercise judicious and needed restraint in those cases in which it is absolutely required. They are essentially little more than temperance boarding-houses, where inebriates can remain by paying a certain sum of money and conforming to the regulations of the institution. Probably, the majority of those patients who are benefited by a residence in these establishments would be quite as well able to reform under favorable conditions without residence in any asylum.

But it is not this class of cases alone which we are called upon to consider. It is also the poor and the

helpless whose circumstances do not allow them to enjoy the luxury of prolonged abode in these retreats, and who have not the moral strength to forsake their vicious habits. These also require attention and care. For their treatment, the exercise of judicial restraint is absolutely necessary. They must be *assisted* to overcome a diseased tendency, for the control of which they do not possess the necessary strength. Here is where all present institutions are found wanting. The inmate cannot be legally detained within their care one hour beyond his own desire. He can thus at any time defeat all such efforts for his reformation. Dr. Fisher remarks that "an insane drunkard with homicidal propensities is more independent of legal restraint than any other person in the community."

The manner in which a legal supervision is to be exercised so as to secure the humane and curative treatment of the mental and physical condition in the various classes of drunkards in our midst, it is not the province of this paper to discuss. If the views herein advocated receive the approbation of this society, some plan for their practical application will not long be lacking. A few hints from practical experience may, however, not be without interest in this direction. Some years ago, while making a foot tour through a portion of Germany, I passed through a section of country of considerable extent which had been a barren, cheerless waste, but which was in some parts at that time occupied by extensive plantations of regularly set and cultivated spruce or other evergreen trees in varying stages of growth. Upon making inquiries, I was told that, in several neighboring municipalities, the penalty for the less serious violations of law was transportation to this wild region, and a forced detention there until a certain number of trees had been properly planted or other forestry labor performed, when the offender was at liberty to return to his former home. I was told that drunkenness and its minor accompaniments were among the more frequent causes of this temporary banishment and enforced labor.

I was forcibly struck at the time by the much better circumstances for the moral and physical reconstruction of the subjects of alcohol there than in our own country, where they are often confined in hot, overcrowded, unwholesome rooms, at unhealthy occupations, in company with those much worse than they are, who must exert a harmful influence upon them.

In another part of Europe, I was told that the greater part of the prepared stone for the building and repairing of the magnificent post-roads in that part of the country is the result of labor sentences as the penalty for minor transgressions against the civil law. Certainly no one can doubt that occupation in the open air, of purely muscular character, and not so laborious as to occasion too great a degree of fatigue, with proper restraint and supervision, would be the very best means for counteracting the effects of over-stimulation in our inebriate population.

We have, in all large cities, certain commissions or departments of the municipal service which are so limited and circumscribed as to make it possible to exercise complete supervision. Such is the care of the city stables, in which one overseer could easily observe the movements of a number of employes. The paving and sewer departments usually control large enclosed areas, in which considerable numbers of men might be employed. The care of the public parks, and the labor in landscape gardening, now so commonly seen in every town of even moderate pretensions, might be performed by these wards of the public, who would thus accomplish two important ends: 1. Their own improvement and final recovery in a much larger proportion of cases than under our present treatment of drunkards. 2. They would, as a class, become self-supporting, instead of becoming and remaining the subjects of public maintenance. In many other ways, which will readily suggest themselves to any thinking person, these individuals might be employed, and carefully guarded from temptation until nature might effect a cure, and so reclaim her own.

Some may consider these suggestions as too visionary and too ideal ever to become a reality. They may not be practicable at this time; but they certainly are possibilities, as has been demonstrated by the experience of the Lintorf Asylums for Inebriates, near Duesseldorf, in Prussia. Here, a system similar in its general character to the one I have outlined has been in operation, if I am not mistaken, since 1851, and is productive of very gratifying results. The life of the inmates is carefully regulated, and strict compliance with the rules of the establishment is required. A large majority of the inmates remain for a period longer than six months, and are treated by means of good food, medical care, labor, kindness and sympathy, recognizing in inebriety a disease more than a vice, and treating it as such.

The reports state the proportion of cures to have been from twenty-seven per cent. to thirty per cent. of all cases, a figure far beyond anything yet approached in our country.

The objection may be raised to the views advanced in this paper, that they are inexpedient, or, in other words, that the man or woman who is degraded to such a degree as to indulge in intoxicating drinks has thereby merited the full measure of disgrace and suffering accompanying the punishment for their acts while drunk, or their treatment if sick. In reply to such objection, it can only be said that in a former age, the same spirit was evinced by the world toward many other physical and mental disorders with which frail humanity is afflicted; but I think the time is fully come when any such unjust and unsubstantial reasoning should be superseded by a mode of treatment more nearly in accordance with the advanced knowledge of a more enlightened century. And, in addition to this is the important fact that, in the majority of cases, the individual afflicted is really no more responsible for his condition than is the victim of syphilis, the slave of opium, the subject of epilepsy or intermittent fever or many other misfortunes which might be mentioned.

It would certainly now be regarded as inhuman to allow patients with leprosy to die uncared for in the fields, and it is no longer considered necessary to burn inoffensive lunatics. It is fully as great a cruelty to confine persons, really the subjects of mental disease, in the same place with the vile and desperate element which one finds in our crowded prisons and houses of correction. It is inhumanity beyond expression to subject the insane drunkard, perhaps only temporarily diseased and quite susceptible of cure, to the daily and nightly companionship and uninterrupted association with furious maniacs, epileptics, suicides, maudlin babblers and imbeciles. Experience demonstrates that the fatal influence of only occasional exposure to such diseased surroundings often shows itself in mental derangement of those who have been connected with the care of the insane, and I am informed that a surprising number of the physicians and nurses connected with our asylums and other institutions of a similar character, either become subjects for their protection and care, on account of positive mental derangement, or are maintained by their friends in domestic seclusion rather than in a public institution. Thus, mental disorder sometimes seems to be acquired by the healthy individual from occasional contact with the subjects of disease; and, if this be true, how much more liable to the same danger an individual must be whose nervous system is already temporarily shattered by over-stimulation, whose intellectual powers are already unsteady, if not positively deranged, and who requires treatment for weeks or months suited to the necessities of his condition, among the more essential elements of which are freedom from excitement, rest and peace of mind. I think the wonder is, that insane drunkards who are placed in asylums under the present system, ever escape permanent mental impairment from their unfavorable surroundings.

The practicability of this or any similar plan of treatment will always depend upon two principal factors; first, the ability of the public to realize that it is as easy to

support an insane drunkard in some asylum arranged for his particular care, as it is to support him in an institution designed for the legitimate needs of another and a different portion of the public burden, in which the indispensable conditions for his appropriate treatment and care do not and cannot exist, and from the restraints of which he can at present always effect a legal escape at a time when he is in immediate danger of a relapse upon any exposure, with a certainty of rendering each subsequent period of treatment less hopeful than before. One such case, the record of which is preserved by a friend and colleague, has been committed to the house of correction four times, and has been an inmate of the lunatic hospital *seventeen* separate times, from the recurrence of a diseased condition, which, by appropriate treatment, might perhaps have been easily and permanently cured in its earlier stages, instead of becoming a chronic state, which is truly a "second nature," and often justifies the remark that "the insane drunkard is only sane while in the hospital."

Second. The other factor which must be present to render this or any similar method of treatment possible, is that alluded to a moment ago, a dispensation of authority in such a manner that this large and increasing class of our community may be reached by its provisions, and benefited by its practical application.

It may be claimed that the views here advanced, are concerned not with the cause of drunkenness, but only with its effects, and that any attempt to benefit drunkards should be directed to the prevention of the evil rather than to its cure, when the evil is already wrought. This criticism is very true, but it must not be forgotten that the subject of the prevention of drunkenness is still one of the purely speculative questions of the day, in the solution of which, absolutely, no essential advance has been made, notwithstanding the fact that the ingenuity of a generation of philanthropy has been devoted to its study; but the products of the evil are continually around us, and are constantly demanding some practical relief at our hands.

Cerebral Syphilis Manifested by Isolated Involvement of the Trigeminal Nerve; Persistent Conjunctivitis and Facial Anæsthesia.

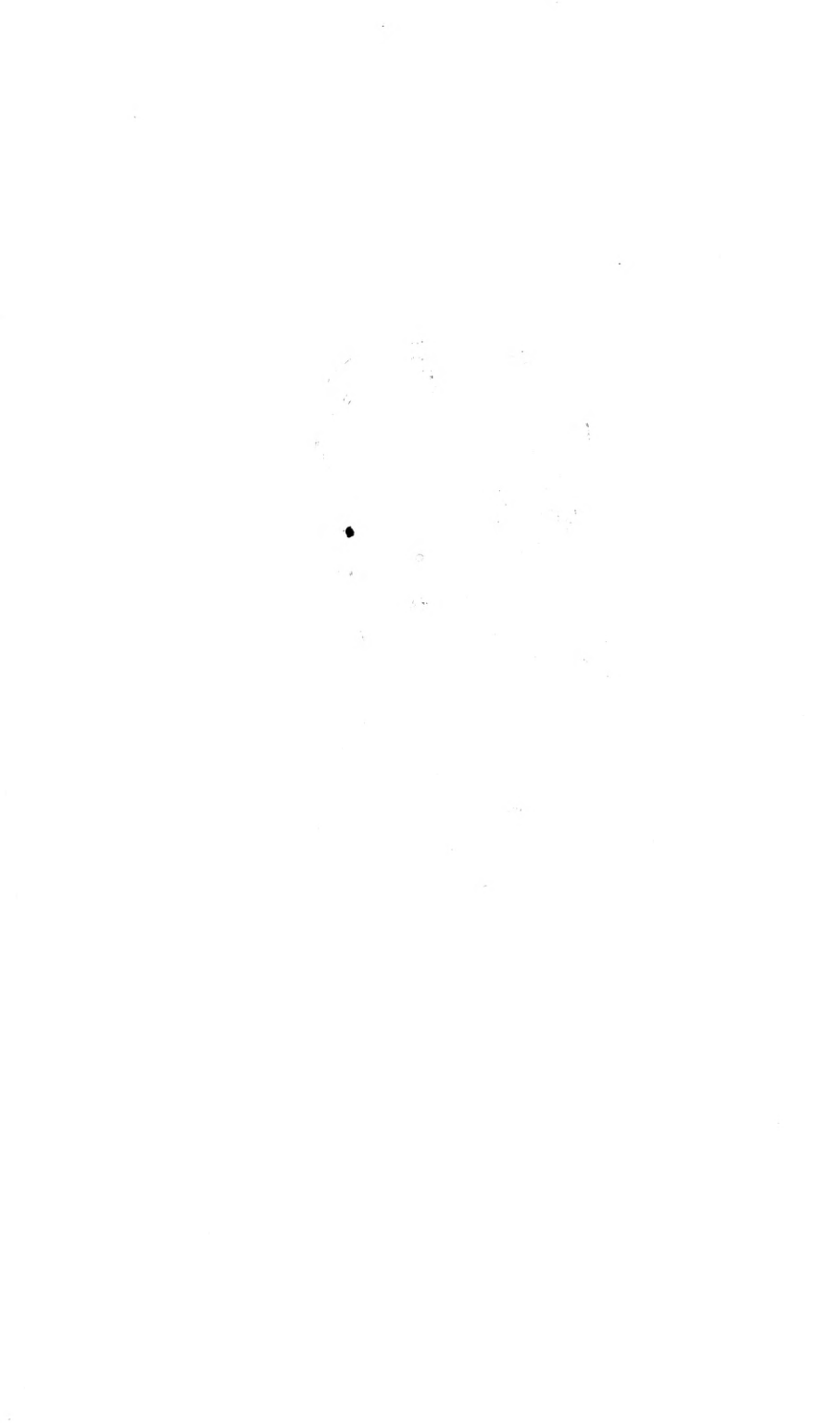
By ALLAN McLANE HAMILTON, M. D.

THE following case presents many interesting features in relation to diagnosis, in the fact that ocular symptoms appeared at first which were mistaken and considered to be only of slight importance. Their persistence and subsequent association with evidences of serious cerebral disease gave them, however, greater weight. Not the least suggestive feature of the case was the involvement of the vasomotor nerves of the skin of the face, and mucous membrane of the mouth and nose.

C. F., a business man, thirty-seven years old, consulted me in January, 1882. He had suffered for several weeks from a severe conjunctivitis of the right eye which defied all ordinary treatment. It was found that there had been no injury to the eye, that it contained no foreign body; that there was no corneal ulceration or other trouble visible, and no abnormal appearance was presented except a lively injection of the conjunctiva, with profuse lachrymation. The patient complained of pain and photophobia.

I ascertained that he had had a chancre twelve years ago with bubo, but no history could be obtained of secondary symptoms that might be made use of. His hair was luxuriant, and there were no marks of former eruptions. He had had mucous patches however, and has recently had nocturnal headaches and shin-pains. His present trouble began, as he said, like an ordinary influenza; he had faceache, and his sense of smell was blunted just as it had been before, whenever he had a severe cold in the head. His right eye became inflamed





and it "always felt as if there was something in it." As has been stated, however, nothing was found, except a small ecchymotic spot near the outer canthus, which was of spontaneous origin.

The right side of the face was more or less anæsthetic and analgesic areas supplied by the superior branches especially, were most so, and sensibility of the lower part of the face was not so much affected as above the eye. The right side of the mouth was involved as was the nasal mucous membrane. Irritation of the right nostril and removal of hair produced no discomfort. The buccal mucous membrane was roughened and the gums were tender and puffed.

There was no notable loss of the sense of taste. He could always detect acid, sweet, salt and bitter substances, though in the beginning imperfectly, and always best at the back of the tongue and on the left side. At one time the physical character of food was perceived and little else in the affected side. I applied Neumann's galvanic test to the tongue, two fine insulated wires with exposed ends, and connected with fourteen cells, Leclanche elements being used, and it was found that the electric taste was most acute at the back of the tongue.

The anæsthesia was preceded by neuralgic pains which affected the upper branches especially. He has now *anæsthesia dolorosa* occasionally, and when the Faradic electrode is passed over certain points in the cheek, it produces deep pain. Hearing is unimpaired. There appears to be a diminution of reflex excitability.

The motor branches are seemingly affected but slightly. The jaw action is good. There is slight elevation of the arch of the palate upon the affected side. A slight drooping of the lower part of the right side of the face exists, however, which may depend upon the loss of several teeth upon this side or perhaps to a weakening of the masseter.

One of the most interesting changes is witnessed in the altered vascularity. If the finger is brushed ever so

lightly over the skin of the right cheek, or when the points of the æsthesiometer are removed, a bright red *tache* is left.

This phenomenon can readily be produced and lasts for some little time. The left side of the face may be stroked or rubbed without any such effect. The affection of the vasomotor fibres in the trigeminus probably accounts for this, as well as for the condition of the buccal mucous membrane, and the ophthalmic symptoms.

Since the commencement of treatment his hair has rapidly changed in color, and there really seems to be a preponderance of white hair upon the affected side. His condition during the past nine months has been modified somewhat by treatment, which is of a specific character and consists of iodide of potash in large doses and inunctions of oleate of mercury. The effects of taste and smell have been improved and his eye does not look as badly as it did, nor is it so hyperæmic as it was several months ago. The anæsthesia of the maxillary branches of the nerve is less, but it is evident that the cerebral lesion is involving other regions, for the tongue points to the affected side.

The Curability of Insanity; New Observations.

BY PLINY EARLE, M. D., Northampton, Mass.

SUPERINTENDENT OF THE NORTHAMPTON LUNATIC HOSPITAL.

ONE of the consequences of the publication of the articles on the Curability of Insanity, in the annual reports of the Northampton Lunatic Hospital, for the years 1876, 1877 and 1878, was the conviction, in the minds of the members of the State Board of Health, Lunacy and Charity, of Massachusetts, that the long pursued method of reporting the statistics of the hospitals of the insane was so imperfect, in some respects, as to deceive rather than to enlighten the mind of the reader.

Desiring to test, so far as possible, by new statistics, the main question in regard to curability, as well as to place the institutions of the State upon the right road toward the attainment of truth, that Board, in 1879, procured the preparation of an almost entirely new series of tables, and recommended their adoption in place of those formerly used. The proposition was immediately acceded to, not alone at the four State Hospitals, but at the McLean Asylum and the City Asylum of Boston.

The reports of two official years since that time have been published, and those of the third, which has just expired, will doubtless be in print before the 1st of January, 1883. We have already, then, in Massachusetts, the results of a three years' experience under the new order of things which was introduced by the adoption of the tables mentioned. That period is sufficiently long to furnish material from which, as premises, conclusions entitled to a very considerable degree of confidence may

be drawn. Drs. Park, Brown and Goldsmith, of the three hospitals at Worcester, Taunton and Danvers respectively, have very courteously furnished me, in advance of publication, with the statistics of those institutions for the year recently elapsed. I propose to pass in review this new material from the four State establishments, and endeavor to ascertain its teachings.

It should be stated that the figures of the statistics relate to *persons* and not to *cases*, the same person not having been counted twice within either year, whatever might have been the number of his admissions. It is possible that, in a few instances, the same person was admitted in more than one of the years; but, if any such there were, the number is not sufficient to materially affect the results.

1. *Admissions of Persons in Three Official Years.*

HOSPITALS.	1879-80.	1880-81.	1881-82.	Totals.
Worcester, - - - - -	222	287	304	768
Taunton, - - - - -	184	267	237	688
Northampton, - - - - -	115	120	119	354
Danvers, - - - - -	571	488	507	1,566
Totals, - - - - -	1,092	1,112	1,167	3,371

The principal value of this table is in its exhibition of the progressive increase in the number of *persons* admitted to the hospitals. In the two years intervening between the first and the last report, that increase was seventy-five (75)—twenty (20) in the first year and fifty-five (55) in the second. This ratio of increase, if continued, would double the number of persons admitted as patients in 29.79, or, in round numbers, in thirty years. The population of the State is not increasing so rapidly as that, and consequently, so far as these figures are to be relied upon, the proportion of the insane committed to hospitals, as compared to the number of inhabitants of the State, is on the increase.

At Worcester there was a regularly progressive increase

in the numbers admitted. At Danvers and Taunton, where fluctuations in this respect were the greatest, the admissions were largely governed by outside influences, not natural but arbitrary. The patients from Boston were sent sometimes chiefly to one of them, sometimes to the other, as circumstances determined.

2. Admissions and Recoveries of Persons in Three Years.

HOSPITALS.	Persons Admitted.	Persons discharged Recovered.	Per cent of Recoveries on Admission.
Worcester, - - - - -	763	148	19.40—
Taunton, - - - - -	688	148	21.51+
Northampton, - - - - -	354	76	21.47
Total of three Hospitals, - - -	1,805	372	20.61
Danvers, - - - - -	1,566	378	24.15
Whole number, - - - - -	3,371	750	22.25

The hospital at Danvers has so recently been opened that it is exceptional, in some respects, as compared with the other three. I have consequently so arranged the table that those three can be considered separately.

The proclamation,—“The best authorities assert that 75 to 90 per cent. of recent cases of insanity are curable,” with which, or with something equivalent, each half-fledged tyro in mental diseases formerly soared into the regions of imaginative psychology, either in his annual report, as a recently installed superintendent, or in some article upon the subject, as a pamphleteer or a writer for periodicals, is familiar to those who have read the Northampton reports, even though they may not have met it in its original places. Like the “voice of the turtle,” in Palestine, in the spring-time of seasons long gone by, that proclamation was, until within the last three or four years, often “heard in our land;” but now, like the song of Childe Harold, it “hath ceased,” or, at best “has died into an echo,” like his theme. Yet to him whose faith was challenged by its reiterated assertion, and whose hope was stimulated thereby into an expectation that all cases might soon be treated in their early stages, the

table here presented cannot fail to be sadly and sorrowfully interesting.

It matters little what is asserted *can* be done so long as it is *not* done. To the philanthropist, the humanitarian, the political economist, the tax-payer, even the mere citizen, the important question is, not what is the proportion of the insane that has been alleged, on very flimsy grounds, to be susceptible of recovery, under certain given but often impossible circumstances, but what proportion *do* recover and return to their homes as useful members of society?

By the table just introduced, it is shown that in the the course of the three official years ending with Sept. 30, 1882, three thousand, three hundred and seventy-one (3,371) *persons* were admitted into the four State hospitals, and seven hundred and fifty (750) *persons* were discharged from them as recovered. The recoveries were 22.25 per cent. of the admissions. Hence, *not one-half, not even one quarter*, but only *a fraction more than one-fifth* as many *persons* recovered as were admitted. In the oldest three of the hospitals, the most recently erected of which has been in operation twenty-four years, the proportion of recoveries was still smaller, being 20.61 per cent., or almost precisely one-fifth, as compared with the persons admitted.

It is not a little interesting to observe the very near approach to equality of these proportions in the oldest three of the hospitals.

At Danvers, the ratio of recovery was larger. This is sufficiently explained by the fact that, at the beginning of the period of three years, that hospital had been in operation less than eighteen months. It was not full, and it was the resort for nearly all of the recent cases of insanity from Boston and the four other cities in its vicinity.

For the purpose of further illustration, I here introduce a table showing the ratio of persons recovered to persons admitted, at each institution, in each of the three years respectively.

3. *Percentage of Persons Recovered in each Year.*

HOSPITAL.	1879-80.	1880-81.	1881-82.	For Three Years.
Worcester, - - - - -	18.46	21.94	18.09	19.40—
Taunton, - - - - -	26.62	21.34	17.72	21.51+
Northampton, - - - - -	24.34	16.66	23.83	21.47—
At the three Hospitals, - - -	22.65	20.67	18.94	20.61—
Danvers, - - - - -	28.89	25.41	17.55	24.15—
At the four Hospitals - - -	25.95	22.75	18.34	22.25—

Perhaps the most noteworthy information derived from this table is, that at the hospitals, as a whole, there was a progressive diminution of the annual proportion of recoveries from the beginning to the end of the period, as shown by the figures 25.95, 22.75, and 18.34. This regular but quite sufficiently rapid falling off in the proportion of persons recovered may be merely incidental and temporary, but nevertheless it is not encouraging. The graded reduction of recoveries took place at the oldest three hospitals, but to a less extent. In the hospitals, as a whole, it was equal to 7.61 per cent. of the persons admitted; in the three oldest hospitals it was only 3.71 per cent., or a fraction less than one-half as much. The greatest diminution, equal to 11.34 per cent. of the persons admitted, was at the Danvers Hospital. The cause of this is readily understood. As the institution became filled to crowding, the current of recent cases which had been flowing to it was, to a certain extent, diverted from its course, and directed toward the other hospitals.

The largest percentage of annual recoveries at any of the oldest three hospitals, in the course of the period was 26.62, at Taunton, in 1879-80; and the smallest, 16.66, at Northampton, in 1880-81.

It is a delicate matter thus to bring the several institutions into the closest juxtaposition, for the purpose of a comparison of the results of their work. Were it not that I have great confidence in all and each of them, it would not be attempted. I regard these Massachusetts hospitals as among the best of their kind, not in the

United States alone, but in the world; and I most conscientiously believe that they are now under a medical management so good, and so nearly equal, that any insane person who would recover at any one of them would likewise recover at either of the other three.

We now approach [a part of the statistics before us, perhaps the most important as well as the most interesting of all, in consequence of their bearing upon the question of the absolute curability of mental disorders. The extreme liability to relapse of a large proportion of the cases recovered from insanity, is now very generally known. In some instances the relapse and the recovery occur so frequently that some physicians maintain that there is *no* recovery; but that the disease, during the apparently rational intervals of the patient, is merely in a state of suspense. But, in these cases, it is the almost universal practice at the hospitals, if they are discharged at the subsidence of each returning paroxysm, to discharge them as recovered. As heretofore shown, the recoveries are thus sometimes largely increased beyond the number of persons. In view of these cases, I have often been reminded of the notorious old toper who one day greatly surprised an acquaintance by telling him that he had "left off drinking," and when the assertion was doubted, reaffirmed its truth, declaring, as undeniable proof of the fact, that he had "left off three times" that morning.

The subjoined table shows the number of persons discharged recovered, and the number of persons readmitted, who had at some former time been discharged as recovered.

4. *Readmission of Persons formerly Discharged Recovered.*

HOSPITAL.	Persons Discharged Recovered.	Readmission of Persons formerly Discharged Recovered.	Proportion of Readmitted to Discharged.
Worcester, - - - -	148	65	1 in 2.28
Taunton, - - - -	148	70	1 in 2.11
Northampton, - - - -	76	43	1 in 1.76
Totals of the three Hospitals,	372	178	1 in 2.09
Danvers, - - - -	378	66	1 in 5.72
Totals of the four Hospitals	750	244	1 in 3.07

In the return to their homes of seven hundred and fifty (750) persons recovered from their insanity, the hospitals accomplished a great good. This work of beneficence was, however, as is shown by the table, in one sense partially counterbalanced by the readmission of two hundred and forty-four (244) persons who had been previously discharged as recovered. The percentage of the readmissions on the discharges is 32.53. In other words, very nearly one-third as many formerly recovered persons were taken back from the community, as were given to it by the hospitals. At the three oldest hospitals the proportion was still larger, the number of formerly recovered persons readmitted being very nearly one-half as great as that of recovered persons discharged. At the Worcester Hospital it was a fraction more than two-fifths; at the Taunton Hospital, nearly one-half; and at the Northampton Hospital, more than one-half, or nearly three-fifths.

At the Danvers Hospital three hundred and seventy-eight (378) persons were discharged as recovered, and only sixty-six (66) formerly recovered persons readmitted. The proportion of the returned recovered to the discharged recovered was as 1 to 5.72, or a little more than one-sixth. This, like the heretofore mentioned exceptional results at that institution, is a consequence of its newness. As before mentioned, at the beginning of the three years it had been in operation less than a year and a half, and hence there had not been time for a relapse of any of its recoveries other than in those persons whose disease recurs at short intervals. As will be seen by the table next to be introduced, the numbers of the readmitted recovered, in each of the three successive years, was 18, 17, and 31, respectively, nearly one-half of them being in the last year of the period. As the hospital grows older, this, as well as the other results in its medical history, will approximate more and more nearly those of the three other and more early established institutions.

Before leaving this special topic, it should be remarked that although the Danvers Hospital readmitted but

comparatively few of the persons whom it had discharged as recovered, yet it is highly probable that it admitted a no inconsiderable number who had previously been discharged as recovered from the other three institutions. The early reports give no direct information upon the subject, but within four and a half months from the day the hospital was opened, no less than *forty-three* (43) patients suffering from a *second attack* were received. It is probable that the larger part of these had recovered from the first attack at other institutions. The same may be said of the seventy-three (73) patients with second admitted in the official year 1878-9, which began at the close of that period of four and a half months. Of these one hundred and sixteen (116) patients, who knows how many had recovered once each, at either Worcester, Taunton, or Northampton? The number can be ascertained only by an examination of records.

In the first two years of the three years' period to which these statistics refer, the Danvers Hospital admitted one hundred and one (101) patients who had been inmates of the other three hospitals mentioned, but we are not informed of the condition, in regard to recovery, in which they had been discharged from those hospitals.

5. *Annual Readmissions of Persons formerly Discharged Recovered.*

HOSPITALS.	1879-80.	1880-81.	1881-82.	Totals.
Worcester, - - - - -	25	17	23	65
Taunton, - - - - -	19	29	22	70
Northampton, - - - - -	22	10	11	43
Total of three Hospitals, - - - - -	66	56	56	178
Danvers, - - - - -	18	17	31	66
Totals of the four Hospitals, - - - - -	84	73	87	244

Some of the most important information imparted by this table has already been mentioned. By an examination of the figures in detail it would appear that the number of formerly recovered persons annually readmitted is accidental, or incidental. It follows no law. There is

neither a regularly progressive increase nor a regularly progressive decrease. The whole number is admitted in the first year is smaller by two than that of the last year; but at the oldest three hospitals the number in the first year exceeded by ten that of either of the other years.

So much in regard to the persons who had previously been discharged recovered, but who had returned to the hospitals. It will now be shown that some of those persons had been discharged recovered more than once. This will be done by giving the number of times that all of them (244) had been so discharged.

6. Ratio of Recoveries to Persons Recovered.

HOSPITALS.	Readmissions of Persons formerly discharged Recovered.	Number of times they had been discharged Recovered.	Excess of Recoveries over Persons	Average Recoveries to each Person.
Worcester, - - - -	65	169	95	2.46
Taunton, - - - -	70	122	52	1.74
Northampton, - - -	43	66	23	1.53
At the three Hospitals, -	178	348	170	1.95
Danvers, - - - -	66	67	1	1.01
At the four Hospitals -	244	415	171	1.70

Hence it will be perceived that the two hundred and forty-four (244) recovered persons readmitted had been discharged recovered four hundred and fifteen (415) times. The excess of *recoveries* over *persons* is one hundred and seventy-one (171). At the oldest three hospitals the *proportionate* excess is much larger. Their one hundred and seventy-eight (178) formerly recovered persons readmitted had been discharged recovered three hundred and forty-eight (348) times. The excess of *recoveries* over *persons* is one hundred and seventy (170). The number of *recoveries* lacks but eight (8) of being twice as great as that of *persons*. At the Worcester Hospital, much the oldest of the four establishments, sixty-five (65) recovered persons readmitted had been discharged recovered one hundred and sixty (160) times. The excess of *recoveries* over

persons was ninety-five (95); and the number of *recoveries* nearly twice and a half as great as that of *persons*. At the Danvers Hospital the number of *recoveries* exceeds that of *persons* by only one (1). For reasons already given this result will be understood.

There is one supposable source of error in these statistics of repeated recoveries, and that is the possibility that a person who had been discharged recovered more than once, may have so been discharged in more than one of the three official years. If, for example, a person who had previously recovered three times were discharged recovered in the first year, making his *fourth* recovery, and being afterwards again admitted and discharged recovered in either of the other two years, he would be reported twice in the period, once as having had *three* former recoveries, and again as having had *four*. This would make the number of his recoveries, as represented in the table, *seven*, whereas it had been but *four*. If the table contains such errors, they probably do not increase the totals of repeated recoveries to a greater extent than they are diminished by the admission of persons at Danvers who had previously recovered at the other three hospitals.

This rather minute and detailed analysis of the statistics of recoveries at the Massachusetts State hospitals, is, from my point of view, more than justified by the circumstances under which it is made. The truth of the seven conclusions which were legitimate deductions from the data which, in 1876, I was able to glean from the results of observations and experience under an imperfect method of recording such statistics at the hospitals, was widely doubted. This doubt was no especial cause for wonder, since, in some instances, those deductions differ very greatly from what, even in the minds of well-informed persons, had hitherto been regarded as the truth. To a very considerable extent the doubt has been removed by the articles upon the subject which have appeared in the reports of the Northampton Hospital since the date just mentioned, but it may still exist in some places.

In Massachusetts a method of record and tabulation expressly designed for the purpose of bringing out, from the practical experience of its hospitals, the data which would prove or disprove the truth of those conclusions, has been in operation for some years. It was clearly proper that I should avail myself of the fruits of this crucial test, as I here have done. What are the results? The answers can best be made to appear by the reproduction in brief of several of the conclusions.

Conclusion 1.—The reported recoveries are increased to an important extent by repeated recoveries of the same persons.

This is proved by Table 6, where it is shown that at the three oldest hospitals one hundred and seventy-eight (178) *persons* were discharged recovered three hundred and forty-eight (348) times.

Conclusion 2.—The recoveries of *persons* are much less numerous than the recoveries of *patients* or *cases*.

This conclusion is, as a proposition, the converse of the first. Hence, it is proved by the converse of the same statistics. At the three oldest hospitals the number of recoveries of *persons* was one hundred and seventy-eight (178); but the number of recoveries of *patients* or *cases* was three hundred and forty-eight (348), or very nearly twice as great as that of *persons*.

Conclusion 3.—From the number of reported recoveries of *cases*, or *patients*, it is generally impossible to ascertain the number of *persons* who recovered.

This may also be proved by the same (6) table. Under the old method of reporting in this state, as well as elsewhere, the three hundred and forty-eight (348) *recoveries* at the three hospitals would have been published, without giving any clew to the number of *persons* in whom those recoveries took place. By the new method that number is given, and it is found, in this instance, to be one hundred and seventy-eight (178).

Conclusions 4 and 5 are, by their very nature, not susceptible of proof or disproof by these statistics.

Conclusion 6.—The (formerly) assumed curability of insanity has been practically disproved by more extensive experience.

By cumulative evidence in Table 2, that disproof is corroborated and strongly fortified. At the four hospitals, 3,371 *persons* were admitted, and only 750, or a trifle over one-fifth of them, were discharged recovered. This proportion — 22.25 per cent.—is much lower than was even dreamed of in 1876; and he who would then have ventured to assert that such could be the truth, would have been considered as either a Munchausen, an ignoramus, or a proper candidate for an asylum for imbeciles.

It will be perceived that this reduction of the ratio of recoveries is in part due to the rejection of the duplicate and multiple recoveries of the same person, thus giving to each person but one recovery. For all other than strictly technical or medical purposes, this is the information wanted.

Conclusion 7.—The proportion of recoveries at the hospitals has been constantly diminishing, during a period of from twenty to fifty years.

These statistics cannot prove anything anterior to 1876, when that conclusion was written. But by Table 3 it is demonstrated that, in the four Massachusetts hospitals, the diminution, since 1879, has continued, the progressive reduction being represented by the consecutive annual percentages—25.95, 22.75 and 18.34. The proportion of recoveries in the year just elapsed is a little less than three-fourths as large as it was three years ago, in the official year 1879-80.

Very clearly, if insanity is to be diminished, it must be by prevention and not by cure.

With the forgoing exposition I might, perhaps, very appropriately close forever these published studies of the subject of the curability of insanity. If the arguments which have been used, and the illustrated proofs which

have been adduced, in the course of a seven-years' discussion, have been insufficient to procure conviction of the truth of the conclusions published in 1876, it is not probable that anything will have power to convince. It was once intimated that there were minds which would not "be persuaded though one rose from the dead." Others like them there may be at the present time.

There is, however, one hitherto unused illustration furnished by the history of one of the American hospitals, that I cannot well forbear to present in the present connection. It corroborates the testimony of the experience at the Massachusetts hospitals during the last three years, and emphasizes the force of it.

The epidemic fever of opinion in favor of "good"—thereby meaning, as practically translated—"expensive" hospitals, which raged throughout the decennium from 1865 to 1875, or thereabouts, will be but too well remembered. It left, for Massachusetts, its own elephantine monument upon Hathorne Hill, in such fashion that it is not likely soon to be forgotten by the people of the Commonwealth, and, at the same time, similarly perpetuated its memory in other States. Of all the excessively costly curative institutions which were the products or outgrowths of that temporary craze, the Hudson River Hospital, at Poughkeepsie, New York, is, if I mistake not, the most remarkable for its costliness. Danvers is but a pigmy as compared with it. It was intended to be the institution of institutions, destined, so long as it might exist, to stand as a practical and therefore irrefutable proof that lavish expenditure upon hospital buildings can cure insanity.

That hospital was opened on the 20th of October, 1871, and its last published report covers the official year ending with the 30th of September, 1881. At the latter date it had been in operation ten years, minus twenty days.

In the course of that decennium it admitted sixteen hundred and seventy-one (1,671) patients, and discharged

as *recovered* three hundred and fifty-three (353). The percentage of recoveries, as compared with the admissions, is 21.12, or a fraction more than one-fifth.

In view of this result at the Hudson River Hospital, one of the most prominent men engaged in the work connected with the charities of the State of New York, writes to me as follows:—"If any additional evidence of the correctness of your conclusions in regard to the curability of insanity is needed, it is furnished in the ten years' experience of this most expensive of institutions 'established persumably for cure.'"

The very near approach to identity in the results at Poughkeepsie and at the Massachusetts hospitals, may arrest the attention of the reader. The proportion of the recoveries was :

At the Hudson River Hospital, -	-	21.12 per cent.
At the four Massachusetts hospitals, -	-	22.25 "
At the oldest three Massachusetts hospitals,		20.61 "

But there is a difference in the computation of these ratios which operates pretty largely in favor of the Massachusetts institutions. The statistics of Massachusetts relate only to *persons*; those of Poughkeepsie to *patients*, or *cases*. The Hudson River Hospital gets the advantage of all the repeated recoveries of the same person, which, like all other institutions of the kind, it must have had; whereas at the Massachusetts hospitals, these were all rejected.

Other appropriate topics, furnished by both the United States and Europe, might here be introduced, but I must pass them by, with two exceptions upon the other side of the Atlantic.

In my annual report, one year ago, there was a notice of the statistics of the Morningside Asylum, at Edinburgh, Scotland. It appears that, from a misunderstanding in regard to the patients who had suffered more than one attack, I was led to erroneous conclusions. It was stated that of the 347 patients admitted, 108 were readmitted after recovery from one or more former attacks. This

was a mistake, of which the acknowledgement and the correction give me more pleasure than the assertion. The 108 should have been 63. But I will let Dr. Clouston make the full correction in his own language.

"The asylum discharged [in 1880] 165, but it had taken back, altogether, of persons who had been discharged, *recovered* and *unrecovered*, 80. Of this 80, 63 had recoved in former years, showing that *there is a considerable part of the inmates of asylums whose brain condition being unstable, they come in and go out frequently.* But out of the 267 first admissions there were 97 first recoveries."

My most cordial thanks are due to the doctor. He acknowledges, in the language which I have italicized, that his own statistics show precisely what I have been attempting to prove for the last half-dozen years.

I am now indebted to the doctor for his very interesting report for the year 1881. In this the recoveries for the year are reported in a manner differing from that of the next preceding year, and by that difference the report becomes more lucid. The number of admissions, in the course of the year, was 339, of which 247 were for the first time, while 92 were readmissions. I here copy, in full, the table of recoveries:

Persons Recovered in 1881.

	Males.	Females.	Total.
A. Recovered for the first time, - - -	45	48	93
(a) Readmitted, and again discharged recovered, - - -	—	4	4
(b) Readmitted, but not again discharged recovered, - - -	6	3	9
B. Had made one or more recoveries in previous years, - - -	31	34	65
(a) Readmitted, and again discharged recovered, - - -	—	—	—
(b) Readmitted, but not again discharged recovered, - - -	7	4	11
Number of persons recovered, - - - - -	76	82	158
Number of cases of recovery, - - - - -	76	86	162

The whole number of *persons* who recovered within the year was 158: 93 of these recovered for the first time.

But after their discharge as recovered, four of them were readmitted and again discharged recovered. They made two recoveries each within the year. Nine more of them were readmitted, and, at the end of the year, still remained in the asylum. Although discharged recovered, and counted among the recoveries, they came back within the year.

The remaining 65 of the *persons* who were discharged as recovered, did *not* recover for the first time; but each one of them had recovered once or more in previous years. Of these 65 who were discharged recovered within the year, 11 came back, and were still in the asylum at the expiration of the year.

Summing the two classes, it appears that of the 158 persons discharged recovered within the year, 24 relapsed and were readmitted within the year. Four of them were discharged recovered a second time within the year, and and 20 (9 plus 11) were still in the asylum at the close of the year.

I have thus put the information in the table into the language of words, for the benefit of those who have no taste for the language of numerals. It is a lucid showing, so far as it goes, but it would have been more satisfactory if we had been told *how many recoveries* the 65 *persons* had made in previous years.

A series of improved and reformatory tables, by which the defects in the method of reporting the statistics of the institutions for the insane would be remedied, was prepared by a committee and presented for adoption by the British Medico-Psychological Association in 1881. After due discussion, it was decided to postpone action upon the subject for one year. At the meeting of the Association in August of the current year, there was another discussion, which ended, at length, in the adoption *for one year*, of the new tables. So far so good—and very good. A prudent caution in driving, even when one knows he is on the right road, is commendable.

The superintendents of the British asylums will find that the new tables will increase their labors to a no

inconsiderable extent; a fact of which no one perhaps is more conscious than they themselves. The work of preparing the statistics of the Northampton Hospital was increased, probably threefold, by the tables introduced three years ago. But the British superintendents have always put very much more work into their statistics than have the superintendents of the institutions in this country; and hence their labor will not be proportionately increased. But, for them and for us, it is the end that crowns the work, and all upon whom the burden is imposed must look for their reward in the greater revelation of truth, and the immensely enhanced value of their statistics.

The Therapeutic Value of Cephalic and Spinal Electrizations.*

By C. H. HUGHES, M. D., St. Louis.

THE physiological experiments of MM. Latournian and Laborde (*Gazette Hebdominaire, 1879*), confirmed by those of MM. Condorceau and Duval, performed on inferior animals, have fully demonstrated the power of electrizations to produce in the brain a state of temporary anæmia immediately following each application. But these demonstrations were only confirmations of a fact previously ascertained by clinical methods. M. Latournian having, himself, before reported the case of the Abbé C., whose brain, chronically congested to such a degree as to produce marked and grave psychical aberrations, yielded favorably to persistently repeated cephalic electrizations, and I had, myself, long before this, employed these applications for this purpose, and became convinced from repeated experience, of their power over the brain to tranquilize and subdue cerebral excitation, and over the

*This paper was read before the Association of Superintendents of American Institutions for the Insane, at Toronto, Canada, June 14th, 1881, some of the clinical records being then briefly detailed verbally.

vasomotor system to promote through them the contraction to normal dimensions of the abnormally distended cerebral arterioles in hyperæmic encephalic conditions.

Though the precise mode of action of the constant current in destructive brain lesions will probably not be understood until a number of cases, which have been treated in a similar manner, have been investigated post-mortem, as Althaus says, is perhaps true, yet we now understand its *modus operandi* in cerebral congestion quite well, and in this knowledge we have, in part, doubtless, a comprehension of how it may act in arresting, if not in diminishing, the growth of morbid products within the brain. The diminished calibre of the cerebral vessels may be inimical to their development, and the same influence that restores normal vasomotor tonicity, may extend itself to the trophic and absorbent systems.

In the beginning of 1878 it had become quite a routine practice with me to so employ the constant galvanic current, and I have the records of a number of cases of induced cerebral hyperæmia, one of them a case of *meningitis verticalli*, which occurred in a late general of the army, as the result of a saber wound received in battle, in which the effects of repeated applications of this valuable therapeutic agent were most salutary. Since then I have extended the employment of the constant current to all well-marked congestive states of the cerebro-spinal nervous system, and to parts so involved, and intimately associated with the sympathetic system.

We may say, before passing to the record of our cases, that a now somewhat extended observation in electro- and neuro-therapy seems to confirm what Löwenfeld deduced from experimental galvanization of rabbits, viz: that while descending currents contract (the vessels of the encephalon including its) meninges, ascending currents, from neck to forehead, dilate them; and it is well, also, to bear in mind Löwenfeld's further assertion that cross currents dilate on the side of the anode and contract on that of the cathode, while induced currents

in any direction cause *hyperæmia cerebri*. These facts may also be satisfactorily proven by personal experimentation, and the failure to appreciate them is at the foundation of the ill success of so many who have attempted to employ cephalic electrization for therapeutic purposes and discarded it. It has not, in these instances, been the electric current which has been at fault, but the operator who has misdirected it. It is as valuable a servant when skillfully used as the surgeon's knife, and we should not condemn it because, in unskillful hands, it may prove equally unsafe and unsatisfactory.

In the present note we content ourselves with a few clinical confirmations of the value of the constant descending current in conditions of the brain associated, primarily or secondarily, with hyperæmia, reserving for another time illustrations of its value in other cerebral states and in certain abnormal conditions of the spinal cord.

Althaus, *vide* "Brain," April, 1881, has employed this agent successfully in resolving morbid depositions within the brain, and we have seen hemiplegia, dysphagia and aphasia from lesions of the brain and pons, disappear under its use, and the conviction has forced itself upon us from the more satisfactory results since its regular employment in our treatment of our epilepsias, conjoined with internal therapy, that it is an auxilliary in this affection which ought not to be despised. True, these cases recover under treatment without galvanism, but if the majority of our cases under the combined treatment stay well, whereas formerly the most of them, perhaps three-fifths, relapsed, it is not unreasonable to have acquired a little faith in its aid.

Althaus (*vide supra*) has successfully treated diabetes insipidus by galvanizing the medulla, and melancholia by applying the current to the occipital lobes, and has caused auditory delusion to disappear by applying the current to Ferrier's auditory centres in the superior temporo-sphenoidal convolutions.

We have seen similar results follow the use of the

galvanic current applied to the head and spine, though always from using a descending current except in tinnitus aurium and other auditory hallucinations. Bright's and Addison's diseases, which, in all probability, are intimately associated with renal ganglia disease in their origin, are greatly benefited by spinal electrizations, and the former has disappeared under its use, if albumen and tube casts are to be taken as indubitable evidence of its existence. Diabetes mellitus, associated with profound melancholia and sexual apathy (loss of sexual desire without spermatorrhœa for six months), we have seen cured by it, conjoined with codia, cannabis indica and neurotic tonics and reconstructives. The miracles of medicine already wrought and still capable of being performed by the aid of galvanism wisely employed as auxilliary to a judiciously prescribed internal therapy, can not yet be exactly estimated, but if we judge even from the known curative verifications of the medicinal power of this agent, our prophetic record must be a liberal and exalted one. It will avoid lengthening this paper, which is intended to be but a brief note on one part of this interesting subject, if we refer the reader to Dr. Althaus' two interesting papers, in Nos. XII. and XIII. of "BRAIN," "*On Some Points in the Diagnosis and Treatment of Brain Disease.*"

The cases of cerebral trouble which we now detail may serve to illustrate the one aspect of our subject, which we started out to show:

N. J. W.—— is a young unmarried man, of diffident mien, florid complexion; moderately good flesh; sleepless; pulse full and 84 per minute. He is troubled with morbid fears of various kinds, timid, forgetful and unable to attend to business. His appetite is ravenous and he is suspicious of the good intentions of his best friends, irritable and cross with them. He is of a sanguine, nervous temperament; some of his family have died of consumption; a sister is excessively nervous and his father died of cancer. Insanity is with him an impending possibility. Cephalic electrization through

February and March (1879) and some general treatment in April restored him. He now (1882) attends regularly to business, having only occasional slight recurrences of the head symptoms, which a few days' treatment promptly dissipates.

A young clerk, F. G. W., æt. twenty-three, of full habit, red in the face, with bounding accelerated pulse and constipated; complains of a severe pressure in the head. Filling a position beneath his aspirations and esteemed by him a menial one, he has become sleepless and melancholy, brooding over what he considers the tyranny of his employer, and lamenting his inexorable adverse fate; he proposes to end his troubles by jumping off the river bridge. A consciousness, however, that something is wrong with his head, leads him to consult his physician, the distinguished Prof. H., who refers him to me. Coming directly to our office and receiving a five minutes' electrization, he feels more comfortable, and for the present gives up his purpose of suicide. Given a drachm dose of bromide of potassium in a glass of water and retained in the office half an hour, he is then allowed to go home, with another drachm dose combined with half as much chloral, to be taken as he retires. In the morning he takes a citrate of magnesia and mercurial cathartic, and comes to the office for another seance, which, repeated morning and evening for a fortnight, with bromide and chloral for a few nights, to prolong the tranquilizing effect of the electricity, and later, if he should awaken between midnight and morning, an uncombined dose of chloral, to sufficiently prolong his sleep, and this patient's cure is practically complete. An injunction to take a dose of the bromide mixture at night when inclined to be sleepless, or during the day, if head feels full, and a laxative pill for use when bowels are not free, are all of the precautionary measures prescribed. The patient has had no return of former symptoms at this time (January 1st, 1883).

Mrs. G., æt. thirty-three, married, has borne one child; has

intra-cranial vascular tension, auditory and visual hallucinations, highly vascular sclerotics and protruding eyeballs. One of the cornæ is scarred from former ulceration. Has had iritis and been under the care of different oculists for inflammatory and exudative conditions of the cornea and anterior chambers of the eye, and it has been pronounced amaurotic and glaucomatous. At the time she came under my care, March 13, 1881, she could neither see objects in her room, or discern light from darkness, though the pupils were dilated with atropine. Her homeopathic oculist informed her that only Providence could save her. An ophthalmoscopic examination revealed no retinal trouble, so that the inference was justifiable that the failure of vision was due to encephalic trouble beyond the ocular fundus, (vascular pressure and exudation about the chiasma, the tubercula quadrigemina and angular gyri probably.) The latter condition being especially inferrable from the flashes of light which she has sometimes seen with closed eyes, and the visions of angels which came to her recently during a period of cerebral excitation. Her heart's action was increased in frequency and force, the pulse being 120 when she came under treatment. She had treatment from an irregular electrician and from most of the pathists of this city, without avail. The electrician employed the interrupted current through the head, a procedure not commendable. The patient had marked insomania, an impaired appetite and sluggish bowels.

Under *Gelsemium* and the bromides and proto-iodide of mercury, with daily cephalic electrization, eight to twelve elements of a constant current battery—descending current—she so greatly improved in the course of a fortnight that she could distinguish all objects in her room, the lineaments of her physician's and husband's faces, the color of her friends' hair and eyes, etc., in short, to see anything but fine print. Her appetite and general condition every way improved, the sclerotis became normally free from blood, and the sanguineous effusion in the anterior chamber began rapidly to disappear. Our visits

became less frequent after this—every fourth or fifth day. A minimum dose of hyoscyamia had a very unsatisfactory effect, causing much cerebral excitement, and some kalium iodidum likewise discovered in her an idiosyncrasy, causing, in ten grain doses, an intense diarrhœa. These abortive effects greatly prejudiced the patient against our treatment, notwithstanding we had come in as a *dernier ressort* and greatly benefited her, and during our absence at Richmond, she returned to the infinitesimals.

This patient had formerly suffered from malarial congestions, and some years ago fell down unconscious in an apoplectic fit from which, in a few weeks, she slowly recovered.

The therapeutic lesson of this case confirms what I have so often before clinically proven, that it has become a fixed article of therapeutic faith with me, that for hyperæmic cerebral states, passive effusions and intra-cranial exudations, constant galvanism is the remedy *par excellence*. The current seemingly acts equally well when applied from above downwards, following the direction of the normal nerve influence, from one hemisphere of the cortex down through the basal ganglia and out at the opposite side of the medulla, as when the electrodes are placed so as to impress the cervical sympathetic, namely, behind carotid at the ramus and angle of the jaw, and at the back of the neck above the seventh cervical vertebra.

Dr. Edward C. Mann, of New York, in Vol. VII., part 2, of the *London Journal of Psychological Medicine and Mental Pathology*, reports an interesting case of blindness and deafness, resulting from cerebro-spinal meningitis, successfully treated by him with a constant current, in which he details an experience with the electricity quite in accord with our own. We have never, however, cured a case of post meningitic blindness or deafness from this agent, though we have employed it with a view (and we think successfully) of averting this and other horrible sequelæ of this formidable affection.

The following case, however, is much like the preceding.

The details of the case appear more at length in a late number of the *Louisville Medical News*. The case was also verbally reported by us along with a number of others, to the Southern Illinois Medical Society, which lately met at Anna, Ills. The patient is quite well-known in that section of the country:

Rev. L. is a Presbyterian divine residing in Illinois, of intensely studious habits, preparing his weekly sermons with much research and solicitude. The time habitually devoted to this labor is from the middle of the week until the following Sabbath; his hours of most intense labor being the night time, rarely terminating before midnight on Saturdays, and later, on other nights.

His congregation is influential, critical and appreciative of his work, which he realizes, and while he has labored with solicitude to fill their expectations of him, he has had none of those feelings of depression which come from a consciousness of unappreciated effort, and is not melancholic. He has, however, realized of late the failure of his mental powers for prolonged studious effort, and has become conscious that he must get relief or abandon his calling.

His symptoms, when he first came under observation, were protrusion of the right eye and inability to distinguish light from darkness with it; cephalalgia with inability to labor mentally without intensifying it; full pulse, 84 per minute, and increased temperature, 99.5 F. on side of blindness; sluggish bowels; an ill-at-ease sort of feeling in the day-time, and incapacity for sufficiently prolonged, dreamless and refreshing sleep, to daily recuperate him. He had no catarrh, and there were subjective noises in his left ear. Otoscopic and ophthalmoscopic examination gave negative results. Æsthesiometric examination gave abnormal and lessened tactile sensibility in the terminal branches of the tri-facial. Giddy sensations were complained of, and his appetite was somewhat impaired. The renal, hepatic, enteric and cardiac functions, save the ganglionic excitation in the latter, were not appreciably abnormal.

The condition of this patient was one of partial paralysis of the vaso-constrictor nervous system, due probably to malarial influences as the pre-determining cause, and to psychical overstrain as the immediate exciting cause. I regard the cerebral pathological condition as one of psychically induced cerebral hyperæmia with meningeal hyperæsthesia and cortex irritability.

The treatment consisted mainly in cerebral galvanization with the constant descending current, daily, of varying strength, enforced brain rest, and chemical restraint imposed by the sodium and potassic bromides in after-part of day and night, together with all rational efforts to restore trophic and waste cerebral equilibration. The following further history of this case is given by the patient himself:

"I came into Southern Illinois in the spring of 1876. After being here about a month or two, I took chills and fever. I was troubled with them for about one year. After getting clear of them I began to be troubled with what my physician here called nervous headache. As time passed this grew more troublesome until I had it half or more, probably of my time. In September, 1881, I went north to spend a few days, and while there had severe pains in my head, and was under the necessity of remaining in a dark room for about forty-eight hours. During that time I lost the sight of my right eye entirely. Came back home and staid until last of November, when my left eye became somewhat affected. When I placed my case in your hands, or under your treatment, my sight was perfectly restored before I left the city, and since I have had no trouble whatever, so far as they are concerned. I have been able to work ever since I returned home. Have done harder work and more of it than for three or four years before. My head does not trouble me much now. I think I have had headache but once during the last month. I eat well, sleep well, I feel well generally, but I am exceedingly nervous."

The patient has lost thirty-seven pounds in weight, and complains that he can hardly hold a paper still enough to read it. He will require further treatment for the general nervous symptoms, but the cerebral hyperæmia,

meningeal hyperæsthesia and cortex irritability were subdued by the treatment and the concomitant blindness due to the cerebral condition, disappeared simultaneously.

In our view, while the effect of cephalic electrization is to produce diminished circulation within the brain, this effect is often undoubtedly contributed to by a concomitant or precedent tranquilization of the cerebral cells, whose state of excitation induces hyperæmia. The effect on the brain and its meninges may be primary, on the circulation secondary to, and as a consequence of, the tranquilization of the excited cell movements, in some cases. *An essential property of the constant descending galvanic current in induced cerebral hyperæmia is that of a tranquilizer of irritable nerve tissue*, secondarily contributing to the contraction of over-distended vessels. It acts on the irritable brain like bromides, hyoscyamin and chloral, vasomotor results being secondarily induced when there is over vascular distension as well as primarily accomplished.

Certain effects of cephalic electrization are too immediate to be the result solely of the circulatory changes made by it. For example: the prompt relief of migraine and other hyperæsthetic neuroses of the meninges, as well as in all forms of anæmic and congestive cephalalgias; though it is undoubtedly more effective in the latter.

It is a well-known fact, in regard to certain hypnotics, that they first accelerate and augment in force the cerebral circulation, even while the obtunding of consciousness and the gradual quiescence of the brain is being accomplished, so that to attribute their sleep-inducing power to their influence over the vasomotor system is not logical. They induce sleep under varying states of the circulation, as in opium, alcohol, chloral and bromide slumber, the state of the circulation being different in all. We may fall into error if we attribute the effects of electricity solely to its vasomotor influence.

NOTE.—Further detail of cases would be needlessly cumulative testimony in regard to congestive states of

the head at least, but it will not be amiss to record a few confirmations of the value of electrization of the spine in congestive states, of which we have on our case book the notes of some remarkable illustrations. We promise them for a subsequent number, contenting ourself now with the assurance, that rightly used, these electrizations will be found the best of auxiliaries and often our chief reliance in purely congestive states of the brain and cord.

(*To be continued.*)

CASE OF SEXUAL PERVERSION.

By P. M. WISE, M. D., Willard, N. Y.,

ASSISTANT PHYSICIAN OF THE WILLARD ASYLUM FOR THE INSANE.

THE case of sexual perversion herewith reported, has been under the writer's observation for the past two years and since the development of positive insanity. The early history of her abnormal sexual tendency is incomplete, but from a variety of sources, enough information has been gleaned to afford a brief history of a remarkable life and of a rare form of mental disease.

CASE.—Lucy Ann Slater, *alias*, Rev. Joseph Lobdell, was admitted to the Willard Asylum, October 12th, 1880; aged 56, widow, without occupation and a declared vagrant. Her voice was coarse and her features were masculine. She was dressed in male attire throughout and declared herself to be a man, giving her name as Joseph Lobdell, a Methodist minister; said she was married and had a wife living. She appeared in good physical health; when admitted, she was in a state of turbulent excitement, but was not confused and gave responsive answers to questions. Her excitement was of an erotic nature and her sexual inclination was perverted. In passing to the ward, she embraced the female attendant in a lewd manner and came near overpowering her before she received assistance. Her conduct on the ward

was characterized by the same lascivious conduct, and she made efforts at various times to have sexual intercourse with her associates. Several weeks after her admission she became quiet and depressed, but would talk freely about herself and her condition. She gave her correct name at this time and her own history, which was sufficiently corroborated by other evidence to prove that her recollection of early life was not distorted by her later psychosis.

It appears she was the daughter of a lumberman living in the mountainous region of Delaware Co., N. Y. that she inherited an insane history from her mother's antecedents. She was peculiar in girlhood, in that she preferred masculine sports and labor; had an aversion to attentions from young men and sought the society of her own sex. It was after the earnest solicitation of her parents and friends that she consented to marry, in her twentieth year, a man for whom, she has repeatedly stated, she had no affection and from whom she never derived a moment's pleasure, although she endeavored to be a dutiful wife. Within two years she was deserted by her husband and shortly after gave birth to a female child, now living. Thenceforward, she followed her inclination to indulge in masculine vocations most freely; donned male attire, spending much of the time in the woods with the rifle, and became so expert in its use that she was renowned throughout the county as the "Female Hunter of Long Eddy." She continued to follow the life of trapper and hunter and spent several years in Northern Minnesota among the Indians. Upon her return to her native county she published a book giving an account of her life and a narrative of her woods experience that is said to have been well written, although in quaint style. Unfortunately the reporter has been unable to procure a copy of this book as it is now very scarce. She states, however, that she did not refer to sexual causes to explain her conduct and mode of life at that time, although she considered herself a man in all that the

name implies. During the few years following her return from the West, she met with many reverses, and in ill health she received shelter and care in the alms-house. There she became attached to a young woman of good education, who had been left by her husband in a destitute condition and was receiving charitable aid. The attachment appeared to be mutual and, strange as it may seem, led to their leaving their temporary home to commence life in the woods in the relation of husband and wife. The unsexed woman assumed the name of Joseph Lobdell and the pair lived in this relation for the subsequent decade; "Joe," as she was familiarly known, following her masculine vocation of hunting and trapping and thus supplying themselves with the necessaries of life.

An incident occurred in 1876 to interrupt the quiet monotony of this Lesbian love. "Joe" and her assumed wife made a visit to a neighboring village, ten miles distant, where "he" was recognized, was arrested as a vagrant and lodged in jail.

On the authority of a local correspondent, I learn that there is now among the records of the Wayne Co. (Pa.) Court, a document that was drawn up by the "wife" after she found "Joe" was in jail. "It is a petition for the release of her 'husband, Joseph Israel Lobdell' from prison, because of 'his' failing health. The pen used by the writer was a stick whittled to a point and split; the ink was pokeberry juice. The chirography is faultless and the language used is a model of clear, correct English." The petition had the desired effect and "Joe" was released from jail. For the following three years they lived together quietly and without noticeable incident, when "Joe" had a maniacal attack that resulted in her committal to the asylum before-mentioned.

The statement of the patient in the interval of quiet that followed soon after her admission to the asylum, was quite clear and coherent and she evidently had a vivid recollection of her late "married life." From this statement it appears that she made frequent attempts at

sexual intercourse with her companion and believed them successful; that she believed herself to possess virility and the coaptation of a male; that she had not experienced connubial content with her husband, but with her late companion nuptial satisfaction was complete. In nearly her own words; "I may be a woman in one sense, but I have peculiar organs that make me more a man than a woman." I have been unable to discover any abnormality of the genitals, except an enlarged clitoris covered by a large relaxed præputium. She says she has the power to erect this organ in the same way a turtle protrudes its head—her own comparison. She disclaims onanistic practices. Cessation of menstrual function occurred early in womanhood, the date having passed from her recollection. During the two years she has been under observation in the Willard Asylum she has had repeated paroxysmal attacks of erotomania and exhilaration, without periodicity, followed by corresponding periods of mental and physical depression. Dementia has been progressive and she is fast losing her memory and capacity for coherent discourse.

Westphal reports the case of a female,* that resembles in its salient features the foregoing; who, at the age of twenty, acquired regular desire towards her own sex. The sexual organs were normal and she practised onanism. Having attempted to violate a female relative for the purpose of gratifying her desires and being repulsed, she became depressed with paroxysms of mania. He also reports the case of a male, and contributes an article with Dr. Servaes† upon the same subject several years later. In a contribution‡ and later, an exhaustive essay,§ Krafft-Ebing gives an analysis of the published observations of this anomalous and rare disorder to the present time. With his own additions they number seventeen of both sexes and represent various degrees of perversion. In all but one of these cases there was a neurotic dia-

* *Archiv fuer Psych.*, Band II, Heft 1.

† *Archiv fuer Pschy.*, Band VI, Heft II.

‡ *Zeitschrift fuer Psych.*, Band XXXIII, Heft 2.

§ *Zeitschrift fuer Psych.*, XXXVIII. Band, Heft 2 und 3.

thesis with positive symptoms of insanity. He discusses fully the relation of society to these sufferers and suggests they should be excepted from legal enactments for the punishment of unnatural lewdness; thus allowing them to follow their inclinations, so far as they are harmless, to an extent not reaching public and flagrant offense.

It would be more charitable and just if society would protect them from the ridicule and aspersion they must always suffer, if their responsibility is legally admitted, by recognizing them as the victims of a distressing monodelusional form of insanity. It is reasonable to consider true sexual perversion as always a pathological condition and a peculiar manifestation of insanity.

The subject possesses little forensic interest, especially in this country, and the case herewith reported is offered as a clinical curiosity in psychiatric medicine.

The Clinical Phenomena and Therapeutics of Delirium Tremens.

By EDWARD C. MANN, M. D., New York City.

DELIRIUM tremens is a true alcohol mania which supervenes after repeated excesses in alcohol, and generally in those who are habitually intemperate, but who have been drinking more freely than usual. The intellectual phenomena consist of hallucinations of sight and hearing, which excite a profound terror in the patient from their disagreeable nature, and in actual delusions of a sad or frightful nature. These cause, oftentimes, excessive mental excitement in the patient. These phenomena vary very much in intensity, from a mild, muttering delirium to such a degree of maniacal excitement as to require the patient to be placed in a padded room to prevent him from severely injuring himself. As the patient convalesces, these hallucinations and delusions gradually disappear and deep sleep ensues. In a well developed case

of delirium tremens, you will find your patient shivering violently all over and in a general tremor, a convulsive trembling of the muscles of the face, hands and legs. We may also see epileptiform seizures. One patient will tell us that he sees sparks and phantoms and indefinite objects which gradually, to his disturbed and distorted vision, resolve themselves into animals, devils, snakes, etc. He will shriek in agony, saying that animals are tearing his flesh. He will hear voices calling to him or cursing him or the roaring of cannon and disagreeable, annoying and horrifying sounds. He may be maniacal, melancholic or stupid. There is at first simple functional disturbance and finally, confused hallucinations.

In delirium tremens, Dr. Laycock of England has shown us that the condition of the brain and its vessels are affected—the condition of the blood circulating in the vessels and the important viscera in close relation with morbid conditions of the blood or of the brain. The most important predisposing causes of the disease connected with the cerebrum and its circulation are :

1st. Habitual stimulation from any cause, either by *drugs*, such as alcohol or opium; or *physically*, from over brain work, anxiety, emotional disturbance or excessive sexual indulgence.

2nd. A constitutional predisposition to the acquisition of the neuroses. A neurotic temperament, predisposing to insanity, epilepsy and dipsomania proper.

3rd. Condition of the brain existing as the result of previous brain diseases, such as encephalitis; the sequelæ of mechanical injuries to the head, sunstroke or diseases affecting the brain.

The most important predisposing causes of the disease connected with *conditions affecting the blood* are: 1st., the presence of alcohol in the blood; defective supply of nutrient materials in the blood consequent on loss of appetite or poor digestion, the presence of fever germs and retained excreta, carbon, carbonic acid, bile and urea.

The most important predisposing causes of the disease

connected with *conditions of important* viscera are: 1st., inflammatory affections, gastritis, duodenitis with constipation; hæpatitis and chronic nephritis and chronic congestion of the kidneys; 2nd, structural diseases of the liver (fatty degeneration and cirrhosis), of the stomach (chronic thickening and ulceration), Bright's disease and cirrhosis of the kidneys. In treating delirium tremens, our patient must have complete muscular repose; must be kept in bed or he will exhaust his nervous system. If he must be restrained, use chemical restraint, chloroform, not mechanical restraint. In cases where this disease appears in a daily drinker, we must stimulate by concentrated peptonized beef broth upon leaving off stimulants, and give him healthy food; but when the disease appears in a man who is not an habitual drinker, and who has a good constitution and has been drinking to excess, where we have not exhaustion but congestion of the brain, the inhalation of chloroform acts admirably, the patient falling asleep before the inhalation has been pursued five minutes.

We must remove our patient from all occasion for emotion or anxiety, must give him food frequently, encourage diaphoresis as an elimination process. Keep the surface and feet warm; use an ice cake if the head be very hot.

If the patient is alcoholized and there are no important complications, the sleeplessness and delirium are of no great pathological importance. If the delirium tremens is not due to the withdrawel of alcoholic stimuli, *we should never administer alcohol as a remedy.* I never saw a case where I could attribute delirium tremens to a withdrawal of liquor. The patients are invariably alcoholized when admitted.

The essential nature of delirium tremens does *not* consist, as many physicians think, in the cerebral debility consequent upon the cessation of an accustomed stimulant. In most cases the stimulant has been stopped because the man could drink no more, and the delirium tremens is due

to too low diet, or abstinence from food and want of sleep, *not* want of stimuli. Therefore, I repeat, *delirium tremens does not depend* upon inebriates ceasing to drink. It depends upon the surcharging of the blood with alcohol. We must have sleep, but we must not give opium; half ounce doses of digitalis and warm baths are far better. Delirium tremens is a self-limited disease, if left alone, and tends to terminate in from 60 to 72 hours. The expectant method is not the worst method by any means of treatment. It is neither necessary nor safer to treat delirium tremens with alcohol. The patient is suffering from the toxic effect of a poison; why give him more? The treatment by tartar emetic is not necessary; an emetic dose of ipecacuhana is much better and not dangerous. If delirium tremens is associated with organic affection of the brain, the patient will not recover, while if not so dependant or not complicated with important visceral disease, the disease will soon terminate in health.

It takes only a small quantity of chloroform to bring a patient under its influence and its action can be carefully kept up for an hour, after which the patient will continue in profound sleep. A dose of ipecac is often very useful in this disease. It stimulates the whole system, equalizes the circulation, promotes the secretions and assists each organ of the body to perform its functions. This action can be assisted by the use of aperients, diuretics and diaphoretics to carry the *effete* matter out of the system. Light nutritious diet, exercise in the open air and daily shower baths are important. There is great danger attendant upon the use of opium in delirium tremens. Cases will make a quick recovery without either opium or stimulants. We must enjoin on the nurse perfect quiet and tranquility in the sick-room with no noise or light. Under this treatment hallucinations will disappear, sleep will return and entire restoration supervene. We can get real permanent cures, if we adopt the rational method of treating inebriety, alcoholism and delirium tremens without alcohol, and in no other way.

Quinine and strychnia are the two most valuable tonics to build up the nervous system during convalescence. In the treatment of delirium tremens by half ounce doses of digitalis repeated in four hours, if necessary, the pulse becomes fuller and stronger and more regular, the cold clammy perspiration passes off, and the skin becomes warmer and a sleep of six or seven hours follows as a rule. Sleep is the guide as to the repetition of the dose. We do not get an increased secretion of the urine in these cases. In the most cases of delirium tremens the pulse is almost imperceptible, the skin is covered with cold, clammy perspiration, the face is pale, the lips blue, the hands grasp the air, the face wears the expression of great fear, the mental faculties are in abeyance and the patient mutters incoherently and is utterly sleepless and perhaps has been so for days.

The administration of one-half ounce of the tincture of digitalis will make such a patient tranquil; the pulse grows fuller and stronger; the patient becomes more sensible, less tremulous and warmer, and will sleep. Upon awakening we shall find him sensible; his fears will have disappeared; he will be only slightly tremulous; the skin will be warm; the tongue moist and the pulse full and regular. The heart's sounds and impulse will be found to be normal. Our patient will now take beef peptone dissolved in hot water or milk, but must have no stimuli of any kind. He will sleep at intervals through the day and the next night will, in all probability, be a good one. If the first dose of digitalis does not effect this, repeat it in four hours. Smaller doses do no good at all in delirium tremens. It is useless to try them and no evil effects ever follow the administration of half ounce doses of the tincture in this disease. By its use we get a rapid abatement of the nervous phenomena in greater quietness of manner and in the disappearance of delusions. Coincident with this, as we have seen, we shall get warmth returning to the surface and a healthy perspiration and very soon sleep appears, from which our patient

awakens, much refreshed. The pulse always increases in force and fullness. The digitalis seems to act as a true physiological antagonist to the alcohol in the system.

In chronic alcoholism the nervous symptoms are hallucinations, trembling, loss of sleep etc. If we give the oxide of zinc, commencing with two grains twice a day, gradually increasing in the ratio of two grains every three days, until our patient takes 6 or 8 grains twice a day, sleep is soon induced, the trembling of the body and limbs rapidly disappears, the patient no longer suffers from headache or giddiness, the hallucinations vanish and in from three to six weeks our patient makes a recovery from a severe illness. Bronchitis and rheumatism often complicate chronic alcoholism, requiring special treatment adapted to these conditions.

Extract from Report on Diseases of Old Age.*

By H. WARDNER, M. D., Anna, Ills.

SUPERINTENDENT SOUTHERN ILLINOIS INSANE HOSPITAL.

AMONG the diseases to which old age is peculiarly liable, none are of more importance or graver than those affections of the brain depending upon pathological conditions of the blood-vessels.

There may be distention and impeded circulation, resulting from weakness of the right auricle; or as in many cases of aged persons, the pulse may be found strong and full from increased muscular force of the heart, which, in such cases, instead of diminishing in size, as other organs do, undergoes a hypertrophy of its muscular walls, and is increased in weight, which may exceed that of the normal adult heart by one twelfth, and still retain a physiological condition. With the increase of volume and force of its muscular walls, the size of the cavities and valvular openings are also increased; and the ascending aorta may be considerably dilated. This dilation being due to loss of contractility resulting from fatty and calcareous degeneration and an increase of the connective tissues of the coats of the vessels.

The term, atheroma, is used to designate a pathological condition consisting of chronic arteritis, accompanied with fatty and calcareous degeneration.

During the inflammatory process, an infiltration of leucocytes or white blood globules and fluid occurs beneath the inner coats of the vessel. This deposit forms a soft tumor projecting into the cavity of the vessel. These deposited cells may undergo fatty degeneration or the thin tunic may be ruptured and the contents of the tumor be carried away in the current of the circulation, leaving behind a small ulcer.

*Read before the Southern Illinois Medical Association, Nov., 15 1882.

When this does not occur, and the soft mass is retained in situ, a retrograde metamorphosis occurs in the deposits, resulting in fat granules, cholesterine crystals, the debris of broken down cells and fibrillated tissues, the latter being changed into calcareous plates, after the fluid portion of the tumor has been absorbed. Owing to these calcareous deposits, the coats of the vessels become friable and are easily ruptured. They are then liable to give way to the pressure of the blood and the resulting hemorrhage will be more or less serious, according to the extent and the locality where it occurs.

These changes in the vessels and the liability to hemorrhage may be local or general, but in aged persons the vessels of the brain are the most subject to them, hence their greater liability to apoplexy and paralysis.

Dr. Hammond, referring to the investigations of Charcot, Bouchard and others, describes milliary aneurisms as the result of arteritis, which are not necessarily preceded or accompanied by atheroma. These French authorities go so far as to claim that all cases of cerebral hemorrhage, except from traumatic causes like fracture with depression (and in depraved states of the blood), are due to the rupture of the minute aneurisms.

Dr. Hammond, however, states that he has made examinations of the brain, after death from hemorrhage in which not a single aneurism could be found; he found the arteries were atheromatous throughout the entire system. He had found in other cases the aneurisms in connection with atheroma and in all probability resulting from it.

These changes in the vessels constitute pathological conditions predisposing to embolism and cerebral hemorrhage—the term apoplexy in its literal sense expresses the result of the hemorrhage — *i. e.*, *falling to the earth*.

The matter liberated by the rupture of the tumors above mentioned being carried into the circulation is likely to obstruct the smaller arteries or capillary vessels and embolism results.

The brain or such parts of it as are deprived of the normal blood supply from this cause must necessarily become impaired in its functions and unless the circulation is re-established at an early date atrophy or softening will result. For purposes of description, authors recognize softening under three forms: red, yellow and white. The first being due to inflammatory action, which is usually sudden in its onset; the *second* resulting from anæmia, the brain tissues being tinged by the infiltration of serum; the third may result from an enfeebled circulation. The amount or quality of blood in the part determining the variety.

In producing these inflammatory and anæmic conditions which result in softening, embolism and thrombosis resulting from the atheromatous condition, are perhaps the most prominent factors, although softening from other causes, may occur and precede or follow an attack of apoplexy.

The liability to cerebral hemorrhage in atheromatous subjects increases with increasing age. The weakened walls of the vessels may give way without any apparent exciting cause, before the pressure of the blood. The hypertrophy of the walls of the heart, before mentioned predisposes to this accident; but more frequently an increased impulse is given to the circulation; by some muscular action as coughing, running, lifting, a fall, or violent emotion, or passion which stimulates the heart to sudden increased action.

Cerebral hemorrhage may be mistaken for congestion, uremia, alcoholism, or imbolism. In establishing the diagnosis it is important to bear in mind that in apoplexy, coma is persistent and paralysis unilateral, while in congestion the coma is of short duration and the paralysis is bilateral.

In uremia, hemiplegia is rarely present, but when it does occur it comes on gradually and is preceded by convulsions, while in apoplexy there is almost always paralysis occurring suddenly, and not preceded by con-

vulsions; casts and albumen in the urine will establish a diagnosis of uremia. Alcoholism may be distinguished from apoplexy, by the patient being easily aroused from the coma, the absence of stertorous breathing, a feeble and frequent pulse, and no paralysis, while apoplexy presents a deep coma, stertor, full, strong and slow pulse and paralysis in most all cases.

The difference in symptoms between apoplexy and embolism may be stated as follows: Embolism rarely occurs in the more aged, while the liability to apoplexy increases with increasing age. In apoplexy consciousness is lost; the pulse is slow and full, face red and turgid, pupils are unusually abnormal, stertor; paralysis may be on either side, is persistent and seldom perfectly recovered from.

In embolism consciousness is not entirely lost, pulse is rapid and feeble, face palid, pupils unaltered, breathing normal, paralysis usually on the right side, and improvement begins within forty-eight hours. Embolism is attended with a history of rheumatism and valvular disease of the heart, while atheroma is generally present in apoplexy.

The following cases of recent occurrence may be considered as examples of embolism and apoplexy respectively:

Case 1. H— M., aged 57, born in Scotland where he served an apprenticeship in a drug store of seven years; came to Illinois in 1856; followed his occupation until the war; when he served three years in the army; after which he practiced medicine in the Mississippi bottoms until 1876, when he returned to the drug business. Is of rheumatic diathesis, and for a number of years indulged freely in alcoholic stimulants, but for about three years had abandoned the habit.

His health generally (except the rheumatic troubles) good as the average, up to March 1882, when he began to complain of continued headache, occasional vertigo, impaired appetite and digestion, and an inclination to sleep more than usual. After a month or so these symptoms improved, but the inclination to sleep and occasional headache continued. He was married a second time in

May last. On July 30th, after a week of anxiety over some pecuniary involvement, while at his desk, suddenly began sinking down, but was caught by a bystander and seated in a chair. In a few moments he partly recovered, walked to a buggy at the door and was driven home. He was pale, weak and was a good deal of the time in a comatose-like sleep, from which, however, he could be aroused without difficulty. There was partial paralysis, temperature below the normal degree, pupils a little contracted, otherwise normal and readily responded to light. Upon being roused he could talk rationally for a few moments, when mental action would become abnormal and articulation difficult, was troubled with constipation for a number of days. Under care and treatment he began to improve after about three weeks, and by the end of six weeks was able to visit his store daily; to call upon his friends about town and converse intelligently; appetite and digestion became normal; but he was weak, walked with an unsteady gait and was easily fatigued.

A report dated November 7th, says: "He only complains of weakness of the lower extremities; his mind is by no means as active as before the attack, forgetful of names and slow in calculating, in reaching conclusions; otherwise his health is good." The report also says he does not remember the occurrences of the first five weeks after the attack. [The notes of this case were furnished me by Dr. F. C. Gay, of Alto Pass, Illinois.]

Case 2. P— W., aged 77 years, a man of regular life and habits, but more or less under a pressure of anxiety, and for about one year greatly worried by the sudden and unexpected loss of his property; was standing holding a lamp for another person's convenience, when he suddenly fell to the floor; was unconscious; and paralyzed on the entire right side; pulse slow and full, and face congested; loss of speech. In five or six days speech began to return a little and slightly improved, but never was fully restored. Cerebration remained imperfect. Gradual improvement, however, continued until at the end of about

four months he could sit in a chair and by the help of two persons take a few steps about the house; at the end of six months could walk with a cane on a level surface after being helped out of his chair, could converse, but soon became mentally weary; suffered at intervals with much pain in the paralyzed limbs, and had an occasional appearance as of congestion about the face and neck. At the end of about nineteen months he had a slight attack and again fell to the floor; partial reaction followed this, but he was not able to be up. The lower bowel became enormously distended by impacted feces, which when discovered could only be removed by mechanical aid. At the end of twenty months, after several days of suffering the case terminated fatally.

Atheroma and milliary aneurism of the cerebral arteries, if they are not the cause of embolism or apoplexy, indicate defective nutrition and real decay of brain tissue, and are found in most cases of senile insanity. The symptoms indicating brain decay are generally: first, a loss of memory of recent events, while the memory will be tenacious of occurrences that are long past; second, impairment of the power of perception; the patient failing to comprehend correctly what occurs about him, and to recognize well-known persons and places, and he mixes the past and present in a very incongruous manner. The symptoms become more and more marked as the memory and perception becomes extinct and he has delusions of time, places and objects, and exhibits anger at supposed personal injuries, becomes indifferent to calls of nature and dies, the wreck of his former self.

The prognosis in these cases is always more or less unfavorable.

Many cases will partially recover from the effects of embolism and apoplexy, while in others but little or no hope can reasonably be given.

The resulting paralysis and impaired mental function in cases of hemorrhage and embolism generally continue in a greater or less degree, according to the condition

and age of the patient with variable symptoms, until death supervenes.

The treatment on the occurrence of an attack consists: in raising the patients head, loosening clothing, especially about the neck, shut out the light and preserve quiet. Ice bags may be applied to cool the head, and the feet placed in a hot mustard bath; bowels should be moved by active cathartics; stimulation external and internal should be used as the case seems to indicate.

The subsequent treatment consists in sustaining the vital powers by the use of tonics and suitable food and the use of remedies calculated to favor the removal of clot by absorption. *Nux vomica*, phosphorous and iron with the use of mild stimulants, and attention to the excretory organs will be useful in the treatment of most cases, accompanied by the administration of some of the iodides. Debilitating treatment must not be used.

It is very important that the patient should be freed from anxiety and worry, and all cares and conditions that tend to excite.

But where so little can be done to restore such cases to health, no extended discussion of treatment seems to be called for.

In cases of senile insanity and dementia, something may be attempted toward restoring the failing powers, but it is hopeless to expect a cure.

The prophylactic treatment of cerebral hemorrhage consists in the avoidance of sudden muscular exertion, or of strong emotion, a simple nutritious but non-stimulating diet should be the rule, freedom from anxiety, regular habits, sleep in a well-ventilated apartment, warm clothing worn loosely, and moderate exercise, and the avoidance of sudden extremes of heat and cold.

The use of lactic acid has been mentioned as a preventive of the calcareous formations in the walls of the arteries, but I am not conversant with any statistics or tests that sustain the statement.

Neuratrophia.—The Cause of Inebriety; a Clinical Study.*

By T. D. CROTHERS, M. D., Hartford, Conn.,

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WHATEVER may be the exact pathological state called neuratrophia or neurasthenia, the general accepted explanation is a failure of the nerve centers to carry on the normal functions of life. This has been termed functional, but it is by no means clear that it is not actual structural change, which cannot be determined by the present imperfect methods of investigation. Dr. Hughes describes neuratrophia as "a general failure of the normal nutrition appropriating power in the higher nerve centers, especially the psychical." Dr. Geo. M. Beard, the most eminent authority in this field, calls neurasthenia "an impoverishment of the nerve force, resulting from bad nutrition of the nerve tissue, on the metamorphosis of which the evolution of nerve force depends. A deficiency in quantity, or impairment in quality of the nerve tissue. The balance between waste and repair is not justly maintained in the central nervous system." Dr. Jewell outlines the subject still more explicitly in the following: "It is rather a comparatively permanent exhaustion, which is the result of prolonged overstrain, mental or physical, or both, too little rest, insufficient or defective nourishment long continued, until the substance of the nervous system, and often of the blood which nourishes it, is wasted away far below healthy limits, entailing, as necessary consequence, a loss of nerve power, and in most cases, morbid exaltation of nervous sensibility."

Dr. Hughes illustrates the subject further, as follows: "There are symptoms of inadequate nerve nutrition, and

* Read before the American Association for the Cure of Inebriates, at their semi-annual meeting, New York, October, 1882.

in the higher centers of the cerebrum there are instability, irresolution, timidity, dread and fear, morbid and groundless suspicions, hallucinations and delusions, not natural to the individual in his best estate, positive hallucinations and delusions appearing generally when greater than mere neuratrophic changes are affected in the cerebrum, and the debility has passed into insanity and more or less organic changes." A glance at the varied and complex symptoms which mark this condition, brings clear confirmation of the truth of these statements. Literally, these symptoms are often shadows of change and the coming of grave disease, which may threaten a life-time or burst into activity at any moment. Inebriety is always preceded by these shadowy, vague symptoms, which point to failure of the nerve centers, to change that is psychical, and possibly physical.

Of all other drugs, alcohol, in most cases, is a narcotic of peculiar impressability in these cases of nerve failure, but, while hushing the intensity of the symptoms, it increases and provokes the very degeneration which it is supposed to relieve. Alcohol, taken in any form for a length of time, will be followed by marked symptoms of neurasthenia, or neuratrophia, and these conditions will demand alcohol or opium sooner or later, in cases that have been previously temperate.

A clinical grouping of the early symptoms of cases of inebriety from the middle and upper classes will show, before alcohol is used, many of the symptoms mentioned by Dr. Hughes, as quoted, and other varied hints and indications of change and departure from the main line of normal or healthy activity. In the lower classes, these symptoms are more prominent, and have less of the psychical element. The higher the organization, the more positive they appear. Theoretically, neuratrophia either precedes or follows the use of alcohol in toxic doses, or when taken in moderation for a long time. Clinically, the proof of this statement is at the command of any observer. It is proposed to group the history of some cases in

confirmation, and indicate many of the practical facts which follow.

In a general study of inebriety, it will be found that conditions of overwork and exhaustion, both mental and physical, are traceable long before alcohol is used, in many cases of inebriety. Some curious symptoms appear at this point. If the exhaustion is prominent and general, the preliminary stage of inebriety seen in moderate drinking is very short. If it is less prominent, this may extend over a long period. As, for instance, an active business man with insomania, morbid fears, strange hallucinations, irresolutions and other similar symptoms, will use alcohol in moderation only a few days or weeks. If he only suffers from some slight symptoms of this character, he may use alcohol moderately in some form or other for months. In the first use, alcohol acts promptly as a narcotic; in a case of marked neurasthenia, toxic effects, or intoxication, will follow quickly from a slight overdose. This is often very profound in both delirium and stupor, and is always the starting point of grave organic changes that appear after.

Neurasthenia among muscle workers, followed by inebriety, is a very common and grave affection. The following cases are by no means unusual, and are given to show how clearly inebriety comes from specific causes:

CASE I.—A farmer, temperate, in good health, with no heredity, was greatly involved in the purchase of a farm, Overworked for years, night and day, he neglected to sleep and take proper rest. Became exhausted, complained of shortness of breath and palpitation of the heart. No disposition to work, and fears of ruin; was neurasthenic. Was given spirits with marked relief; was intoxicated within a week from the first use of this drug. From this time, he drank to intoxication on every occasion, and was a chronic inebriate. He recovered, in part, from a year's residence in an asylum, but is now a chronic case, drinking at irregular intervals.

CASE II.—A carpenter, very temperate, in health, and

no history of heredity. After his regular day's work, would spend part of the night working on a house of his own. This lasted nearly two years. Then he suffered from nervous tremblings, dizziness, indigestion, and a feeling of terror at the possibility of sudden death from accident. Suddenly he drank to intoxication, and gave no reason or made any effort to stop. He died two years after from the effects of drink.

CASE III.—Was a stevedore, working by the hour unloading ships. He was temperate and very healthy. Was offered a partnership in business if he could bring some capital. For this purpose he worked night and day. Then he suffered from numbness and loss of control over his muscles; had bad dreams at night; was disinclined to work. Indigestion and constipation, with severe headaches, followed. Relief came from spirits, which were taken moderately for two months, then he became intoxicated and drank to excess ever after.

These three cases became inebriates from muscular exhaustion and general neuratropia. Undoubtedly, there was present defective nutrition, which, with constant overwork, precipitated the nerve exhaustion. The use of alcohol in all these cases, as a rule, is followed by inebriety. Neuratropia or neurasthenia among brain workers is probably more frequent, and is especially predisposed to run into inebriety from the slightest causes. Two classes of these cases will be noted, one in which inebriety burst out suddenly without apparent exciting cause or special exposure; the other in which there is exposure and special causes that encourage this result. The following are clinical histories illustrating these classes:

CASE I.—Was a manufacturer, temperate, in good health up to forty years of age. When, through an unexpected demand for his goods, an immense business was created. He gave it close attention and worked very hard for several years, amassing a large fortune. Then could not rest at night, or fix his mind long on one subject; was weak, restless and filled with fears of death;

expected every day his fortune would disappear. Was hyperæsthetic, and suffered from the weight of his clothes and the changes of heat and cold. He was treated by an eminent physician for softening of the brain. Suddenly without any mention, he purchased a barrel of brandy, and began to drink to intoxication in his home. In the intervals between the intoxication he displayed great mental power and clearness. He went to different asylums, recovered and relapsed again, and died five years after of some disease of the kidneys.

CASE II.—A clergyman, in good health; a very active brain worker, who edited a paper along with his clerical duties. He suffered from a general neuralgia and local hyperæsthesias which prevented him from laying long in bed, or remaining in any position but a short time. He received treatment with no relief. Finally, he began to use wine in large quantities, and was constantly under its influence. Retiring from his profession, he became a chronic inebriate, and died a few years after.

In these two cases, inebriety began at once, without any exciting cause, as, for instance: the advice or prescription of a medical adviser, or the moderate use of spirits, or facility and encouragement to procure and use it. The following cases illustrates the other class:

CASE I.—A broker, in active business, previously healthy and temperate, who, after a season of special excitement and overwork, suffered from a feeling of pressure and great weight. Had cold sweats and flashes of heat all over his body; was unable to move about in the morning until rubbed by an attendant. When down in the office, was urged by friends to use brandy, and the effect was pleasing. He used it at night and morning, and then four times a day regularly. A year after, he drank to intoxication every day, gave up business, and is now an inmate of an asylum.

CASE II.—Was an editor doing night work on a large daily. A temperate, healthy man. Marked neurasthenia came on, and he began to use spirits with his midnight

lunch; the relief was great. From this time, the use increased until he became an inebriate and was killed by accident.

CASE III.—A real estate dealer, temperate, and forty years of age. Failed under distressing circumstances; was greatly troubled and agitated for more than a year; then complained of nerve quiverings, hot flashes and dreams of dying. Was treated medically for it without relief. A year after he became landlord of a hotel and sold spirits there, drank himself to intoxication, and was a chronic inebriate.

In these cases, the exciting causes and exposure to special temptation were evident. A stage of moderate drinking preceded the inebriety; the neurasthenic condition was clearly present. Another very interesting class are those with marked heredity to insanity or inebriety, who, after becoming neurasthenic, are inebriates from the slightest exposure. One case will make clear the general history of this class :

CASE.—A leading business man, whose father died from inebriety, and whose uncles, on his mother's side were drinking men, was temperate from principle and general horror of falling into this disorder. At forty-five years of age, he became neurasthenic from overwork, and was treated by Dr. Hughes. He traveled for a year, getting no benefit. While visiting his uncle, a farmer, was persuaded to try cider brandy, and became intoxicated. He went home, bought a large supply of this spirit, placing it in his cellar, and drank to intoxication daily.

These cases have always inherited a special nerve predisposition which is held in check a lifetime, perhaps; then, from some special train of causes, bursts into activity. Neuratrophia and general failure of both mind and body are the exciting causes. This latent nerve defect awaits favorable soil and conditions for full development. Insanity or inebriety is usually prominent in the history of their ancestors. A half a life-time passes of clear sanity and sobriety, then bankruptcy of health, surroundings and

hopes end in insanity or inebriety, and these affections come on without any special exposure or preliminary symptoms. A noted politician was defeated in securing a position that he urgently sought. Intense general neuralgia followed, and marked neurasthenia. Alcohol and opium were the only remedies which brought relief, and chronic inebriety followed. The common remark that he became discouraged and drank in despair, has a physiological basis of truth. It is literally exhaustion of the nerve centers, and incapacity to sustain the normal activity of life. He drinks because alcohol brings relief most quickly, and is always accessible. The failures and discouragements of life produce physiological changes, which demand alcohol, and not the vague mental state called despair.

There is a class of brain workers who are markedly neurasthenic, with groups of symptoms indicating great nutritive perversion, such as depraved, irregular tastes; weak, impulsive judgments about foods and medicines; great anxiety to know the meaning of every symptom of disorder, and who try all new remedies and methods of treatment. Such cases are on the "border land" of both alcoholic and opium inebriety. They have passed into the penumbra, and why every case does not move into the full eclipse of inebriety is a problem for the future. These cases are numerous, and precede insanity as well as inebriety. This is the field for therapeutic triumphs, and here the skill of the physician can discern and avoid the dangers of the future.

Another form of neurasthenia as a cause of inebriety has never been mentioned, although it is steadily increasing in large business centers. The neurasthenia comes from sudden revolution of all previous habits and activities of life, and want of healthy action or underwork. There are two classes quite distinct: One of active business men who, after many years of stirring life, retire from all work and seek enjoyment through travel and rest in the country, or farmers and manufacturers who give up work in the

prime of life and come to the city for comfort and enjoyment. The radical change of mental activity and surroundings is speedily followed by nutritive perversions and congestions. The ordinary emotional frictions of life are magnified through untrained introspection until they become sources of nerve exhaustion. The activity of the mind and body withdrawn from all ambition except its own personal gratification from day to day, and controlled by all the lower emotions, becomes neurasthenic as quickly as from overwork and strain. Inebriety which follows this condition is unusually profound and attended with distressing combinations of nerve symptoms. The other class, among the wealthy, are those who live without purpose or plan in habitual neglect of all healthy exercise of mind and body. All activity of the mind is usually on a very unhealthy level. Disturbances of innervation and circulation grow rapidly from stage to stage. Nutrition is broken up and inebriety and neurasthenia may either appear first, or be speedily followed by the other. Inebriety in this class is attended with a short prodromic stage before chronic conditions appear. Delusions and hallucinations are more frequently associated, and the degeneration is always pronounced. The inebriety in these cases varies in its natural history and progress from cases that have a different origin. There are marked differences, physiological and psychical, between the inebriate who has become neurasthenic from want of healthy activity and from overwork of any kind. Neurasthenia from shock of any form to the nerve centers, when followed by inebriety is very profound, and more nearly resembles insanity than any other form of inebriety. These cases are generally dipsomaniacs, either continuous or with free intervals of sobriety.

The clinical study of these varied forms of inebriety, traceable to neuratrophia, widens in so many directions that a volume would hardly contain more than an outline of them. In many cases they stand out distinct and sharply defined, in others the complications are numerous

and must be studied. As a brief summary of this paper, the following may be considered as facts which may be confirmed by any clinical study :

1. Neuratrophia and neurasthenia are conditions of the brain and nerves which strongly predispose to inebriety by preparing the soil and germ forces, which, from the slightest exciting causes, develop inebriety.

2. Alcohol, as a remedy for these conditions of neuratrophia, is a narcotic of most seductive power, which not only hushes the pain, but increases the very degenerations for which it is taken.

3. A recognition of neuratrophia as an active cause of inebriety will give clear indications of the prognosis and treatment.

4. Inebriety and its treatment cannot be understood except from an accurate clinical study of cases, extending back and covering all the history of the person before inebriety appeared, including all conditions which have been formative and entered into his life.

Female Diseases Among the Insane.*

By S. DANILLO, M. D., St. Petersburg, Russia.

THE influence of female sexual diseases on insanity has been much discussed, but from diverse and, it may be said, antagonistic standpoints. Some say that the majority of female neuroses and insanities are due to the predisposing influence of pathological or anatomical sexual anomalies; others deny even the existence of such an influence. The older writers have collected an immense number of cases which have been well collated by Berthier.¹ These, however, possess only an historical interest, and from them no logical conclusions can be deduced on account of the impurity of the cases. The question is a decidedly vexed one. The French authorities give certain indications of value. Esquirol² gives only very general information. Guislain³ says that in many insane women the ovaries are the seat of profound suffering. Morel believes that very many cases of insanity in the female are caused by female sexual affections.

Farlet⁴ while admitting that female sexual anomalies were an exciting, a predisposing and an indirect cause of insanity, called attention to the much overlooked fact that insanity often produces sexual anomalies. Marc⁵ expressed very similar opinions; Ball, Dagonet and Luys ignore the question altogether. Mairet⁶ and Azam⁷ believe that insanity can be originated and continued by the action of uterine disease. Bossi⁸ on the other hand denies that

*Archives de Neurologie, Sept. 11th, 1882. Translated by James G. Kiernan, M. D., Chicago.

1. Menstrual Neuroses 1874.
2. Maladies Mentales.
3. Sur les Phreno-pathies.
4. Leçons Cliniques, sur les Maladies Mentales.
5. Insanity in pregnant women.
6. Maladies Sexuelles et Alienation Mentale.
7. Insanity produced and kept up by uterine disease.
8. Reflex Neuroses and Uterine Disease.

sexual disease has any influence in insanity. Boye¹ is of the same opinion as Azam.

Among the Germans, Greisinger,² Leidesdorf,³ Schlager⁴ and Ammon⁵ are of the opinion that functional or anatomical anomalies of the sexual sphere may act in a certain manner in the female to produce changes in nervous or mental disease already existing, or spontaneously in certain cases, an acute attack of insanity. Kraft-Ebing,⁶ Ripping⁷ and several others are of the same opinion.

Emminghaus⁸ remarks that menstrual anomalies may exist without any relation to the psychiatric phenomena manifested by the patient. Schüle⁹, on the contrary, says very decidedly that predisposing and exciting causes are not less clearly defined than the sexual diseases and the insanity of the female. The authorities who admit the relations of female sexual disease and insanity, treat it in very different ways; some (Morel, Guislain, Falret, Greisinger, Schule) content themselves with stating their opinion citing no cases in support of the same. Others deal with the question from the special standpoint of pregnancy, lactation or gestation (Marcé, Ripping, Schmidt¹⁰). Finally, some have dealt with the subject in all its aspects, citing cases in support of the opinion that anomalies of the sexual sphere have a positive relation to insanity (Kraft-Ebing, Boye, Schroeter,¹¹ Muller,¹² L. Mayer,¹³ Mairat, Azam, etc.). Besides there are a number of isolated cases scattered through the literature. To decide the question properly, the attempt should be made to determine the frequency of female sexual anomalies among the insane,

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1. Uterine Disease and Insanity.
 2. Mental Pathology and Therapeutics.
 3. Pathology and Therapeutics of the Psychoses.
 4. Zeitschrift fuer Psychiatrie. Band XV.
 5. Neuroses and Genital Affections.
 6. Archiv fuer Psychiatrie. Band XIII.
 7. Puerperal, Lactational and Gestational Insanity.
 8. General Psycho-pathology.
 9. Mental Diseases.
 10. Archiv fuer Psychiatrie. Band X.
 11. Zeitschrift fuer Psychiatrie. Band XXXI.
 12. " " " " 1888.
 13. Female Sexual Disease and Insanity.

the forms most frequently associated with insanity and by this means judge of their gravity and probable influence on mental disease already existent. Here, as elsewhere, on this subject, exact researches are wanting. Tuke¹ says briefly that sexual anomalies exist in ten out of a hundred women. Kraft-Ebing found six cases of genital lesions out of nineteen; eight being normal, and in five the condition being unknown. Skeene,² after the examination of one hundred and ninety-two insane women, found that but twenty-seven menstruated regularly and that utero-ovarian disease was frequent among the insane.

After extended biographical researches, I can find no other contributions to the frequency of sexual diseases among the female insane. Autopsy reports are not precise and differ among themselves. Veiser³ in ten autopsies of the female insane (seven melancholiacs and three maniacs) found uterine and ovarian disease in seven cases. J. C. Howard⁴ found that out of one hundred and twenty-seven autopsies, there existed uterine and ovarian disease in twenty-four cases among which were uterine fibroids seven cases; cancer, two cases; large ligamental cysts, three cases; ovarian tumors, four cases; ovarian cysts, four cases. Hergt,⁵ on the other hand, has found that two-thirds of the cases coming under his observation, presented sexual anomalies. He has very properly included retroversions etc., but gives no details as to the type of mental disease or age of the patient. In the clinic of Mierzejewski,⁶ I have examined forty-two insane women and three hysterics from nineteen to sixty years old with the following results: six, past the climacteric (aged forty-four to sixty-two years) presented no other change than senile uterine atrophy. Thirty-five of the remainder presented various types of sexual anomaly. L. Mayer has found that out of one thousand and twenty-five gynæcological

1. *Psychological Medicine.*

2. *Archives of Medicine.* February, 1880.

3. *Wuertemberger Correspondenzblatt.* No. XL., 1860.

4. *Journal of Mental Science.* 1872.

5. *Zeitschrift für Psychiatrie.* Band XXVII.

6. *Biblioteka Medecinokaia.* No. V., 1881.

cases, ninety were associated with mental alienation. My researches are in marked contrast with those of other authors, particularly Skene and Tuke. As to the result of the autopsies by Howard, Keiser and Hergt, it must be remarked that, even without taking into account the fact of their differing results, these can have but a very relative value, since the functional and slighter pathological changes must necessarily escape observation. Since the deductions from my own observations already cited must be made with some reserve from the limited number, I have resolved to augment this in order to make generalizations which would tend to define the question more clearly. In each case there was taken, the age of the patient; type of mental disease; physiological state of the female (virgin or not, births and miscarriages), form of sexual anomaly. The diagnosis was always made by touch and the speculum. The patients numbered one hundred and fifty-five; my researches in toto would therefore cover about two hundred cases. The patients' ages were between fifteen and seventy-five years. The menopause had occurred in patients aged from forty-two to seventy-five years; sixty in all. One hundred and forty were still menstruating; of these, thirty-one were virgins, forty-one non parturient non virgins, sixty-eight mothers, of whom thirty-eight were primipara and thirty multipara. Of those who had reached the menopause, two were virgins, four non parturient non virgins, forty-four mothers (nine having had from eight to twelve children.) The types of mental disease were: idiocy, one case; epileptic insanity, fifteen; hysterical insanity, fifteen; progressive paresis, fourteen; chronic mania, thirty-one; chronic alcoholic insanity, two; secondary dementia, ten; melancholia, twenty-five; melancholic furor of puerperal origin, five; acute mania, eighteen; acute puerperal mania, eight. The types of insanity in the patients past the menopause were: terminal dementia, twenty-eight; chronic mania, nine; progressive paresis, ten; chronic alcoholic mania, three; melancholia, ten.

Of these two hundred cases, one hundred and thirty-one presented diverse lesions of the sexual apparatus. In the cases whose physiological functions were in full activity, the sexual anomalies presented were: Endometritis, with chronic metritis of the fundus, forty cases; twenty-eight being accompanied with cervical metritis and endometritis; twelve with some degree of ulceration. Chronic metritis diffuse of the fundus and neck existed in eight cases, and of the body only in four cases. Menstrual disorders in general (suppression or retardation) existed in eighty cases. These figures, however, are not exact, and have but a relative value. Uterine anomalies of position were found in forty-four cases; associated with endometritis in thirty-eight cases; and, still further, complicated with metritis in twenty cases. Six out of eleven cases of alterations of uterine position were associated with para, endo, and metritis; the others with chronic öophoritis. Perineal metritis of puerperal origin was found in four cases of puerperal insanity; four cases of vulvitis and seven of vaginitis were found, One case of puerperal insanity was complicated by a large ovarian cyst. One case of acute mania had a large uterine fibroid. A urethral caruncle was found in one case of acute mania. Ovarian hyperæsthesia was found in eight cases (two of the right, two of the left). There were, beside the cases of senile uterine atrophy already noted, found in the menopause patients, six cases of chronic diffuse metritis; three cases of long standing perineal rupture and nine cases of senile endometritis.

Sexual anomalies of the female insane are not much affected by the type of insanity. Out of forty cases of melancholia, five of puerperal origin, thirty-two presented different types of female disease. Out of forty cases of chronic mania, thirty-four were complicated by sexual disorders of the same type as those of the melancholiacs. The maniacs and progressive paretics presented about the same ratio. Out of thirty-eight cases of dementia on the other hand, but twelve were complicated by sexual

disease; but of these thirty-eight, ten had passed the menopause. Ten out of eleven hysterical cases presented diverse sexual anomalies. Of the one hundred and forty menstruating females, one hundred and twenty presented sexual anomalies. Of the sixty menopause patients, eighteen only did so. Insanity, before the menopause, eighty-four per cent. of the women present sexual anomalies. While of those who have passed the menopause, but twenty-eight per cent present these. The menopause therefore exerts an influence.

The result of my researches may be summed up as follows: The complication of insanity by sexual anomalies is very frequent during the persistence of physiological functions. After the menopause such complications are rare. Pregnancy and delivery exert an influence in the production of these anomalies and on their relation to the menopause.

If the fact be admitted that there is an intimate relation between the sexual nervous system and the central nervous system in the female, it will be readily seen that all irritation which radiates from the sexual organs may react strongly on an already affected brain. Here is found a very vivid illustration of the saying of Maupertius that infinitesimal causes frequently repeated, lead to important results.

On the Pathogeny of Hallucinations in Reference to a Case of Voluntary Psycho-Sensory Hallucinations in an Alienated Person.*

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THE question of the nature and origin of hallucinations is not yet completely solved. After the researches of Baillarger, of Briere de Boismont, of Michéa, and of others; after the discussions held in the Medico-Psychological Society; after the recent works of Drs. Despine† and Régis,‡ who have again called attention to this subject, it will doubtless not seem out of order to make known a case which I have observed, and which, on account of its interesting details, seems to me to have a real importance in regard to this point. But first of all, and in order to draw suitable conclusions from the case, the state of the question must be briefly set before us.

Numerous theories, which it is unnecessary to enumerate, have been given on the origin of hallucinations. It is sufficient to remember that all have for a common object to determine the part which is played by the intelligence and that by sensation, in the production of the morbid phenomenon. And it is a fact that it is impossible to search elsewhere than in the abnormal modifications of the intellectual or sensory functions for the starting point of hallucinations.

Among all these theories, but two have any great weight. The most recent is due to M. Luys and M. Ritti, who have skillfully maintained it. According to

* From the *Annales Medico-Psychologiques*, May, 1882.

† Dr. Despine, *Theorie Physiologique de l'Hallucination*. (*Annales Medico-Psychologiques*, Nov., 1881.)

‡ Dr. Régis, *Des Hallucinations Unilaterales*. (*L'Encephale*, March, 1881.)

them, hallucination is a purely reflex phenomenon, an act of cerebral automatism. They start out from the principle that the ganglia, centers of perception of the sensory organs, have certain powers in respect to the function of different organs. In the normal state, these powers are only evoked by the influence of external agents; in the morbid state, on the contrary, they acquire a complete spontaneity, and the false sensation is but the result of the abnormal action of the central ganglia.

This explanation, which excludes all direct intervention of the intellectual element, has certainly the merit of being simple and easily understood. But it is open to several objections, and, as we will prove further on by the case we will cite, it has particularly the fault of not being applicable to all cases of hallucinations. The other theory, the oldest and most generally accepted is that of Baillarger, and maintaining that the point of origin of hallucination is, and can only be, the intelligence. The imagination acting upon the brain, its organ, gives to the centers of perception a mode of acting analogous to that which they receive in presence of an impression really perceived by the organs of sense.

But here present themselves, several secondary questions which demand solution: How is the morbid phenomenon produced? Does the intelligence always act independently of an abnormal modification of the sensory system? What is, in all cases, the share of the organs of sense?

M. Baillarger has not taken up the study of these different questions; he confined himself to establishing a fact, viz., the certain and primary intervention of the intelligence. The researches of Drs. Despine and Régis, which confirm the facts acquired by Baillarger, also complete them by determining the share which appertains to the senses and the intelligence.

Basing himself upon cases of unilateral hallucinations, Dr. Régis admits that a hallucination may have for real origin a pathological modification of the sensory organ in

which it is localized. "But," says he, "the hallucination becomes really such only when the intelligence steps in." And the reason that he gives for this is, that if it was not thus we could not explain why the same sensory lesions do not always give rise to hallucinations, still more, to the same hallucinations. Despite a case he quoted of a hallucinated person cured of his mental disease, at the same time as of a disease of the ear, this argument does not appear decisive to us; for if the same sensory lesions do not always give rise to hallucinations, it is because there is not an absolute relation, that of cause and effect between the one and the other, and it is simply a coincidence. It is possible (and we believe this is often the case) that an hallucination may be localized in a certain organ of sense, on account of a former peripheral or central lesion of that organ. But it often happens that the organ in which the hallucination is localized is sound. The false sensation must arise somewhere else. The coincidence was none the less important to note, and, in this respect, the paper of M. Régis is of considerable interest.

In the memoir of Dr. Despine, we find facts of the the greatest importance. These are relative to hallucinations of sight, which became double under the influence of an artificial strabismus, whereas they were single where the eyes were normal in position.

Analogous to these are the cases communicated to the Société de Biologie, at its meeting of Dec., 17, 1881, by M. Féré, concerning certain hallucination of vision in hysterical persons. M. Féré has proven that in these hallucinations, the object is really seen as a real object, and that it is seen with both eyes according to ordinary physiological laws. Indeed, if a prism be placed before the eyes of the patients, these women immediately see two images, and the false image is placed in accordance with physical laws.

There is in these facts the evident proof, first, that in dure hallucination there is a sensory and an intellectual

element; second, that, to localize itself in a certain sense, the hallucination employs the aid of the organs of that sense; third, that the hallucination localizes itself when the organ is perfectly normal and consequently that it is outside of the sense itself that we must look for the origin of the morbid phenomenon. Another conclusion to be drawn, is that M. Baillarger has well characterized hallucinations in denominating them "psycho-sensorial"

It remains to establish that the point of departure of hallucinations is really in the intelligence. We find irrefutable truth of this in cases of voluntary hallucinations, similar to the one we will relate. To impress its full value to our observation, we must first exclude two species of voluntary hallucinations which are pretty common but very different from that which occupies our attention and which, not being properly hallucinations, cannot be taken into account.

In the first place, there are persons particularly gifted (artists, musicians, painters) capable of so concentrating the faculties of the mind, that they succeed in mentally representing images, conceiving sounds, as if they saw or heard them in reality. Brierre de Boismont has studied cases of this kind in detail, and he makes this the starting-point of his theory of hallucinations, which, according to him, consist above all of a mental representation more or less vivid and clear. But the persons of whom he speaks are not really hallucinated, and only exercise in an extraordinary manner, their memory and imagination.

In the second place, there are patients capable of experiencing, what M. Baillarger has termed psychic hallucinations and that Michéa calls false hallucinations. Although in this latter case, the phenomenon is more really morbid than the preceding, the manner in which the individuals explain the impressions they experience, shows clearly that they are not true hallucinations. They have, they say, the power of hearing the language of one soul to another, the language of thought; they hear

internal voices; they believe themselves endowed with a sixth sense.

The majority of the individuals who comprise the first group, are of sound mind and understand the nature of their impressions. In the second group can be little else but alienated persons who believe in the reality of what they imagine. The one and the other have in common the power, and at will, of easily passing into an imaginary world. The part played by their mental faculties, in this operation, is easily understood and it is evident that the intelligence only is concerned. But as these are not true hallucinated persons, they cannot aid in proving the intellectual origin of hallucinations.

Outside of these two groups of individuals, capable of having voluntary, false hallucinations, there are also others who can also voluntarily have real hallucinations, such as M. Baillarger calls psycho-sensorial, and in which the sensitive morbid impression is, without doubt, exteriorized. Michéa has no doubt of this, and others have with him asserted this. M. Baillarger, on the contrary, seems to think that in all cases of voluntary hallucinations, there can only be psychic hallucinations. Our case seems, in this respect, absolutely convincing; it is as follows:

Miss X., aged thirty-eight was confided to my care in 1877; she had been ill for several years. She is attacked by a mental disease characterized chiefly by delirium of persecutions and by hallucinations. Since I have observed her, this delirium of persecution with hallucinations has always been most manifest; it consists in Miss X. believing herself to be the constant object of criminal attempts upon her person, from which she seeks to escape by a thousand different ways; at one time she remains motionless for hours against a wall, the legs tightly closed; at other times she wishes to sew her skirts and dresses. At night she accumulates bed-clothing. The women who approach her are men who have designs upon her virtue. Men are naturally held in greater suspicion; a few, whom Miss X. names, have

gotten into her bed at night; she has felt and touched them, and details their attempts against which she protests.

Miss X. has, besides, hypochondriacal ideas. She often believes her intestines to be stopped up, and is ceaseless in her demands for purgatives. Every moment she complains of ailments which are purely imaginary. The hallucinations are numerous and almost incessant; she experiences all those which torment the most ill of alienated persons; revelations, menaces, suggestions, future or distant voices coming either from buildings or caverns which she believes exist under the house she occupies and in which she hears the groans of unhappy victims, the members of her family, etc. What she writes, like what she says, shows the multiplicity of her delirious ideas. The following are two interesting extracts:

October, 1877. Since the ninth of this month, I have been frequently told, at the extremity of the walk, the reason of my sojourn here, as well as of my companions. We are all subjects of the bulls of St. Thomas, according to which the State affords temporary imprisonment; my time, they say, is one hundred and six days. It is added that it ought not to have been imposed upon me as a great example, having preceded them; but the people of the city had to be satisfied. Consult upon this the code on the different articles of examples, bulls, police regulations and one hundred days and more.

May, 1879. I certify that a sensible diminution of the menses having persistently declared itself since Sept 2, 1878, that of this month really makes me fear a great coagulation in my bowels, and perhaps an accident leading to pregnancy. To destroy this act of suffering, I should have remedies reserved by the civil laws, to which I am entitled. Here I am deprived of the inviolability of my residence. For the laughter and conversations in the panels, I am all open.

The short extracts depict well the mental state of Miss X. But it is not only as a persecuted and hallucinated alienated that I wish to show her; in this she resembles many other persons. What constitutes an

interesting peculiarity of her hallucinations, what distinguishes her from the mass of alienated, is that Miss X. spontaneously excites some of her morbid sensations, as we shall see.

She has complaints or requests to make; she comes to us to make them known. Generally, the answers she receives do not satisfy her. Then she goes to a locality which she prefers, either near the course of a streamlet, under a wall or near a window with closed blinds, more rarely behind a door. She strikes several small blows to attract the attention of invisible interlocutors; after waiting a few moments, she is informed that they are there, and the conversation begins. "Major," says she, (she is most frequently engaged with majors), "I have asked such and such a thing and I have been answered such and such a thing. What do you think of it?" A pause, during which she listens; she speaks again, becomes silent, recommences; and after this performance has lasted several minutes, she comes and tells us that the information she has received does not agree with my words and that we ought to let her free to act otherwise than we permit. At other times she consults her majors because she is told to take food which does not suit her; to work or obtain something which is disagreeable to her.

Sometimes, whilst peacefully sitting among other persons, if anything displeasing to her occurs, she suddenly rises, goes to the center of the garden or near the wall, calls in a loud voice, listens, speaks and comes back seating herself, saying that the majors disapprove of what occurred. No one about her mistakes that which she experiences, and it is impossible, for the patient, to doubt of the reality of these pretended conversations which she has caused. She is undoubtedly in good faith, as her attitude shows. Here is an extract from one of her letters, proving her sincerity:

"Yesterday, towards ten o'clock in the morning, *giving news of myself* in one of the conchas (sea-shells) of the yard, I heard the major observe that the first substitute

is slow or powerless to obtain my release. *I sent at the top of my voice this question* to the grating: 'Do the officers refuse an escort, or the prefect his underlings? Then the major answered and informed me that it would require two sergeants of the sword and not *assessments*. At twelve a fife sounded at the gate of the walk, but did not approach that one which I was knocking to show my presence. * * * Here is the maul with which I have struck nine times the neighboring gate of the town-office, where Majors Pezeux(?) and De Kers(?) are to hear my demand in order to obtain my release, indefinitely deferred, as soon as possible; it is at eight, twelve and two that I make my demands."

To establish beyond doubt that it was with true voluntary hallucinations that we were concerned, that is, with psycho-sensory and not with psychic hallucinations, we observed the patient with the greatest care, and this is what we found: The voices which she hears in the conversations which she starts, belong to several different persons; ordinarily she designates two majors, as we have seen, under the fantastic names of Pezeux and Kers. The one has a graver voice than the other. When she does not interrogate them directly to obtain advice from them, she leaves them at times; then their voices are confused, like a murmur, and their speech only becomes clear when she speaks to them. At times, when interrogated, they do not answer immediately; they commence to converse in a low voice, as if to prepare a concerted answer. Then the patient does not hear what they say to each other. In the beginning, she only heard them behind a wall, behind the blinds of a room, and she had had to go and speak to them where they happened to be. This is yet, ordinarily, the case; sometimes she can hear them murmur, speak in a low voice near her where she may be; and she need not move in order to question them. The patient very positively asserts that she hears with her ears, and not mentally nor by the aid of any extraordinary sense.

It is very evident that this hallucinated patient presents very clearly the power of having at her will false auditory

sensations, and of making herself answered by voices she believes she hears in sentences complete enough to constitute an entire conversation. She believes in the reality of what she hears, and does not admit that she is hallucinated. She differs a great deal from the other alienated, who are only passive in the presence of the morbid phenomenon, and who do not hold coherent conversations with their invisible interlocutors, or, at the least, do not provoke them and do not seek after them. She plays an active part, and takes the lead, evidently, in the production of some of her delirious ideas.

These provoked hallucinations, and willed by her, are evidently produced under the following conditions: The patient unconsciously formulates to herself what she desires or wishes. In this frame of mind, she questions her majors, who give her answers in accordance with the preconceived ideas. The answers, previously prepared, shape themselves as soon as the question has been made, and, as a consequence of the morbid conditions, become a true hallucination. In all that has been produced, there is certainly a primordial intellectual operation, a manifest influence of the imagination or the placing in activity of the centers of perception.

If, in spite of the clearness of the fact, it were necessary to demonstrate that the sensory system only acted after the intelligence, the proof should be found in the nature and variety of the answers, of the words heard by the patient. The abnormal vibrations of the sensory system are of themselves impotent to produce such a diversity, and can only originate among false sensations, uniform sounds, or confused sounds, or at most few words, and indefinitely spoken.

This is generally the case with most hallucinated in whom a menace, an insult, a short phrase or one or two words often repeated constitute the hallucination. We will not disguise the fact that there is here a combination of operations and modifications difficult to follow. We could, doubtless, in order to explain them, employ the

formulas given by Dr. Despine in the work we have mentioned. We could say with him that the centrifugal nervous activity has carried on the cerebral excitation, creator of the idea, first to the sensitive ganglion, where this idea has been made sensible, and then to the external organ of sense, which has been impressed as if by an extraneous object. But this centrifugal nervous activity is as yet but a hypothesis. We prefer to limit ourselves to a recital of the fact, where range is incontestable, that is, the existence of psycho-sensory hallucinations, voluntarily produced by the person hearing them, and in which the imagination, the thought, has elaborated the elements of the morbid sensation before it has become real and sensory, and before it has "exteriorized" itself.

Depending upon this acquired truth, we are led to recognize that it is not possible to see in voluntary hallucinations the result of a simple automatism, or the bringing into play of the reflex properties of the cerebral cell. From which it follows that the theory of automatism is imperfect, as not being applicable to all cases. On the other hand, we find there a complete confirmation of the conclusions of M. Baillarger, that hallucinations produce themselves from within without; that is to say, are conceived by the intelligence before being localized in this or that organ.

We will make but one reservation to these conclusions, and it refers really more to a word than to a thing. M. Baillarger, speaking of the conditions necessary to produce hallucinations, says that there must be "the *involuntary* action of the memory and of the imagination." Would it not be more exact to say the "*unconscious* action?"

In our case, we see a patient who has hallucinations excited and willed by herself, but who has no consciousness that she wills them. She spontaneously transforms into hallucinations that which is but the expression of her thought and of her will, but who does not account to herself that she thus has hallucinations. She voluntarily

exercises her mental faculties, but this exercise is entirely unconscious.

The conclusions to be drawn from this note, and the case which forms its subject may be summed up in the following manner: The senses, diseased or sound, have, each one in its own regard, a certain share of action in the production of true hallucinations.

There are cases of voluntary psycho-sensory hallucinations in the insane, which, in their production, demonstrate without doubt the primary original influence of the intelligence.

SELECTIONS.

FORENSIC PSYCHIATRY.

IL PROCESSO GUTEAU. Notes by Prof. Arrigo Tamassia (*Revista Sperimentale di Freniatria e di Medicina Legale*, Reggio Emilia, Italy, Anno VIII., Fasciolo III., 1882).—The Trial of Guiteau, by Professor Tamassia.—The so-called human justice, but more particularly that of America, will never more have the opportunity of becoming overheated by that swaggering vehemence of a few months back, which it exhibited towards that most offensive intrusion—the forensic medicine of mental alienations. The hangman from New York has elegantly truncated its every apprehension and silenced every clamor. Over the cadaver of Guiteau, now are silent the ignoble potentates of the streets, the unblushing presumptions of American legists, the inhuman fiscalism of certain doctors, gifted with opportune knowledge and hungry brains, who have made of this trial one of the most shameful pages of modern judicial history. These parties and persons of the same order, who dreaded the flooding of America with the piteous doctrines of Europe, can now breathe tranquilly and console themselves with the malign complacency of having escaped a grave peril, and now that there is no further danger, they may boast of having cordially applauded and assented to the capital punishment of Guiteau, thus displaying a symbol of their sympathy for his illustrious victim. Silence now reigns,

and, perhaps, those who with so much frenzy called for the blood of the culprit, have forgotten their heroic efforts of those days. But that science which, in the name of right and truth, contended so manfully against the popular fury for the life of the assassin, does not surrender to the victory of violence. It calls for new light on that tragedy, and it appeals no longer to the voluble responses of citizen magistrates or of the political press, but to the minds and the hearts of honest men; to the authority of those enlightened ones, whose solitary judgment is by far more precious and decisive than the quasi automatic unanimities of many deliberating assemblies. Behold now! many of our colleagues who have taken, as experts, a less part in this memorable trial, are to the front with relations and new informations, intent on presenting the psychological problem to the tribunal of history and of science. Some pessimists may tell them these posthumous protests are but the whinings of discomfited personal ambition; that they are but bestirring themselves to raise again a wave now dead by scarifying, after having failed to demolish, the respectability of a judgment so solemnly pronounced. Some, too, of those jurists with placid stomachs, who made merry over the responses of the accused, and in their cross-examinations diverted themselves by casting nets to entangle the experts with riddles and charades, may continue still to laugh at every severe objection which may now be made to the commotions excited by them in the audience. The whole of this surpassingly good trial may now dine with comfort; "write as you will," say they, "but your Guiteau will not be resuscitated, and your ink will certainly not obliterate the mark of infamy with which we have branded him." We concede, with all good grace, these consolations to these gentlemen. But it is not to them that the protests of science must be directed; they would believe they perform a loyal duty by rehearsing with unabated enthusiasm their great deeds, even though the problem of the mental state of the accused should, by new studies and new documents, be established by the very highest grade of evidence. Our protests are, on the contrary, destined for that portion of the public who, not sharing in the theatric emotions of a State trial, and not bending to the tumultuous despotism of party politics, are able to distinguish where science commences, and where sophistry and ignorance obscure. It is from this sane part of public opinion,

from the response of men of true science, that we are to expect the service of inducing a salutary reaction in the public mass by well convincing it that the most arduous problems of science must not be brutally solved by the passions of the street, the suggestions of the interests of the moment, or the instinctive perception of the ordinary sense of the vulgar crowd.

And we of the *Revista*, who endeavor ever to hold high the rights of science, cannot remain inert in the presence of these publications, which review and analyze all the phases of this strange case. We treasure up all the materials which our confrères of America are sending to us, and we have studied to draw from them a faithful history, which we shall offer to the judgment of our readers. To us it is not a question bedaubed with politics as it was in America; it is a question abstractly scientific. Its echo and its example will not, we trust, be without effect on that fraction of our public, and of our magistracy, who, not being American, will regard with less evil eye the fact of the gallows and the galley have not been adopted with any certain liberality as the fittest expedients for practically defining, in certain intricate cases, the problem of responsibility. In the meantime, our readers shall see the biographic records of Guiteau hereafter; the trial, the expert researches, the autopsy and our impressions.

Remarks by the Translator.—"To see ourselves as others see us," the Scottish poet said, "would from many a blunder free us." But who, at such a cost, would choose to shun the danger? Were we sure that the view taken of our words and acts by others would, at all times, and in all circumstances, be clear and free from prejudice or misconception, then might we, with better trust, defer to the opinions of our neighbors or friends. Professor Tamassia, in the preceding very eloquent preface to his thesis on the case of Guiteau, has, with more than an ordinary degree of frankness, indicated to the American people, but more especially to the members of the legal and medical professions, his estimation of their moral and intellectual attributes. Regarding, as we do, everything coming from the pen of this illustrious Italian, as well meriting serious consideration and sober criticism, we feel it to be our duty, alike towards him and our own fellow-countrymen, to offer a few observations on the more salient, and, perhaps, we might not unjustifiably say, the less generous passage of his preface.

We might, in due order, begin with his first words, in which he bespeaks the contempt of his readers for "the so-called human justice, and more particularly the American," but we deem it better to give antecedence to a subsequent passage, to which, as a member of the specialty of alienism, and "*particolarimente l'Americana*," did we not object, we should have good reason to feel that we have been very indifferent to the good fame and professional competency of our confrères.

"Sul cadaver di Guiteau," writes Prof. Tamassia, "tacciono ora quelle ignobili prepotenze della piazza, quelle spudorate prosunzioni dei legulei Americani, quell inumano fiscalismo di certi medici a coscienza opportunistica ed a cervello digiuno, etc." Now, as to the ignoble potentates of the market squares or the public streets, we do not feel called upon to shed much ink or many tears. We believe that between our American roughs and the Italian *furfanti* there is no very wide intellectual or moral difference. Indeed, considering the fact that the population of our American cities so largely consists of the outswEEPINGS of the nations of Europe, it would be more than marvellous that our "ignoble street potentates" should have left behind them all their faults and follies, all their ignorance and long inherited mental inertia; so let them pass, and so, too, do we pray let pass the "shameless presumptions of American lawyers," for, poor things, their morality, as everybody well knows, is a thing of pure conventionality, their function is that of reluctant lingual gladiators, and they are as like their brethren of the old world as two black sheep are like each other.

But now we come to something that stings more deeply, something that wounds so lethally that we cannot avoid crying out in the dying words of the professor's illustrious countryman, *tu quoque Brute!* We are not sufficiently master of idiomatic Italian to have felt justified in rendering into English vulgate the words "*inumano fiscalismo*"; we might be unjust to the writer did we interpret his words by our common phrase, "the reckless love of gold," and perhaps even more so, should we turn them into the classic American, "worship of the almighty dollar." These terms, however, would be more intelligible to our readers than the two polysyllables of Prof. Tamassia, but they would be so repugnant to professional decorum, and so insulting to the medical profession of America, that we would rather fail in exact translation

than believe that they expressed the deliberate conviction of the author. Again, we must instance the harsh expression, "*coscienza opportunistica*." Whether we have incorrectly softened these words by the English "*opportune knowledge*" we do not feel certain; they certainly, without any detectable perversion, might be rendered *opportune conscience*, or in our Anglo-Saxon every-day tongue, *convenient conscience*, and this commodity would, we think, better harmonize with the Professor's "*cervello digiuno*," for a starved or fasting brain would better consort with a convenient conscience than with opportune—that is ready to order—knowledge.

But soften it or disguise it as we may, and as the warmest admirer of the distinguished Italian medico-legal jurist might feel constrained to do, we find it impossible to withhold our disapproval of the language of Prof. Tamassia towards the medical experts who testified to their belief in the sanity of Guiteau. We are all liable to error; we neither say they were in error, or the contrary; nor whether their testimony was well founded or ill founded. We have known several of them for many years, and have learned from year to year to esteem them more and more, and we cannot, even from a far off foreign land, bear to see their well-deserved good fame sarcastically assailed.

Three or four years ago, when the distinguished Tamburini closed his introduction to the report of the commission of experts, who were appointed to examine the would-be assassin of King Humbert, he used the following language: "Noi per altro abbiamo la coscienza di avere in tutto e per tutto adempiuto al nostro dovere." We never, for a moment, doubted the sincerity of that highly accomplished alienist, and even had we believed that the finding of the commission as to the mental condition of Passanante was erroneous, we would not have been tempted to insinuate that their decision was tainted by the *inhuman fiscalism of hungered brains*, or the plasticity of *accommodating consciences*. Prof. Tamassia never, so far as we are aware, wrote a line in censure or even in mild criticism of that finding; and yet we honestly believe that between the cases of Passanante and Guiteau there were so many features of resemblance as to constitute a parallelism which might have prescribed to any prudent Italian censor the expediency of eschewing, not alone all verbal severity, but still more, all sarcastic allusions to the

action of his foreign brethren. Indeed, we confess ourselves unable to evade the conclusion that Tamassia's rhetorical gun is a double-barreled weapon, or, if single, it was either double shotted or crooked enough to carry round a corner. Neither our time nor the space at our command permits us to enter on the demonstration of the parallelism between the mental characteristics and the crimes of Passanante and Guiteau; nor do we feel at all disposed to retort on our esteemed confrère by instituting a comparison between the manifestations of public sentiment or popular denunciation, which were alike displayed in Italy and America, in connection with the two assassins. Right heartily could we sympathize with the illustrious Tamburini when he felt himself constrained in alluding to the difficulties encountered by the Passanante commissioners, to use the following language:

“There certainly was not preserved to the experts, that calm and serene surrounding which is necessary to those who should judge impartially, according to science and conscience(?); on the contrary, pressure was brought to bear on us from all quarters, that we should, with all speed, complete our task; the newspapers and the parliament, in which the voice of a minister styled us a *Psychiatric Academy*, vied with each other in pressure on the magistrates and ourselves. Yet surely, if there ever was to experts a position of the most grave responsibility, both before the tribunal of justice and in the face of the entire nation, this was one; and if ever there was a case in which it was important to analyze and accurately to weigh every fact, to sever appearances from realities, externals from inmost psychological mechanism, this was one.”

We content ourselves with the citation of this one passage from the eloquent preface of Prof. Tamburini, which is in truth almost throughout a continuous lament over the flagrant indecency of both the general public and (which is still worse) of the public officials, in their relations with the prosecution of Passanante. With all becoming deference to the eminent Prof. Tamassia, we now venture to say, that if the trial of Guiteau has been as he has characterized it: “one of the most shameful pages in modern judicial history,” it has the honor of not standing alone; and if Prof. Tamassia has seen, in the exhibition of popular passion evoked on this side of the Atlantic by the crime of Guiteau, anything more scandalous than has been (faithfully, we doubt not,) recorded by

his worthy friend Tamburini, in connection with the case of Passanante, we can merely say that the atmosphere of Italy is less clear than we have heretofore believed it to be. We would now ask, whether, had the Passanante commission found the offender insane, the Italian street potentates would have bowed deferentially to their decision? "Fortunately," wrote Prof. Tamburini, "the judgment (whose?) was such as to tranquillize completely the public conscience, and to expose the wrong of the suspects and distrusters of psychiatry, who suddenly, as if by magic, ceased to clamor."

After all, human nature is as like itself in Italy as it is in America.

CLINICAL PSYCHIATRY.

ABSTRACT ON MENINGEAL TUBERCULOSIS OF THE CEREBRAL CONVEXITY. By W. Julius Mickle, M. D. *Medical Times and Gazette*, London, April 15, 1882.—The cases are reported partly for the medico-legal interest. The principal points in the *first* case were briefly these:

In a patient with advanced pulmonary phthisis we find life somewhat abbreviated by the oncoming of cerebral symptoms due to extensive meningeal tuberculosis of the convexity of the brain, with incipient inflammation. And we particularly note the short duration of any cerebral symptoms, and their slight and ambiguous character, notwithstanding the considerable lesion of the brain. There is no reason why death might not have been brought about in a similar way early in the course of the case; and it is evident, therefore, that under certain contingencies, such as may, and will, every now and then occur in practice, cases of this kind lead to more or less obscurity as to the manner and cause of death, and to possible medico-legal enigmas.

The patient, a soldier, aged 41; formerly maniacal, latterly somewhat demented; the subject of chronic pulmonary phthisis, and of occasional attacks of bronchitis and of diarrhœa; became bedridden eleven days before death. Four days before death he was feeble, emaciated, and his pulse rather slow. Thus he remained until the day before death, when cerebral symptoms were first noticed. For on this day he was mentally dull, apathetic, drowsy; paid but little attention to his surroundings, or

to questions put, or to his comforts, wants or inconveniences; when addressed, was slow to understand, and brief, or even irrelevant, in his replies. Swallowing was slow and difficult, and some hiccough was noted. Temperature, 98°. No perceptible spasm or paralysis. From fraction of minute to fraction of minute the pulse rate varied from 78 to 96; and the respiration, 26 per minute, was of a modified Cheynes-Stokes' character. On some occasions there was only an ascending and descending respiratory rhythm; but at others, a distinct apnœal period, though only a brief one, was added. In the latter event, the respiratory period consisted of five or six respirations gradually increasing in fullness and loudness, and it alternated with a recurrent pause in breathing, which completed the respiratory cycle. At first, the pulse was rather slower during the respiratory period; subsequently, not. Later on, the respiration was more regular; but, still later, it reassumed the Cheynes-Stokes' form. Left hand and feet, œdematous. Urine, non-albuminous.

At the *necropsy*, the meningeal veins were turgid over the posterior upper aspect of the cerebrum. Numerous minute whitish tubercular granulations existed in the pia-mater over the upper and external surfaces, or the convexity, of both cerebral hemispheres. These were more numerous over the *right* hemisphere, where also, at points, the granulations had coalesced into larger nodules, which, while adherent to the pia-mater, were partly embedded in the cerebral gray cortex, the surface of which was left eroded at these points on removal of the meninges. The right second and third frontal, postero-parietal and supra-marginal gyri were those mainly thus affected. Brain flabby; slightly wasted. Turbid serosity in lateral ventricles; and some softening of fornix and corpus callosum. Phthisis pulmonalis; bronchial lymphatics tubercular; slight tuberculosis of kidneys, and tubercular ulceration of the small intestine; old pleuritic, perisplenic and perirenal adhesions.

The mental symptoms supervening on the meningeal tuberculosis were not distinctive. The expiratory condition was an exaggeration of that sometimes occurring in meningitis of the base. Here the so-called cortical motor zone was somewhat affected, and yet without decided motor symptoms being observed. The supposed cortical visual centers were considerably affected, but without prominent visual symptoms.

The second case was that of a soldier, aged 31; hallucinations of hearing and of touch; listlessness, failure of memory, and of attention, and slight depression existed. Pulmonary tuberculosis, onyxitis, and finally, slight pleurisy, preceded death. For two or three days before decease he had "pain all over," and on the last day of life was slightly delirious and loquacious.

Necropsy.—Moderately firm, whitish granulations over the posterior part of right angular gyrus; yellowish nodules just above middle of right ascending parietal gyrus, partly embedded in the gray cortex, some being buried in the fissure of Rolando, and all appearing together as an irregular mass formed by the fusion of several nodules, which were caseous internally, and connected by firm fibroid tissue. On the under surface of the right occipital lobe the membranes were the seat of numerous, almost confluent, dirty-whitish granulations, which were more or less caseous, and formed an irregular layer, beneath which the convolutions were softened, pulpy, and of dull-red hue. Scattered granulations were seen on the under surface of the right temporo-sphenoidal lobe; similar granulations also existed over the posterior half of the external surface of this lobe, and a state of gray cortex, such as is just described.—Tuberculosis of lungs and pleura; recent pleurisy on right side. Old plueritic and perihepatic adhesions. Caseous abdominal glands. Yellow tubercle of spleen, and of left kidney.

Here the tuberculosis was of the convexity and posterior base of right cerebral hemisphere, limited to the distribution of certain arteries. Mental symptoms due to tuberculosis were of short duration, and motor absent. Here also, with early and long-continued auditory and tactile hallucinations, tuberculosis finally befell part of the supposed right cortical auditory center, and parts adjoining the supposed right tactile center; while the right angular gyrus and part of the right (so-called) cortical motor zone also suffered, but without the production of obvious visual or motor symptoms.

FOULIE AVEC CONSCIENCE.—Under this title Dr. Cotard (*Archives de Neurologie*, September, 1882) discusses a form of insanity which "is characterized by the fact that the patient reflects on the sensorial and psychical troubles of which he is the victim, and who, after analyzing them, recognizes their morbid nature." It is an affection of slow growth found in hereditary cases, manifesting, as a

rule, Morel's signs of degeneracy. The cases cited by Cotard are really cases of persons dominated by imperative conceptions, the erroneous nature of which they recognize; but mingled with these are cases reported by himself, in which the patient, already insane, fears to become so, but does not recognize his already existing insanity.

Two progressive paretics had ideas of suicide and morbid fears. One case of the same psychosis had a dim memory of his expansive delirium. During a remission, his folie avec conscience is, as a rule, simply the presence of imperative conceptions in persons hereditarily degenerated. The metaphysical mania, or grübelsucht of the Germans, would find a place here, and the various morbid fears mentioned in the July number of the ALIENIST AND NEUROLOGIST.

Psychologically, Dr. Cotard's view is rather redundant and tends to complicate psychiatry. Imperative or dominant conceptions, or morbid fears, occurring in the insane would sufficiently express this condition.

SCHUTZ ON THE PATHOLOGY OF ATHETOSIS (*Prager Med. Woch.*, 1882, Nos. 3 and 4) relates a case of athetosis of the fingers in a man whose right extremities had become gradually paralyzed. At the necropsy, he found softening of the left optic thalamus and also of the head of the caudate nucleus. The internal capsule was involved, especially at the junction of the middle and anterior thirds. The posterior part was intact. In a second case there were general convulsions, followed by feebleness of the left half of the body. Later on, there were involuntary spasmodic movements of the hand and foot. He ultimately recovered. Schutz thinks that in this case there was an inflammatory focus in the right hemisphere, which, perhaps, involved the same parts as in the first case.

SYSTEMATIZED ALCOHOLIC INSANITY.—Dr. Parrel (*Annales Medico Psychologiques*, July, 1882) describes a case of chronic alcoholic insanity, which, like many of such cases, is accompanied by systematized delusions of marital infidelity. The patient acting on these delusions attempted to kill his wife and threatened her supposed paramours. Like many of the cases of secondary monomania, the case terminated in progressive paresis.

SENILE PROGRESSIVE PARESIS.—A form of progressive paresis occurring in old age has been discussed by Seppilli and Riva, and its pathology outlined. To the clinical

history of the subject, Dr. Rey (*Annales Medico Psychologiques*) contributes a case: A man seventy years old was attacked by progressive general mental enfeeblement which occurred earlier than is usual in progressive paresis.

NEUROLOGY.

A CASE OF MYXŒDEMA was reported by A. McLane Hamilton, M. D., at the Dec. 7th Meeting of the New York Academy of Medicine, of which the following is an abstract:

The patient was seen by him in September, 1882. She looked anæmic and badly nourished. The tissues were swollen and doughy to the touch. The special senses were impaired and she was morose and inclined to seek solitude. The swelling was greatest in the face, though pretty generally diffused. The skin was the color of white wax, and shiny like the surface of morocco. Her hair was thin and dark. Her temperature subnormal, and the thyroid gland had disappeared. Her pulse indicated a condition of increased arterial tension. She had numbness of the hands and feet, and complained of a metallic taste in the mouth. Her gait was clumsy like that of the general paretic, though improving by exercise. The tendon-reflex was greatly exaggerated. There were marked indications of mental failure. The urine, on examination, contained sugar and earthy phosphates, but no albumen or casts, specific gravity 1022. The œdema pitted slightly after prolonged pressure, though the tissues quickly returned to the general elevation.

The author accepts Hadden's theory of the origin of myxœdema, that the deposit of mucin depends upon lymphatic obstruction and that the mental symptoms are due to the condition of the brain produced by lesions of the sympathetic system. Dr. Hamilton believes the trophic changes to be due to disturbance in the lateral and posterior columns of the cord.

It probably depends upon a lesion primarily of the bulb, with secondary extension to the postero-lateral columns of the spinal cord and the spinal sympathetic ganglia. Cases with muscular atrophy and deep tissue-changes are rare, and when so found probably indicate degeneration of the multipolar cells in the anterior horns. Renal disease is not the cause of the malady, but the result.

THE ACT OF ROTATION,—Dr. Bechterew (*St. Petersburger Med. Wochenschrift*) arrives at the conclusion that not only injury to the middle and posterior cerebellar crus, and deep injury to the medulla oblongata, produce rotation, but that lesion of the inner part of the crus cerebri in its whole course, from the thalamus to the pons can generate it. When the inner part of the crus cerebri is injured, the rotation is about the inner side, while a lesion of the external layer of the crus cerebri causes rotation about the side of the injury. The rotation about the long axis is produced through a lesion of those fibres which go from the cerebellum through the upper part of the crus cerebri to the corpora quadrigemina.—*Chicago Med. Review*, Aug. 18th.

FUNCTIONS OF THE PHRENIC NERVE.—MM. Henocque and Eloy's experiments on animals show that after removal of the roots of the phrenic nerve, the immediate consequences were—1st. Extensive contraction for some moments of the inspiratory muscles; 2, the cessation of diaphragmatic contractions on the side operated upon; and 3rd, a very feeble respiratory movement of the thoracic wall on the same side, caused by the action of the inferior intercostal and the accessory elevators. Nervous degeneration has been observed in some cases at the end of a fortnight or more; respiration of the side operated upon recommenced afterwards, but was feeble in comparison with the healthy side; in some cases there resulted difficulty in phonation.—*Medical Press. Cin. Lan. and Clinic.*

NEURO-THERAPY.

ALTERATIONS OF THE CORD IN PHOSPHOROUS POISONING. Danillo's researches.—1. In acute poisoning, the central nervous system contains deposits of pigment of hæmic origin. This has heretofore not been noted.

2. Large doses of phosphorous give rise to a central myelitis along the whole length of the cord, with the formation of extravasation and pigment. Smaller and repeated doses give rise to a diffused myelitis, affecting the gray and the white matter.

EDITORIAL.

The Judicial Psychology of the Guiteau Trial.

—When a simple-minded colored divine, despite the verifications of astronomy to the contrary, declares that “the sun do move,” even though the unscientific assertion carries conviction to an unlettered congregation of sable hearers, no great harm is thereby done to science; or even when a great church hurls its anathemas against the heretical teachings of the science of the universe and compels a Galileo to recant, truth is simply but momentarily “crushed to earth to rise again,” for the world does move despite the opposition of either church or state, and opposition from both is but little less futile in the long run than the antipathy of the faithful Jaspers, who read the scriptures literally, to the disparagement of true science. And even when the learned judiciary, whose province it is to *interpret* rather than to *make* pathological laws, as it likewise is its province to determine what municipal laws *are*, and not to *make* them, formulates a judicial psychology not sustained in the laws of morbid mental movement, sound psychiatry may be thereby set back a quarter of a century or so before the courts; but the truths of psychiatry remain the same as though no judicial fiat had sought to make them what they are not, and they will ultimately appear uppermost, despite judicial decision that they are what they are not.

To ignore motives and resistless impulses of mind deranged, does not and will not obliterate them as *facts* from the phenomena of mental disease. To declare that “the true test of criminal responsibility where insanity is interposed, is whether the accused had sufficient use of his reason to *understand* the nature of the act with which he is charged, and that it was *wrong* to commit it,” unless this phraseology is liberally interpreted to mean something more than wrong in the abstract, does not change the fact that many insane persons, while having sufficient use of their reason to know what is morally and legally wrong, nevertheless feel by reason of their changed mental condition, that the particular acts they may be impelled to do are either impulses that ought not to be, or cannot be resisted, or that it is not wrong for *them*

to do them. Acts which to them would appear wrong to every other person are self-justified. In a lunatic asylum, "Atlas," groaning under the weight of the world, recognizes the folly of his fellow lunatic, who imagines his belly full of snakes.

If the insane would only reason like sane people, or see without distortion the code, moral and civil, such a test as was laid down by Judge Cox in the Guiteau trial would be simple enough, but unfortunately for his judicial psychology, the psychology of clinical psychiatry refutes the "only safe rule," the one test of criminal responsibility he has prescribed in that historic trial, namely, "whether the prisoner possessed the mental capacity at the time the act was committed to know it was wrong." If only those lunatics are to be exempt from the consequences of crime, who are so insane that they do not know what they are doing, and that the act is wrong in the abstract, then the number of insane criminals, or who would be criminals, in our asylums might be greatly diminished by applying Judge Cox's test to their responsibility.

The judiciary of this country will always be liable to error so long as it continues to *make*, instead of trying simply to *interpret*, the laws of morbid mental movement, and to apply the same test of responsibility to the sane and the insane.

The right and wrong test of responsibility has a more tenacious hold upon the judiciary of America than upon that of any other enlightened country, though it has not always been adhered to, stronger than in France, Germany or Russia even. The English judiciary has by no means consistently adhered to this mediæval test, having successively adopted and rejected it in different historic trials; having relinquished it in the famous trial of Hadfield, in the year 1800, reaffirmed it in that of Bellingham, twelve years later; again abandoned it in the trial of Martin, in 1831; and, three years later, reaffirmed it in another great state trial, only to be again virtually disregarded in the recent trial of Roderick Maclean for attempting (on March 2d, 1882) the life of her Majesty the Queen, as the following interrogatories of the Lord Chief Justice on that trial show:

First question by the Lord Chief Justice.—"Do you think he knew what he was about?"

Second question by his Lordship.—"Do you think he knew he was doing wrong?"

Third question by his Lordship.—“*Do you think that if he did know he could have helped it?*”

The right and wrong test was not prominent in this trial, but if the medical witness had testified that Maclean knew his act was wrong but resistless, the court, in view of his history of previous insanity and late incarceration as a lunatic, would have accepted the morbid irresistibility, criterion probably, as the third question of the Lord Chief Justice foreshadowed, and so will the courts generally when the insanity is undoubted. Why not then make the test in all cases such as will embrace any form of real mental disease, and be consistent? As Chief Justice Blackburn has said, “we cannot fail to see that there are cases where the person is clearly not responsible, yet knows right from wrong.”

The only inquiry that would be just to the insane person would be as to the existence of the disease, and its influence upon the act of crime, and the possibility of resisting it. To assume rational criminal intent, if knowledge of wrong exists, is not fair where disease is interposed in extenuation by the defense. The inquiry should be, how has *disease* distorted the normal relationship of the man to the crime and surroundings, and if courts persist in defining how alone mental disease can absolve from responsibility, they should be careful to be comprehensive enough to include those forms of insanity which are characterized by morbid impulsions of the mind, as well as those in which deranged perceptions are prominent. When the judiciary shall substitute mental pathology for metaphysical conception of morbid mental action in regard to questions of insanity, it will only charge that to constitute insane irresponsibility the mind must be so affected by disease of the brain as to distort its natural relationship to crime, rendering it truly incapable of resisting crime, either by overpowering morbid impulse or delusive conceptions of the legal or moral character of crime, or of the necessity or duty of committing it.

The Rights of the Insane.—The present age, under the pressure of sensational journalism, and the misuse of the habeas corpus, is likely to do as much harm to the insane as was inflicted upon them in the days of dungeons, stripes and chains, before Bicêtre was reformed, and the iniquities of old “Bedlam” were exposed and suppressed. It is no charity to release from asylum custody every harmless-appearing lunatic who asserts his sanity, or who may

have a friend or two who is unwilling to believe him insane.

Not a day passes in the history of the world without the public being startled with preventable tragedies, having for their heroes or heroines some one or more of the supposed harmless class of insane persons, who have either been taken out of asylums on habeas corpus, or have kept themselves out of them by an appearance of sanity or of harmless insanity. The Hadfields, the Macleans, the Lawrences (not to mention the Passanantes and Guiteaus), who make kings and queens and presidents their mark; as well as the Grays, who walk into theatres and make targets of its distinguished actors; the Remshaws, who quit their work to shoot asylum superintendents; the Freemans who attend to their business in day time and sacrifice their children at night; the moral monstrosities, sweet-appearing on the witness stand, who break away from asylum restraint by aid of sympathetic courts only to make otherwise happy homes hells on earth, the insane self-destructions innumerable, and the murderers of the innocent, unsuspecting and helpless which might be averted, will continue so long as public attention continues to strain its vision to detect a possibly sane person in our asylums, and overlooks the great and increasing number of incipient and harmless (?) lunatics at large. Lunatics at large are uncertain, however harmless they may appear, and actually are under the regulated surveillance of a well-ordered asylum management. Their liberty should generally be allowed them under judicious surveillance, even though they appear safe to be at large, and it is not always a question of safety alone. We owe the harmless lunatic a duty to save him from perpetual lunacy if we can. To leave him wholly to himself, even though he hurts no one, is not always kind. Such a course endangers incurable chronicity, and this is cruelty to him. If we were to become insane, and could judge after insanity as before, we would wish to be speedily cured whether we might be harmless or not. Recovery would not be likely to be promoted by leaving us wholly to our insane devices, even though the unrestrained liberty might be sweet to us, and harmlessly exercised as to others.

What a world of woe to mankind and wrong to these victims of disease will be averted when the true nature of insanity and its curative needs shall be publicly understood. The public duty of the hour is to rightly understand and rightly manage the insane.

Public Prejudice Against the Plea of Insanity is daily verified in injustice done to the actually insane. Cases like the following are quite often seen in the public prints. We made satisfactory personal examinations of the person referred to below, and testified to her insanity on the first trial:

NEVADA, MO., November 17.

In the murder case of the State against Mrs. Mary Harper, brought to this County on a change of venue, the prosecution this afternoon entered a nolle prosequi and the prisoner was discharged. In October, 1881, in Henry County, Mrs. Harper killed her little step-son, aged about six years, by cutting his throat with a butcher-knife in a most savage and brutal manner. The case caused great excitement at the time, and a long and tedious trial was held in the Henry County Circuit Court. * * * The result was a hung jury. Another trial was had at the next term of the Henry County Circuit Court, with the same result, after which the case was brought here on a change of venue. * * * Over forty witnesses and medical experts were summoned and in attendance, consequently a considerable sensation was created when this afternoon the Prosecuting Attorney from Henry County announced that the case would not be prosecuted further.

Mrs. Harper, for several months past, has been confined in the asylum at Fulton, and was brought from there to the trial at this place. Her husband, the father of the murdered child, believes her insane and has used his influence to secure her acquittal. She attempted to commit suicide while in the Henry County Jail about a year ago. * * * Various opinions prevail in the community regarding her sanity, and some severe criticisms are passed on the Henry County Prosecuting Attorney for his action in dismissing the case.

Dr. Smith, of the Fulton Asylum, and all the medical experts, testified to her insanity. She was placed into the asylum at Fulton by order of the Supreme Court.

Thus it is with the inconsistent public. Ever eager to get them out of, or prevent them from being sent to, the asylums, but always ready to hang them for the results of their disease.

This unfortunate woman tried to kill her own suckling babe, her mother and herself, under the delusive impulsion of morbid auditory hallucinations, which commanded the bloody, unnatural deed. Like most lunatics of her class, she felt that she "had to do it; they all had to go."

The Power of Vicarious Nerve Function to which we have before referred in these pages, and which we have elsewhere maintained (*Amer. Jour. of Insanity*, October, 1875), must be invoked to harmonize the discrepant views of Ferrier, Brown-Séguard and others, with

reference to cerebral localization. Goltz has demonstrated, by carefully conducted experimentation on the inferior animals, the capability of life for twelve months after ablation of three-fourths of the cerebral cortex. His conclusion was that the doctrine of special motor areas is untenable, whereas he should have concluded that the motor areas of Ferrier are not the only centers of motor impulse under all circumstances.

Gradual ablation, as well as slow obliteration by disease, permits of active development of motor function in latent or secondary motor areas.

Dr. J. C. Dalton, referring to these experiments of Goltz and others, and observing the impossibility of permanently paralyzing a single muscle of the body by the destruction of any part of the cerebral cortex, discredits the idea of exclusive special sense areas. This is undoubtedly correct, but the special sense areas in the normal condition of the brain undoubtedly do exist, notwithstanding their boundaries may be somewhat extended by the assumption, under certain circumstances of morbid invasion or physiological experimentation, of vicarious function.

Alexandrine La Bross, *sans cerebelli*, existed and moved about before Flourens's or Vulpian's slicing experiments on fowls demonstrated that the power of movement thus abridged was capable of being slowly regained; and P. P. Gage walked about for years after, though minus a large part of an anterior lobe of one hemisphere, with power of speech and thought, verifying the vicarious function of the hemispheres of the cerebrum.

There are vicarious centers undoubtedly demonstrable, as the substitute channels of nerve force conduction are proveable.

Misconceptions of Moral Insanity, Prichard's Definition.—

"Moral insanity or madness consists in a morbid perversion of the natural feelings, affections, inclinations, temper, habits, moral dispositions and natural impulses, without any *remarkable* disorder or defect of the intellect and knowing and reasoning faculties, and particularly without any insane delusion."—[Art. on Moral Insanity, p. 19, *Bell's Library*.]

"This form of mental derangement has been described as consisting in a morbid perversion of the feelings, affections and active powers, without any illusion or erroneous conviction impressed upon the understanding; it *sometimes* coexists with an *apparently* unimpaired state of the intellectual faculties."—[*Ibid.*, p. 20.]

In one sense, indeed, their intellectual faculties may be termed unsound; they think and act under the influence of strongly excited feeling, and persons accounted sane are, under such circumstances, proverbially liable to error both in judgment and conduct.

Conclusions of the reasons alone out of harmony with the natural character and surroundings of an individual may have disease for their basis, according to the theoretical conceptions of some of our worthy confrères in psychiatry, while the morbid aversions, antipathies, fears and feelings are not to be recognized as founded in disease unless the reason is also deranged.

This is clearly a theoretical objection to moral insanity in which the reasoners ignore their own reason as the morally insane do. Moral insanity cannot exist they say because they will not permit it to be.

Honor to Whom Honor is Due.—At the late Jubilee Celebration of the Medical Faculty of McGill University there was present one gentleman who graduated from that institution forty-seven years ago, Dr. Joseph Workman, for the last generation and up to some four or five years ago, Medical Superintendent of the Asylum for the Insane, at Toronto. At the meeting of the Medico-Chirurgical Society of Montreal, on October 8th, the following resolution was passed in honor of his presence:

“That the members of the Medico-Chirurgical Society of Montreal, in session this evening cannot allow the opportunity to pass of expressing to you the pleasure your visit to the city has been to them. They feel that to you the Medical Societies of Canada owe much. Your zeal and ability have always been liberally expended in promoting their welfare, and they desire to express the hope that you may be still spared for many years to give them the benefit your wisdom and counsel.”

We are sure that the profession of this city, and especially the members of the Toronto Medical Society, at whose deliberations he for two years presided, and the constant sight of whose venerable form has been an encouragement to some and a reproach to many, will eagerly join with us in a heartfelt echo of the sentiments expressed above by the Medico-Chirurgical Society of Montreal.

The Government's Tribute to the Medical Profession.—At last a grateful (!) Congress awards its honorarium to the consulting surgeons and medical attendants of President Garfield, and thus attests its exalted (!)

appreciation of the professional fidelity and skill which sustained and prolonged the life of the late lamented executive for so many long weeks in comparative comfort beyond all reasonable expectation, under so mortal a wound, and the measure of its gratitude is exhibited in the sum of five thousand dollars awarded to each of the distinguished consultants for about nine weeks of service in which their time and talents were at the command of the nation, and they were debarred from making any important surgical engagements elsewhere. A grief stricken nation generously gives the bereaved family a quarter of a million, to which Congress adds the remaining salary of the President's unexpired term, and *generously donates to his chief physicians five thousand dollars apiece*, while his medical nurses get nearly an equal pecuniary recognition, and the regular medical attendant is awarded sixty-five hundred dollars!

Noble Nation! Magnanimous Congress! Generous Committee!

Low Temperature in Insanity.—We take the following from the *Detroit Lancet* for January, being a part of Dr. Kiernan's address on Insanity:

In the case of a man tried for murder in Canada, Dr. H. Howard cited low temperature as a corroboratory evidence of insanity. Ulrich has reported a case of progressive paresis in which there was a temperature of 91.3 F., and a case of melancholia in which the temperature was 83.4 F. Tilling reports a case of primary monomania in which there was a temperature of 89.6 F.; one of melancholia attonita in which there was a temperature of 82.4 F., and two cases of progressive paresis in which the temperature was 83.3 F. and 81.5 F., respectively. Bechterew reports one case of senile dementia in which the temperature was 87.8 F.; two cases of progressive paresis in which the temperature was 93.2 F. and 86.9 F. Ireland reports a case in which the temperature was 82 F. Lowenhardt reports two cases of insanity in which the temperature was, at various times, 87.5 F., 89.6 F. and 90.5 F. Mendenhall has reported a case of dementia in which the temperature was 90.5 F. Zenker has reported nine cases of insanity in which the temperature fell easily; in three cases as low as 90.6 F. As a corroborative symptom of the existence of nervous disease, this question of low temperature may be of value. Any suggestion on this topic, however, would be as yet premature.

More Light on Guiteau's Ancestry.—We have good authority for the statement that a large part of the people of the town of Freeport, Ill., where the father of Chas. J. Guiteau resided, believed his father was insane, but it was the interest of the officials of the bank with which Guiteau, Sr., was connected to deny it. The

paternal grandmother is said also to have had attacks of melancholia, and descended from a hypocondriacal father, and had an ancestry of peculiar people.

A grave mistake was made in pronouncing Guiteau a sane man, and the history of his trial only serves to show how difficult a question to decide that of sanity is, when only an incomplete life history is studied, and conclusions are biased by the pressure of popular opinion and the patriotic feeling. Since the hanging of Mrs. Surratt, the Government has made no greater blunder than the execution of Guiteau. If Mrs. Surratt were alive to-day, no charge of treason would stand against her. When posterity passes on Guiteau, he will be adjudged insane.

The Yearning for Higher Medical Education has promise of ultimate gratification in the following aspirations after fame of the Joplin College, though the beginning is "*petit*." Behold the announcement:

COLLEGE OF PHYSICIANS AND SURGEONS, }
 JOPLIN, MO., 5, 28, 1882. }

Gents: Please send *price list of Doctors and Druggists Names* by states, as I want to mail *several thousand Annual Catalogues* to the *Profession* all over the U. S. A. and Canada. I am starting an *embriotic Pioneer-Medical College* and I must, of necessity, noise it around the world to make it pay me. An early reply will greatly oblige.

Yours Respectfully, etc.,

J. C. PETIT, M. D., Dean

We take pleasure in helping to *noise this "embriotic pioneer"* Medical College around the world, knowing the cosmopolitan *as-pirations* of its projectors.

Great enterprises have often *very small* beginnings. We feel confident, however, that the *Joplin embriotic* will not be easily discouraged, notwithstanding the State Board of our neighboring State of Illinois cruelly proposes embryotomy for its *alumni*. But such is fate when the head is larger than the pelvic brim.

Let the *Joplin embriotic* thrive. Such institutions make *post gradum* schools with *ante gradum* capacities in their faculty chairs tolerable. Let the embryotics come forth, there will probably be enough *post-grad*i to complete their incubation.

Aphasia and Insanity.—Dr. Rousseau (*Annales Medico Psychologiques*, November, 1882) comes to the following conclusions respecting aphasia and insanity: In general, insanity and aphasia are rarely associated, and the analysis of them then varies according to which of

the affections was primarily developed, for in one case there may be simple coincidence where in the other it may be necessary to admit that there is an antagonism. The lesion that produces aphasia may leave the intelligence intact, but more frequently it is enfeebled without being destroyed. Aphasiacs may become insane, but this can only exceptionally happen since they are somewhat cut off from relations with the outside world. The insane do not so frequently give evidence of amnesic aphasia, although they fall, under the common law, relative to the ataxic form. Applied to progressive paresis, these opinions seem somewhat too positive.—K.

Malaria in Skin Diseases—a Correction.—Dr. L. P. Yandell refers to a paragraph which has lately appeared in the *Michigan Medical News* and other journals, as follows:

“What I have contended for, and what I have reiterated, is simply this: Malaria is *the chief source* of acute skin disease. Scrofula is *the chief source* of chronic skin disease. The more inveterate cases of skin disease are often due to the coëxistence of these two things. The specific exanthems, of course, are not included here, but I contend that their progress and termination are often largely influenced by the presence of malaria or struma. *I do not claim* that malaria and struma are the *sole* causes of the dermatoses. Indeed, *many* of the dermatoses may exist *independently* of malaria or struma, and most frequently some exciting cause is necessary to develop the cutaneous eruption.

Dr. Curwen on Lunatics at Large.—“A great deal has been said latterly about the personal liberty of the insane, but those who are so specially urgent on this matter, forget that every member of the community has his personal liberty, and also his life, involved by the fact of so many irresponsible persons being at large, so that from the President of the United States down to the humblest member of the community, no one can tell when his life may be threatened or his property be destroyed by some one for whom his family or pretended friends may interpose this plea of personal liberty. No man has a right to personal liberty where that liberty may imperil the life or property of another.”—[Address before Alumni Association, Med. Dept., University of Penn, Jan 19th, 1882.]

Kalæmia vs. Uremia.—Fultz and Ritter (*London Med. Rec.*, Jan., 1882) have reached the conclusion, after numerous experiments and observations, such as the injection of solutions of potassium salts, and the examination of animals that have died from uremic poisoning (so-called), and finding an excess of potassa, the injection of urea giving negative results, that the so-called phenomena of urea poisoning are really due to the acclimation of potassa salts in the blood. They use the term "potassæmia," but "kalæmia" is more euphonic, if the ureic pathology should be supplanted by subsequent confirmations.

To Gazetteer Men who persistently importune us to subscribe for directories containing the names of leading physicians, we have only to say we have no need of their goods. We can generally find the names of most of the eminent men who do not take the ALIENIST AND NEUROLOGIST among the recommendations of the proprietary medicines asking our daily attention.

The Narrow View of Insanity applied to Guiteau has lately been applied very unjustly to some of the patients in the New York City Lunatic Asylum, and patients with hallucinations of hearing and delusions of persecution have been declared only eccentric and not insane or dangerous. Yet those who know lunatics well will always give such a wide berth if they are at large. Mark Gray has also been set at liberty to shoot at Booth again, may be!

The Coupling of Irresponsibility with Insanity causes contests over its recognition in any but its most marked and undoubted forms in medico-legal cases, and leads to the non-recognition of its obscurer phases. A court-room, with capital crime or a will in contest is the last place in the world in which to make a correct and satisfactory diagnosis of insanity.

Persistent Double Consciousness.—Fidelia X., of Bordeaux, is probably the most remarkable case of double consciousness on record. For twenty-five out of every thirty days, during the past twenty-three years (on the authority of Dr. Azam), she does not remember what she has done during the other five. Her age is thirty-nine years.

A Large Brain.—Sixty-two and a-half ounces of brain belonged to a late Leadville, Colorado, gambler, who

betrayed no greater excess of greatness than belonged to the Louisville, Ky., baker, who died some years ago, with a brain larger than Webster's, Cuvier's or Abercrombie's.

The Society for the Protection of the Insane will meet in Philadelphia on the 25th of this month. That body has discussed the right of the insane to liberty. We hope they will consider the paramount right of these unfortunates to judicious surveillance and restraint in order that their welfare, as well as that of the community, may be subserved.

The insane should be protected against themselves even though they be not violent, and rescued from impending chronicity, even though they might harm no one if unrestrained.

Brass Poisoning and Insanity.—It has been observed by Binswanger (*Neurologisches Centralblatt*, March 15, 1882) that seventy-five out of one hundred brass founders suffer from a species of fever. One patient, aged twenty-seven, while suffering from the initial stages of this fever, was attacked by a species of melancholia, with frenzy and hallucinations.—K.

A Good Periodical Discontinued.—We shall greatly miss from our exchange table the well conducted and richly instructive *Archives of Dermatology*, whose existence has ceased with the completion of the eighth volume.

The Cure of a Case of Epilepsia in consequence of excision of a diseased knee (Arthritis and Anchylosis) is reported in the Jan. 6th number of the *Phil. Med. and Surg. Reporter*.

REVIEWS.

REPORTS OF THE INSANE HOSPITALS FOR THE YEAR 1881.

1. Report of the Pennsylvania Hospital for the Insane for the Year 1881. By Thomas S. Kirkbride, M. D.
2. Twenty-Sixth Annual Report of the Trustees of the State Lunatic Hospital at Northampton, Mass., for the year ending September 30th, 1881. Pliny Earle, M. D., Superintendent.
3. Forty-Ninth Annual Report of the Trustees of the State Lunatic Hospital at Worcester, for the year ending September 30th, 1881. John G. Park, M. D., Superintendent.
4. Sixty-Ninth Annual Report of the Trustees of the McLean Asylum, 1881. Edward Cowles, M. D., Superintendent.
5. Forty-Third Annual Report of the Superintendent of the Boston Lunatic Hospital, for the year ending April 30th, 1882. T. W. Fisher, M. D., Superintendent.
6. Fourth Annual Report of the Trustees of the Danvers Lunatic Hospital, for the year ending September 30th, 1881. Wm. B. Goldsmith, M. D., Superintendent.
7. Forty-Ninth Annual Report of the Managers of the State Lunatic Asylum, Utica, N. Y., for the year 1881. John P. Gray, Superintendent.
8. Eleventh Annual Report of the State Homeopathic Asylum for the Insane, at Middletown, N. Y. 1881. Selden H. Talcott, A. M., M. D., Superintendent.
9. Twenty-Seventh Annual Report of the Board of Trustees and Officers of the Cleveland Asylum for the Insane, for the fiscal year 1881. James Strong, M. D., Superintendent.

10. Forty-Third Annual Report of the Board of Trustees and Officers of the Columbia Asylum for the Insane, for the year 1881. H. C. Rutter, M. D., Superintendent.

In looking over our file of insane hospital reports, we found so many had collected, that it would be impossible to any more than mention a small portion of them. We therefore proceeded to pick out those in the above, almost at random, promising ourselves that we would, in a later number, look into as many more as possible.

We very well remember a time in our early studies of insanity, when these reports seemed as dry reading as the market quotations in the newspapers. How our elders could pore and even gloat over them, quite passed our comprehension. As time went on, however, and our connection with the topics presented became more near and personal, we too began to take a lively interest in them, until to-day we look as eagerly for a new report, as the average of mankind for the last number of Harper's.

The casual reader who takes up an insane hospital report, must be struck with its curious make-up. Here is a mixture of all kinds of things—pathology, piggeries, cow-yards, convolutions, ventilation, ventricles, radishes, restraint, morals, mowing. We begin with the number of cures and usually end with the number of night-gowns, which the institution has recorded, as its work for the year. We learn how many cabbages have been raised on one page, and on the next, perhaps, find a table of deaths. Why, it might be asked, do we have this varied bill of fare? To answer this question we must step into the superintendent's place and say that we have tried to write down the doings of a year, as accurately, yet as briefly as possible. This is, we must allow, again assuming our own position, a very proper answer; but can the same result be arrived at in any other way? It must be remembered in the first place, that the report must, in most cases, conform, to a certain extent, to the law which requires the enumeration of these various business details. Then second, that the Trustees are interested in the business management of the hospital and desire to make a good showing in this direction. Then third, there is the public which wants both a clear business account of details, but desires besides, some popular instruction on the subject of insanity, as well as medical details concerning the patients. These wants are somewhat exacting, yet the conscientious superintendent remembers further the claims of science, and endeavors more or less briefly, to satisfy them also. It will be seen then, how much literary labor he is put to, to compile his report, which may seem little to the world, but is a mountain to him. We can imagine even Napoleon himself would have been staggered had he been obliged to write an annual report of his campaigns with as much detail as is required of the insane hospital superintendent.

The report exemplifies what the superintendent himself is expected to be. Popularly he is supposed to be the physician ministering to his patients and making studies into insanity and cerebral pathology. Practically, he is doctor, farmer, engineer, cook, steward, carpenter, plumber, financial correspondent, seamstress and, perhaps, clerk of the Trustees, chaplain, lecturer and father to patients and employees. When we regard the very remarkable combination of qualities which go to make up the

ideal superintendent, we see that few men can be equal to the requirements demanded. What wonder, when we have found the right man, that we cannot expect much from him in the way of a scientific knowledge of the morbid anatomy of the brain in insanity! If he does his required work well, we can ask no more. Sometimes we get impatient and wonder if a superintendent's duties could not be so arranged as to give him more time for scientific work, but after a careful investigation of every system practiced, we are reluctantly led to believe, that first and foremost, the superintendent to do entire justice to his patients, medically, must superintend *everything*, for there is no detail, however trivial that does not have a bearing on the medical management of the hospital. If in an individual case the superintendent has the taste, ability and education to go into pathology, so much the better. By and by our standard of medical education will be higher, the superintendent will *enter* on his duties with the desired knowledge of cerebral pathology which in the past he did not possess, and he will then be able to superintend this branch also. With a higher standard of medical education the public will learn to expect more scientific acquirements in the medical officers of insane hospitals, and we doubt not that a larger staff of assistants and improved methods of management will be ready at hand when the time is ripe for them.

We see, then, that the report presents a very good chronicle or history of hospital management. But cannot some of the details be omitted from the *printed* report? Cannot they be presented at a trustees' meeting, and then silently filed away? With the greatest respect for the worthy superintendent, we should be so much relieved if he would omit the history of the old sewer, or the new asparagus bed, or the root cellar. It is such a disappointment when we see a nicely printed page without the usual tables, and expect some ripe utterances concerning insanity, to find instead a long account of draining the meadow down by the old garden gate. Whisper it gently into the manager's ear, but give us—the public—some glimpses into your grand experiences. Open a few pages of your clinical observations and detail to us some of the remarkable psychological phenomena which daily pass before your eyes. No man has a better chance to study character than the hospital superintendent, for he sees human nature in all its nakedness, with the mask of decorum and social respect thrown off. He has only to record his observations to give us the most valuable information. And it is in this respect that we find him, like other American medical men, defective. It is an exertion for him to write with exactness and precision. He often rattles off many pages of loosely worded English, but it is difficult for him to sit down and accurately put his observations into writing.

After all, however, we should be thankful for insane hospital reports, for they contain very much of value that would otherwise be lost. Only through their pages many a superintendent makes himself known as a writer. In times past, our superintendents have rarely published much in either general or special journals, but every year now witnesses an improvement in this respect.

1. This report, which is Dr. Kirkbride's forty-first, as usual, contains much of interest. The kind and worthy doctor is one of the few remaining

of that generation of superintendents, now nearly passed away, who had something to say, and could say it, too. His work stands as a most fitting monument to his painstaking efforts to ameliorate the condition of the insane. Each one of his reports gives us the results of his matured judgment; and, collectively, these reports will be of scientific value for many years to come.

He has shown us that the two sexes can be satisfactorily treated entirely separate from each other, but we doubt not that he would have been equally successful with the two sexes in one building. Another successful plan of treatment he has demonstrated is that of daily evening amusements for patients, and to this he lovingly refers in the report before us. For thirteen years, every evening during nine months of the year, some form of amusement has been provided for the patients, and two years ago such a system of amusement was made a permanent regulation. The variety of entertainments offered embraces stereoscopic exhibitions (the hospital owns an immense collection of photographic pictures), lectures, concerts, gymnastic exercises, exhibitions of various kinds, social parties, etc. All these things make a very pleasant change for the patients, and any one who has visited Dr. Kirkbride's must have been struck by the degree of perfection to which the amusement system has been brought. It is to our mind, however, an open question whether so much amusement is a necessity. A recent writer, in the *Journal of Mental Science*, has argued that such a method of hospital life is not well fitted to prepare the patient for a return to the ordinary duties of life. The whole force of the institution should be towards work rather than amusements alone. It should not be forgotten, however, that Dr. Kirkbride has labored to introduce useful occupation among his patients.

Out of 3,825 patients admitted since the institution opened, 3,825 have been restored to their friends, or upwards of forty-five per cent., which, to say the least, is a very good showing. During the last year, 200 patients have been admitted, and 57 discharged cured, or, we will say, about twenty-eight per cent. The latter, it will be seen, shows a great falling off from the total percentage of cures for the forty-one years.

Among the tables, No. VIII., which gives the supposed causes of insanity, is of interest. We learn that out of the total number of 8,480 cases, ill health was the cause of 1577; intemperance in 528; fright in 73—a surprisingly large number, it seems to us; use of opium in 33—a very small number, we should say; use of tobacco in 17—a large proportion relatively to opium. In 3,298, or nearly two-fifths, the cause was unascertained, which only shows us how unreliable such tables must of necessity be with our present imperfect methods of collecting statistics, and how impossible it is to make use of them for the purpose of making deductions *without exercising great care*.

2. In the footsteps, or perhaps more properly, in the same rank with Dr. Kirkbride, the nestor of American insane hospital superintendents, Dr. Earle, must be placed. He, perhaps as much as anyone of our distinguished superintendents, has done his share in endeavoring to infuse into reports, a spirit of scientific accuracy. His labors in regard to the curability of insanity and hospital statistics have given him a world-wide

reputation. He may not be strictly right in all his deductions, but he has thrown considerable light into obscure nooks and crannies and knocked down a good many men of straw. His dignified, accurate, terse, and telling manner of stating and recording his investigations, has not only stimulated others to more careful work, but has also served as a useful corrective of the slouchy, careless, hap-hazard style of writing, so much in vogue in hospital reports.

Like Dr. Kirkbride, Dr. Earle is an ardent believer in entertainment, and we find that during the year, the patients assembled for either worship, instruction, entertainment or amusement, 329 days of the year. About one-half of the patients attend these meetings and often they do not last for a longer time than half an hour, we have been told.

Twenty persons were discharged as recovered during the year, 120 persons having been admitted, or nearly 17 per cent.

In the "Studies relative to the Curability of Insanity," which again from the essay portion of the report, Dr. Earle states that his conclusions are becoming each year more generally accepted, both by superintendents, the medical profession and laymen. At the four State hospitals in Massachusetts, during the year, 1092 persons were admitted and 283 persons discharged recovered, or a percentage of 25.91. The three older hospitals, Worcester, Taunton and Northampton admitted 521 persons during the year, and discharged recovered, 118 persons or a percentage of 22.64. Of the 118 persons discharged, 55 had been previously discharged, thus bringing down the actual gain in the number of recovered persons in the community to 63, or 12.09 per cent. Of these, 55 persons, readmitted after previous recovery, had been discharged altogether 115 times. The public had been told of 115 recoveries of those 55 persons, hence if recoveries and not persons be enumerated, the three hospitals issued 118, but they took back 115, leaving therefore an actual gain of only three persons in the community. Such figures as these may well startle us, but the question is, if Dr. Earle draws an entirely correct inference, at how long intervals were these persons readmitted? Were they able to go out and resume the ordinary duties of life? Surely, a person getting apparently well and able to bear the strain of his usual life must have been well enough to count as a legitimate cure. As we look at the matter, we should go still further than Dr. Earle, and ascertain exactly how long it was between discharge and readmission and then divide up the persons into real and apparent cures, according to a standard of length of time of apparent mental health. Dr. Earle, like other superintendents, must give annual statistics; now, supposing one of his twenty cures of persons of this year is admitted immediately at the beginning of next year, how is he going to correct the false showing that he has just made? He cannot change the statistics of this year, which counts him as a recovery; neither if he gets well next year, can he help putting him down again as a recovery, and so each year the same person may make a recovery, and in a few years make a good many. We grant that it is a great step forward to make this person recover less often than formerly, but the principle of allowing him to recover over and over again, which seems to us after, all the correct one, still remains true. In the future, we think that the *length of time* the person remains

well, will, as we said before, determine the validity of a recovery, rather than the *number* of times.

3. Dr. John G. Park, superintendent of the hospital, states that the recoveries have been 21.68 per cent. on the admissions. Fourteen of the 54 recoveries were of persons who had been inmates of the hospital before, and 12 had been discharged recovered; one had recovered 9 times; one 6 times; one 4 times; two 3 times; 1 twice and 6 once each; one had been discharged improved and one not improved. Dr. Park says "although it may be a question, upon which there may be an honest difference of opinion, whether each case which recovers may not be fairly called a cure, even if the patient has a second attack within a few months or a year, there can be no doubt that the public has been hitherto widely misled as to the meaning of the word "recovery" as used in the hospital reports and as to the permanency of cures from insanity. Not a small number of patients who were discharged recovered in the earlier reports of this hospital have many times since become a burden to the public or private purse by reason of a return of their malady."

Dr. Park finds that of 94 patients discharged previous to 1840, 3 men and 5 women who remained well after their discharge are still living; 26 men and 14 women remained well as long as they lived; 24 men and 21 women became again insane and of this number 7 committed suicide and 10 have been inmates of other hospitals.

The criminal insane in the hospitals are alluded to and the opinion is expressed that "not a lunatic hospital in the state is a fit place for the safe custody of the criminal class."

4. Dr. Cowles, acting on a plan the opposite of Dr. Kirkbride's of separation of the sexes, has introduced into his male wards some female attendants. He has chosen women of matronly, discreet and amiable qualifications and placed them (one each) in charge of the ordinary housekeeping in two wards. Each one is assisted by one or more ward-maids. She presides at the table and acts as if she was the mistress of the house. A male head attendant has the general care of the wards and direct charge of the patients. There are now four women thus employed, whose duties require their presence day and night in the wards, and so far it seems as if there were no reason why female nurses may not be associated with insane men with great benefit to them. The results have been better than expected. The wards are more home-like, and both the patients and attendants are better behaved.

We trust that Dr. Cowler will be successful in his experiment, for ordinary attendants are quite apt to acquire rough manners and naturally often lack the refinement that their patients possess and without which the latter are liable to suffer. It will be no easy matter, however, to find the right women, for at the best, the nature of the duties is difficult, and women with the right mental and moral qualities, will often lack the physical.

5. This old hospital is always interesting to read about, as its reports show to some extent the progress that has been made in the treatment of insanity. It is an old, dingy, prison-like building, erected at a time when the menageric plan of caring for lunatics was in vogue. While improved

plans have been gradually introduced, and the lunatic is made very comfortable here, the stone floors and thick walls carry us back to the days of the insane man's Nero. In 1837, patients were taken from the Worcester Hospital and placed at the Boston Almshouse, in cells or in wooden cages on wheels for convenience in giving them an airing! (We can imagine Pinel and Connolly writhing in agony in their graves, when they read these words!) In 1839, however, this asylum was completed and these patients removed to it, where under the care of Drs. Butler and Stedman they were treated like sick persons. Afterwards extensions were made to each wing, containing twenty cells each, but these were abolished by Dr. Walker, who was the first superintendent in the State to give up the cell plan of treatment.

Since 1853, the necessity for more room at the asylum has existed. The noisy, destructive, violent and filthy patients have been treated in the lower wards of the main building, much to the disadvantage of the quiet class. And it seems rather a reflection on the city of Boston that while she has done so much for many classes of her poor and afflicted, she has neglected her insane and still continues them in this narrow, contracted old building, where, Dr. Fisher says, "a single bad case may disturb the whole wing, keeping patients awake, whose recovery depends on their ability to sleep." The herding together of all sorts and kinds of patients gives rise to much confusion and real injury. Boston may suppose, in her innocence, that she did her whole duty by her insane, when she helped to build the Danvers palace and squandered hundreds of thousands of dollars on the most foolishly situated and lavishly finished institution within the borders of Massachusetts, but let anyone read Dr. Fisher's report and they will be led to believe that there is still to-day a crying necessity for a new hospital for her insane. To be sure, \$60,000.00 has been appropriated for new dining-rooms and indirect steam-heating and ventilation and some minor improvements, but after all, the same radical defects in the building itself must still continue.

At the end of the report there are some well recorded post-mortem notes of six cases of general paralysis by Dr. W. W. Gannett, the pathologist.

6. The fortunes of the Danvers Hospital have been somewhat varied, we should judge, from what we have read in its annual reports, and the last year seems to have been no exception to this rule. With its present able superintendent, however, we now look confidently forward to some permanent progress. As a new institution, much disorder and chaos was to be expected, and this state of affairs was unfortunately heightened by the bad situation and extravagant and yet faulty constitution of the building. Built for paupers, it was yet in its finish and general arrangement quite unfitted for the care of this class. It was badly and inconveniently arranged and poorly equipped, when opened. It seemed about as well adapted to its purpose as would be the elegant cabins of a new ocean steamer for the transportation of emigrants, and it was not much easier to manage, than would such a steamer be with its helm in the bows and its wheel-house in the hold. However, after much trial and tribulation, and a general over-turning, upheaving and May cleaning, a happier future

may be looked forward to, and the Danvers Hospital will undoubtedly take the lead as the great pauper institution of Massachusetts.

The Trustees say that the report *again* shows that the hospital is not self-supporting. We should say not, as it entered on its last year with a debt of over \$23,000.00, which is not likely to be improved as Dr. Goldsmith says. The only possible way to make this hospital self-supporting, it would seem, would be to convert several of the wards into large dormitories, thereby crowding together a much larger number of patients and reducing the per capita cost of maintenance.

A Board of twelve consulting physicians, eminent in their profession, has been appointed, who make monthly visits and favor the management with much good advice. we doubt not.

The Trustees call attention to the necessity of removing the criminal insane from the State hospitals and treating them in separate institutions.

Dr. Goldsmith says that a large number of feeble, helpless and demented old people are sent to the hospital, a part of whom might be treated at home. The admission of so many of this class accounts in part for the large number of deaths, 94 or 8 5-10 per cent. of the whole number treated. There were also 23 deaths from general paresis, or nearly a fourth of the whole number,

There were 39 autopsies, but we miss the report of the pathologist, Dr. G. G. Putnam.

7. There were admitted into this hospital, 212 men and 199 women. There were discharged, recovered, 128—54 improved, 158 unimproved and 51 died. The percentage of recoveries was 31.76. The average of recoveries since the opening of the hospital in 1843, has been 36.47 per cent.

The managers report what has been done to insure protection from fire, and then state that the accounts have been kept in a satisfactory manner. They close with a eulogy of the superintendent and his assistants.

The usual essay of the superintendent is omitted, which makes the report rather dry reading. The large accumulation of chronic insanity received during the first year, is due to some specific cause. That cause, is apparently the general distrust in asylums and asylum management engendered by the sensationalism of the press and individual notoriety-seekers and purturbators, in recent years. The committal of these cases to the asylums now indicates, first, an increased confidence in asylums; and second, that many of this unfortunate class have been retained at home until their care and custody became a burden which could no longer be borne, and the asylum was sought as a last retreat. This explanation may be true of New York, but the same preponderance of chronic admissions is found in States where the asylum purturbator is not abroad, and we should therefore feel obliged to look further for a complete explanation. We should say that insanity in its early stages often is not recognized, and even when it is, in many cases the friends, from ignorance, do not understand the necessity of early treatment, and keep the patient at home until he gets completely unmanageable. Then, too, even in this enlightened age, many persons are ashamed to have it known that insanity exists in their own families. The practical criterion among the laboring

and lower classes for seeking the asylums, is usually, that the insane person cannot be controlled, or supported.

8. The Trustees of this hospital rejoice and are exceedingly glad at the result obtained, and the Superintendent also joins in hearty congratulations. And well they may rejoice, for they have discharged 50 per cent. of their patients cured, though we do not understand how they make their estimate. Apparently, they have beaten Dr. Kirkbride, Dr. Gray and all the noble army of able superintendents.

Under the heading of "The Labor Question" we are treated to a variety of old fashioned observations, couched in the most generous and even grandiloquent flow of language. We find that "gentle motion causes the blood to take on a more active circulation," a fact not entirely unheard of in the annals of physiology. We find further that "sunlight stimulates a ruddy glow in the cheek (does it not also gently redden the nose?) and plants a healthful brown upon the hands and arms; and the spring-time breezes, laden with life from the eternal hill-tops bear to the lungs their inspiring freight of invigorating oxygen and their welcome burden of disease antagonizing osone." If this is not poetry we should like to know what it is. Why is it not possible to write a whole report in song, instead of occasionally exploding in this unexpected manner? We really hope that here after the allopathic superintendent, struggling under his heavy load of pills and boluses, will be stimulated to emulate his homœopathic brother, and at least record a few post-mortems in appropriate nursery rhyme.

"Absolute quiet and freedom from every form of exciting exercise are sometimes the most important means with which to tone down to a normal level a hyperæmic and over-stimulated brain!" What? Is *this* homœopathy? Is this *similia similibus curantur*? Should we not treat hyperæmic brains by violent exercise and powerful exertion? Absolute quiet and freedom from every form of exercise can only be suited to cases of great depression. Let us stir up and goad on to furor the violent maniac, and overpower the unfortunate melancholiac by every means known to homœopathy, even starvation being justifiable in such a case. Than will good, honest old Hahnemann be forever the savior of all mankind. Our friend will excuse us if we have caught his poetic style.

We very much regret to see him quoting Drs. Chapin, Kirkbride, Gray, Griesinger, Bucknill and Tuke, and some of the other false advocates of rational medicine.

In the "conclusion" we have revealed to us a new fact in physical science which we venture to assert is not even equalled by the comet. A last the discovery has been made of the law of crystallization of the "physical aspects" of an insane asylum. We find these crystals "are comely and shapely proportions." We shall now look for a general falling to pieces of insane asylums, and as the cold weather approaches shall expect to see these "comely and shapely proportions" strolling off in various directions.

"Growing experience leads to show more and more conclusively the wealth of resources that abides in homœopathy as a practical means for curing the insane." Just what these resources are we do not know, in fact, not the slightest mention is made of them. We *should* like to know something about these "practical means" whereby 50 per cent. of the patients

are cured. And instead of several pages of trite observations about the "labor question," written to slow music, it would have been much more serviceable to the ignorant medical public to have had the exact "practical means" abiding in homœopathy stated in so many words.

Perhaps the opinion of the homœopath Worcester* (who by the way seems to be an admirer of the Middletown Hospital managers) will be endorsed that "there are two or three agents employed by the old school whose use you will do well to bear in mind, both for your patients' sake and *because you will not want to see your patient pass into another physician's hands.*"† Charming principles these, if they are homœopathic, but we hope the "old school" will avoid them. Chloral hydrate is there recommended in doses of 20 or 30 grains and bromide of potash in 10 grain doses!

Perhaps also, if they follow the advice of Worcester, if a patient tries to escape, they use bellod. stramon; or desires to be alone, calc. carb. cuprum and ignat; or dreads being alone, crimicif., lycop., sulphur; or weeps, bellad., ignat., kali brom., nati. vum., pulsat., platina, sefia, sulphur.

At any rate, in the next report we shall regard it as an unpardonable offence if some demonstration is not made whereby we may at least faintly discern some difference between "old school" methods of treatment and so-called homœopathic "practical means."

9. The number of patients at this hospital at the end of the year was 622. The percentage of recoveries was 33.6 and of deaths 4.28. In both cases a favorable showing. Among the deaths it is strange not to find one from general paralysis, especially, when we remember that at the Danvers Asylum one from sixteen of the deaths last year were from this cause.

The special subject of discussion in this report is on "epilepsy and some of its varieties." Nothnagle, Echeverria and others are quoted with the idea of throwing light on some of the obscure forms of epilepsy. Several cases are then cited which are illustrative of epilepsy of the non-convulsive type, which are characterized by mental rather than by bodily symptoms. These cases are all interesting, and worthy of report, did space permit. They show how much danger may, in some cases, be associated with the concealed or larvated form of epilepsy and semi-popular discussion of the subject will do no harm.

In considering provision for the insane and epileptic in Ohio, it is stated that there are about 2,500 incurables and 600 epileptics to be provided for, and this can best and most economically be done by erecting supplementary buildings to the existing hospitals. A large proportion of epileptics are insane and can be treated in common with the ordinary insane. It is our opinion too, that supplementary buildings will, in the future, be the most available means for providing for the constantly increasing number of the chronic insane.

10. This report is the most bulky one coming to us, for the reason that every cent expended at the asylum, during the year, is accounted for in the financial portion. The publication of so many items seems a little unnecessary and must add very much to the cost of the report, but perhaps the good people of Ohio are fond of financial details; we are not.

*Insanity and its Treatment. p. 274.

†Italics are the reviewer's.

There were 930 patients in the asylum at the date of the report. The percentage of recoveries was 48.33, and of deaths, 5.31. We find two deaths, only, from general paralysis, out of a total of 65.

The superintendent of this asylum also considers the subject of more extended asylum accommodation and argues especially for a separate hospital for insane epileptics, contrary to the opinion of his brother superintendent at the Cleveland Asylum. He gives a rather dramatic picture of the epileptic, with the "piercing cry, frothing mouth, clenched teeth, bleeding tongue, horrible contortions, turgid face," etc., when seized with a convulsion. The effect on the mind of the healthy individual is bad enough, but still worse, in his opinion, on the insane person.

The advantage of a separate institution for the care of the epileptic insane he thinks would be: 1.—The withdrawal of a turbulent and troublesome class from the general hospitals for the insane. 2.—Cheaper buildings. 3.—Diminished cost of maintenance. 4.—Better care in such an institution.

We are ourselves rather inclined to think that he goes too far on the side of separation. Dr. Jolly, of Strasburg, comes nearer the mark when he says* that, on the whole, *insane* epileptics can best be treated in insane asylums. Epileptics who demand temporary hospital care, should be provided for in special divisions of general hospitals. Combined with these, there should be out-patient's departments. Cases of long duration will require special buildings or separate divisions in existing institutions. In Berlin, the Charité Hospital has an epileptic department with 30 beds, and the Bicetre in Paris has 80 beds for males, and the Salpetriere, 137 beds for females.

The epileptic insane can here have special wards to themselves in ordinary hospitals, or a supplementary building on the hospital grounds, as Dr. Strong suggests. It must not be forgotten that many insane epileptics have no perceptible convulsion, and many present entirely different forms of insanity which can be most conveniently classified with the ordinary insane, presenting similar forms. It must not be forgotten furthermore, that the epileptic in a convulsion may also affect his brother or sister epileptic, who may have a very slight degree of epilepsy, or who is in his or her convalescent stage of the disease.

THE ORDER OF DISORDER IN MENTAL DISEASE, by O. Evarts. Superintendent of the Cincinnati Sanitarium, is a well-written paper, like all of the author's contributions to the literature of psychological medicine, in which the attempt is made, but not successfully, we think, to evolve an unvarying law for the commencement and progress of cerebral disease involving the mind.

The author's initial proposition is that "knowledge of disorder presupposes knowledge of order in mental as in other diseases," and upon this the converse proposition, that knowledge of order presupposes knowledge of the methods of disorder is predicated, but, in our judgment, not proved. To know the order in which a structure, animal or otherwise, is built up, by no means assures as how it will come to pieces.

*Archiv für Psychiatrie und Nervenkrankheiten. Vol. XIII, 2. Heft.

Construction and disintegration, though opposite processes do not proceed in complementary order, *i. e.*, the one does not always begin where the other ends. As in the fall of a building, the destructive disintegration may begin in the chimney top or gable ends from some adverse winds or other external force applied to them, or in the foundation from inherent defect existing from the beginning of the structure.

Despite all attempts to define, theoretically, how mental disorder must originate and proceed on the basis of how mental order is organized and progresses, the clinically observable fact is that mental aberration begins sometimes at one and sometimes at another point in the cerebrum, sometimes touching first the perceptive, at others first implicating the reflective faculties, but more often the former than the latter if memory be a registered impression of external or internal occurrences, and be a part of the perceptive life. The perceptive faculties and the senses, even in the order of nature, undoubtedly fail before the reflective powers give way. The old man ceases to see, hear or taste aright before he begins to think, and these perceptive failures first deceive and mislead his reflective faculties.

In the physiological progression of mental life, from infancy through youth and manhood, to final dotage and senile imbecility, the last change of all, is just what we so often see in what the author terms the development of mental disorder, not an involution beginning with the intellectual failure, but a progressive degradation, in which, "sans teeth, sans eyes," the "last scene of all" is "sans everything."

Dementia is the usual termination of insanity of long standing. It is most rare for insanity to begin with total loss of mind, so that we cannot concur with the author, notwithstanding the pleasure his very philosophical treatise has given us, that if his propositions are true (and we are not disposed to gainsay them) relative to the order of mental evolution, that mental disorder ends where mental evolution begins. That these aphorisms are true, sometimes, may be conceded. That they are the rule cannot be demonstrated by observation, however tenaciously they may be held, as the theoretical base of progressive and retrograde mental movements.

The author thinks that the order of mental disorder *should* be (and this is the rock upon which so many good men stumble): "First, disorder of imagination or ideation; second, disorder of feeling; third, disorder of memory; fourth and last, disorder of consciousness."

But, unfortunately, the order of disorder is more erratic and disorderly than the Doctor thinks it should be. Consciousness and memory are often the first to fail, as in epileptoid automatism, apoplexia and aphasia, and sometimes the feelings give way, as in melancholia and conscious morbid impulses, in a manner at variance with the patient's reason.

As might be expected, a mental philosopher holding such theoretical views of how insanity ought to proceed could not acquiesce in the existence of such well known forms of mental aberration embraced under the generic term "affective insanity," such as moral and emotional insanity. They are contrary to his view of what ought to be "the order of nature," and, of course, cannot exist (in his mind). He has provided no place for them. They are not because *theoretically* they cannot be.

Moral and emotional insanity are in this view philosophical

misconceptions, whereas the believers in these forms of insanity see them as clinical facts. "All philosophy," according to Dr. Evarts, "which makes a generic distinction between morals and intelligence, imagination and reason, judgment and will, requires revision." The mind is all and only reason, according to him. Of course, according to this philosophy, facts must be shaped if received, to meet the mental image of what insanity should be.

We thank Dr. Evarts for the entertainment the reading of his interesting paper has given us, and for the strength he has added to our convictions that mental disease is a law unto itself, sometimes attacking the leaves and branches, sometimes the bark and the root of the tree of mental life, sometimes destroying by vitiating conditions of sap or seed, sometimes destroying by causes touching the top and from without.

The paper may be read in the *Cincinnati Lancet and Clinic* for October 21st, 1882, and will set the thoughtful to thinking, and will repay perusal.

NERVOUSNESS. By Dr. Paul Julius Mobius, Leipzig, 1882.—In the preface to this work the author says: "As little as health and disease are divided from each other by a chasm, just so little can the individual pathological conditions of the nervous system be sharply distinguished from each other (bounded)."

He then gives a schematic drawing showing the relation of the most important general neuroses to each other and to nervousness (vide p. 7). Then proceeds to define these various disorders. Says (p. 18). "It is often difficult to discriminate between healthy stupidity and pathological imbecility. In conclusion, he defines neurasthenia as follows: "Neurasthenia is that form of nervousness whose appearances all possess the character of irritable weakness without the commingling of the features of other neuroses."

Causes of Nervousness.—Refers to the influence of heredity. Gives tables showing influence of heredity on the propagation of various nervous diseases (epilepsy, hysteria, etc.). Draws attention to the influence of age on the development of nervous disease (p. 45). Says puberty is a dangerous period for those inclined to nervousness. Says by far the larger number of cases of nervousness take place at the period of perfect physical ripeness (p. 53, appendix to this chapter).

School.—Of all the detrimental influences which react upon humanity during youth, and which may give rise to or encourage the development of nervousness, there is none so important as too early or too intense intellectual work" (p. 56).

Sex.—The question whether nervousness and analogous conditions occur with greater or less frequency with men or with women is not to be answered with certainty" (p. 74).

Race and Climate.—There are no statistics bearing with certainty on this subject.

Civilization.—The more civilized a people become, the greater the number of 'head-workers,' and consequently the more asymmetrical the employment of the head will become in comparison with the remainder of the body" (p. 83).

Class.—"If we except women, we can make two great divisions: Callings necessitating 'head-work,' and such as demands, more particularly, 'muscle-work'" (p. 91).

The Causes of Disease in a More Narrow Sense.—Mental Causes: "Under this category, mental 'overtaxation' belongs at the head." *Causes which Affect the Body:* "Overtaxation of bodily function. Under this head belongs night vigils and intemperate sexual indulgence" (p. 96).

The Phenomenon of Nervousness.—"As in all neuroses, weakness of will is a principal characteristic, and this also holds true in nervousness."

One of the first appearances is the impossibility of directing the attention for any considerable length of time in one direction. Furthermore, the absence of individual calculation exhibits itself in this, that these patients become the playthings of their moods. Now comes weakness of memory closely related to "rapid fatigue," which takes place on mental exertion. In many cases, the patient is easily excited, morbid intensity and anger are frequently observed. Indifference to those things which were formerly highly esteemed. Over-sensitiveness is the usual cause of melancholy depression. Rarer is anxiety *without* cause. Characteristic of nervous weakness is helplessness. Very frequent is morbid fear. Fear of "thunder-storms" among adults is frequently met with. Another form of fear is "place fear," characterized by dread of lonely places, etc. (p. 109). Fear of being alone. "fear of disease" (p. 110), is not hypochondria, which is a continual consciousness of disease. "Compulsory ideas," those which appear to one affected by them as alien, and which stand opposed to his healthy consciousness (p. 113). A particular form of the "compulsory ideas" is the "grubbing mania" (p. 114), characterized by a continuous query after the *how* and *why* of everything.

"Hallucinations of memory." Quite as important as frequent are hallucinations of the senses; they occur not only with the insane, but also with the healthy.

It is rare to find the nervous enjoying good sleep; most of them suffer from pronounced insomnia (p. 119). Again, others suffer from unnatural somnolence. Here and there nervous persons are to be found who suffer from somnambulism. An artificial somnambulism or hypnotism is also spoken of.

Dr. Mobius is one of the oldest of German neurologists. The appearance of this work is a sign of the increasing interest in this subject in scientific Germany, where there is now a larger literature of this nervousness and nerve exhaustion than in all the rest of the world put together. This work of Dr. Mobius is written in a very pleasant and interesting style, and contains many original and valuable suggestions that thoughtful persons everywhere should carefully consider. It deals philosophically and ably with one of the great problems of the present and future.

GIORNALE DE NEUROPATHOLOGIA.—We have received the initial number of a new publication (Svo., pp. 64), published at Naples. Prof. Francesco Vizioli is the general manager, and Drs. Raffaele and Antonio Vizioli the editors. In the programme, written by Francesco Vizioli, the necessity of such a publication is insisted upon. He believes in the sentiments

enunciated by Erb in a discourse delivered at the opening of the Polyclinic at Leipzig, in which he contends that a division into psychopathology and neuropathology will have to be made, which, if it exist not in fact, still shows itself plainly throughout the domain of nervous and mental diseases. Another illustrious German, Benedikt, has pointed out the progress of the division of labor and how it is a necessary consequence of the progress of medical science. It is on these words of Erb and Benedikt that is based the whole programme of this publication. The name *Giornale di Neuropathologia* has been given to it to indicate its essentially clinical character, its object being the study of the nervous system from a clinical point of view.

The question of cerebral localization and cortical excitability are reviewed at some length, and a resumé of experiments given to determine the question. The conclusion arrived at is that these experiments are confirmatory of the idea that electric stimuli reveal a function of the motor area and not of the other parts of the nerve centers. To sum up, it is asked that clinical phenomena, physiological observation and experimental data be all brought to bear upon this mooted question in order to harmonize all these various facts in such a manner as to be of real value and benefit.

The object of this journal, it is further stated, is to present papers and other subject matter on nervous diseases, and intended to subserve the interests of the general practitioner; for that reason, psychiatry will not be considered at all. One of the reasons given for this decision is that it is necessary on account of the large amount of material contributed to each branch.

Under the head of "Original Articles," will be embraced all that concerns neuropathology in its broadest sense. In this will be included clinical observations, experimental researches and experiments in all the branches of medicine that can serve to illustrate nervous diseases.

Under the head of "Resumé of Articles published in Italy and Abroad," will be included normal and pathological anatomy, normal and pathological physiology, therapeutics and clinical notes, psychiatry and legal medicine. Particular attention will be paid to the Italian advances made in neurology and neuropathology.

The "Analytical Reviews" will make special mention of articles which cannot be reproduced, and whose principal points, physiological, histological, pathological, etc., which may have a bearing upon the study of nervous diseases, will be given.

The "Synthetical Reviews" will contain short abstracts derived from various sources, unaccompanied by any commentaries.

In the "Review of Scientific Societies" will be included the reports, facts and conclusions bearing upon the subject, and not included in the two former sub-divisions.

The "Biography" will deal with reviews of domestic and foreign works.

The "Bibliographical Index" will include not only books and pamphlets donated, but articles in journals and recent editions of works, or such as are difficult to obtain.

“Varieties and Notices” and “Scientific Correspondence” sufficiently explain themselves, and form the two last subdivisions.

This journal deserves success, and will undoubtedly achieve it, from the fact that it will devote itself to a branch of medicine which is of immediate benefit to, and now demanded by, the general practitioner. It has received high praise from its Italian contemporaries, and deservedly so. Its editors have been identified with the subject of nervous and mental diseases for many years, and have had excellent opportunities for observation, and a long apprenticeship to journalism will fit them for this undertaking.—[Ohmann-Dumesnil.]

THE DISEASE OF THE SCYTHIANS, AND CERTAIN ANALOGOUS CONDITIONS is the title given by Dr. Hammond to a monograph read before the American Neurological Association, June 23d, 1882, in which he records his observations of some “*mujerados*,” or “womaned,” impotent men whom he found among the Pueblo Indians, similar to the unsexed *anandrii* or *enares* described by Hippocrates and referred to by Herodotus as having existed among the Scythians, and which Nysten has discussed in the *Dictionaire de Medicine* under the caption of *Maladie de Scythes*, as resulting, as Hippocrates conjectured, “from inordinate horseback riding, contrary to the belief of Herodotus and the Scythians themselves that the gods were at fault.

The difference between the *mujerados* and the *enares* consists chiefly in the fact that the deprivation of verility is, in the former, intentionally produced by enforced masturbation and constant horseback riding “for a specific purpose in the saturnalia or orgies, in which these Indians indulge,” among which, Dr. H. states, is pederasty.

The genitalia become atrophied, and the instincts and proclivities undergo a corresponding change, etc. The author shows that the essential point in the “disease of the Scythians” is that they act like women in consequence of impotency, whereas the cases of perverted sexual instinct described by Krafft-Ebing and others are not easily embraced within the scope of his memoir. He classes the *mujerados* among the mentally alienated, yet the reasons for the classification do not appear quite plain since “the *mujerado*,” as the author states, “is an essential person in the saturnalia or orgies in which these Indians, like the ancient Greeks, Egyptians or other nations indulge;” a mere “passive agent in the pederastic ceremonies which form so important a part in the performances,” made a *mujerado* by the tribe to which he belongs, “held in some sort of honor and need not work unless he chooses;” “no disgrace attaching to his position, the condition being one which is forced upon him by the power of tradition, custom and public opinion, and which, recognizing the impossibility of escape, he assumes, probably with reluctance in the first instance, but eventually with entire complaisance and assent.”

A change of deportment, in a savage, brought about by adequate external cause, and in conformity to a tribal usage and a changed physical condition, which render certain physical functions impossible, must be regarded as rational in character, however much that change may be at variance with the proprieties and customs of civilization.

The old chief who, by unmistakable signs and perfect equanimity, admitted to having committed pederasty on one of these *mujerados* might not have been a reliable "Injun" since the others "avoided all reference to the subject and confessed the most complete ignorance of the matter when he questioned them directly thereon."

Insanity may begin in the head or in the testes, *i. e.*, its exciting cause. A *mujerado* with a neuropathic diathesis might become a lunatic, and a lunatic might believe himself to be a *mujerado*.

CLINICAL LECTURES UPON EPILEPSY.*—This is a collection of lectures delivered at the St. Anne Asylum, which has already appeared in the *Progres Medical*. The first chapter calls attention to the fact that the crimes committed by epileptics exhibited, as a rule, a remarkably brutal and purposeless character. Epilepsy is, in Mr. Magnan's opinion, an affection of markedly hereditary origin. Sometimes not only the tendencies but the disease itself is directly inherited. Fright and moral causes have been sometimes seen in the etiology of epilepsy, but in the majority of cases, these as Mr. Magnan says called into action the disease already in embryo. The epileptics in the majority of Mr. Magnan's cases exhibit a marked change of character just prior to the attack. This has been observed as far back as the time of Paul Zacchius, who from it drew the well-known conclusions (*Quest. Med. Leg.*, Frankfort, 1688) that epileptics were irresponsible for some time before and after an attack.

The usual sensorial and intellectual auras are detailed at length. He is inclined to believe that an aura starting from a cicatrix affords indications for surgical interference. He is inclined to believe, like Sommer (*Archiv fuer Psychiatrie*, Band V. and VI.) and Griesinger (*Jour. Mental Diseases*), that mental disturbances, consequent upon epilepsy, may manifest themselves in four ways: As pre-epileptic phenomena; as equivalent of the epilepsy; as post epileptic phenomena; or as intervallory phenomena. He also claims that insanities occur in epileptics without any connection with the epilepsy. He has never seen progressive paresis result in an epileptic. The reviewer has seen one case (*Journal of Nervous and Mental Disease*, April, 1878). He is inclined to believe that transitory mania is allied to epilepsy. The cases reported do not tend to corroborate this view. He is inclined to believe that epilepsy may be cured. He places great reliance on the bromides, but says nothing of the peculiar psychical results which Stork, Bannister, Jewell, Spitzka and the reviewer have observed as the consequence of their use in insane epileptics. To the use of ergot in this affection he makes no allusion. Spitzka claims that ergot produces a number of minor discharges, which take the place of, and thus prevent, the great epileptic discharge and its consequence. The book is interestingly written, and the cases cited clearly reported.—K.

MEDICO-LEGAL SOCIETY OF NEW YORK.—The annual meeting of the Society was held on the 6th of December, the President, Mr. Clark Bell, in the Chair.

There was a very large attendance. Dr. O. W. Mytel of Detroit, Mich., had an interesting paper entitled: "*What is expert testimony, and who are*

* By M. V. Magnan, M. D., Paris, De Paliage and Lecroisnier, 1882.

experts?" Dr. E. Sanders, of New York, had a paper on "*The coroner system. Should it be abolished?*"

At the election of officers for the ensuing year, the following officers were elected: President, Clark Bell, Esq.; 1st. Vice-President, A. O. Doremus, M. D.; 2d Vice-President, Hor. D. C. Calvin; Secretary, Leicester P. Holme, Esq.; Assistant Secretary, Gilbert R. Hawes, Esq.; Treasurer, Jacob Shrady, Esq.; Librarian, R. S. Guernsey, Esq.; Curator and Pathologist, Andrew H. Smith, M. D.; Corresponding Secretary, Morris Ellinger; Chemist, Prof. C. A. Doremus; Trustees, E. H. M. Sell, M. D. and B. A. Willis, Esq.; Two members of Permanent Commission, Hon. A. G. Hull and M. H. Henry, M. D.

Large accessions to the Library were announced, and fifteen new members were elected. After the meeting, a banquet was given at the Hotel Brunswick, at which over one hundred gentlemen sat down; Mr. Clark Bell presided. Speeches were made by Dr. Nitgel, Gov. Stewart, L. Woodford, Judges Amore Calvin and Church, of Penn.; Fethian, of N. Y.; Drs. Layn, Andrew H. Brutle, M. H. Henry and F. R. Sturgis; Hon. B. A. Willis, Morris Ellinger and many others.

THE HARTFORD COURANT, of Nov. 29th, contains an interesting account of a meeting for the promotion of practical temperance, held the evening previous at Allyn Hall in that city, at which three specially forcible addresses, eloquent in facts and figures, which must tell for temperance, were delivered by Drs. James Campbell, H. P. Stearns and John S. Butler.

If the temperance cause ever wins, it will be through temperate measures, based on the disclosures of scientific observation, and none know better than observant and experienced alienists, like Drs. Stearns and Butler, the fatal potency of alcohol for harm, impossible to the organic basis of man's moral, mental and physical constitution.

When the invective of the rostrum is substituted by the careful calculations of science, and the destructive ravages of the demon of strong drink are seen by all, as they are now revealed to the few in race degeneracy irreparable, then will temperance become the voluntary law of man's being. He will be unto himself a law of prohibition.

SHOEMAKER'S OLEATES are not unctious substances designed for lubricating purposes in connection with one of the useful trades, as one of our friends conjectured, but favorite forms of prescriptions employed by our dermatological friend, Dr. John V. Shoemaker, whose interesting and instructive monograph on the "*Oleates and Oleo-Palmitates in Skin Diseases*" is before us through courtesy of the Doctor.

The monograph is from advance sheets of transactions of the Pennsylvania State Medical Society, and worthy of careful perusal by all interested in dermatological therapeutics.

GREISINGER'S MENTAL PATHOLOGY AND THERAPEUTICS—The issue of Wood's Library for 1882, reproduced from the translation made by Drs. Lockhart, Robertson and Rutherford for the New Sydenham Society, in 1867, was first published in 1845. When these facts are considered, it is remarkable that our reviewer found so little in it that is objectionable.

BURR'S INDEX TO MEDICAL SUBJECTS is an improvement on any *index rerum* we have ever seen, and will give satisfaction to any who may wish a ready index reference to subjects desirable to refer to, in journals, text-books, etc. Manufactured and sold by the J. B. Burr Publishing Co., Hartford, Conn.

THE YOUTHS' COMPANION is the best paper of its kind among our exchanges. It is an excellent paper for hospitals and asylums for the non demented insane, its contents being always entertaining and unobjectionable

WALSH'S PHYSICIAN'S COMBINED CALL-BOOK AND TABLET, like his virus "takes well," and should be in the hands of every practitioner.

Books, Monographs, Etc., Received.

Pathological Anatomy, Pathology and Physical Diagnosis. A Series of Clinical Reports, Comprising the Principal Diseases of the Human Body. By J. A. Jeancon, M. D. Progress Publishing Co., Cincinnati, O. The price is one dollar per number and those we have seen are well worth the money.

Burr's Index to Medical Subjects. Adapted to the special use of physicians and surgeons. An index for future information or future use. All words and names are indexed by the first two letters, with nearly three hundred combinations cut in thumb holes in the edges of the leaves. Convenient, saves time, labor, money and vexation. So valuable, that we heartily commend it. Manufactured and sold by the J. B. Burr Publishing Company, Hartford, Conn.

Die allgemeine Elektrisation des menschlichen Koerpers. By Sigmund Theodor Stein. Verlag von Wilhelm Knapp, Halle am S.

Lecons Cliniques sur L' Epilepsie. By M. V. Magnan, of Paris.

Contribuzioni Allo Studio Sperimentale Dell' Ipnatismo. By A. Tamburini and G. Seppilli.

Notes on Twelve Cases of Brain Tumor, Chiefly with Reference to Diagnosis. By Charles K. Mills, M. D., Neurologist to the Philadelphia Hospital, Lecturer on Medical Diseases, and Electro-Therapeutics in the University of Pennsylvania. Reprinted from the *Archives of Medicine*, Vol. viii., No. 1, August, 1882.

Comparative Vital Movement of the White and Colored Races in the United States. By S. S. Herrick, M. D., Secretary of the State Board of Health, Louisiana. Read before the American Public Health Association, Savannah, Ga., November 30, 1881.

The Responsibility of Criminal Lunatics. By S. S. Herrick, M. D., Secretary Board of Health, State of Louisiana.

Some Points on the Administration of Anæsthetics. By George H. Rohe, M. D., Professor of Hygiene and Clinical Dermatology, College of Physicians and Surgeons, Baltimore.

Clinical Observations on Inflammation of the Mastoid Cells. By Edward C. Harwood, M. D., Member New York County Medical Society; of New York Neurological Society; of American Medical Association etc. A paper read before the North-Western Medical and Surgical Society of New York, with a Report of the Discussion by Members of the Society. Reprint from the *Virginia Medical Monthly*, Richmond, 1877.

Some Observations on the Therapeutic use of Alcohol. By Alfred K. Hills, M. D. Reprinted from the *New York Medical Times*, for August and September, 1882.

Report of a Case of Pistol-Shot Wound of the Second and Third Cervical Vertebrae, Considered in its Medico-Legal Aspects.--Attempted Suicide--Death. By Edward C. Harwood, M. D. Reprinted from the *Bulletin* of the Medico-Legal Society of New York, Vol. iv., No. 5. March, 1882.

The Therapeutic Action of Potassium Chlorate. By John V. Schomaker, A. M., M. D., Philadelphia, Pa. From advance sheets of Transactions of the American Association.

The Treatment of Syphilis with Subcutaneous Sublimate Injections. By John V. Schomaker, A. M., M. D., Physician to the American Hospital for Skin Diseases, etc. From advances sheets of Transactions of the American Medical Association. The paper may some day appear in the transactions.

Statement of facts in connection with the quarterly Report of the Treasurer of the Medico-Legal Society of New York. Prepared for presentation at the meeting of Sept. 6th, 1882. By Ed. C. Harwood, M. D.

Phlegmasia Alba Dolens. By P. V. Schenck, M. D., Resident Surgeon of Female Hospital, St. Louis. Read before the State Medical Association. Reprint from the *St. Louis Courier of Medicine*, August, 1882.

The Use of Hot-Water Injections in Uterine Disease. By P. V. Schenck, M. D., Surgeon to Female Hospital, St. Louis. Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children*, Vol. xv., No. iv., October, 1882.

Use of the Ecraseur for Curing Deep-Seated Fistula in Anno. By J. M. F. Gaston, M. D., of Campinas, Brazil. Extracted from the *American Journal of the Medical Sciences* for July, 1881.

Menstrual Amblyopia. By M. F. Coomes, M. D., Prof. of Physiology, Ophthalmology and Otology, in Kentucky School of Medicine, Louisville. Reprinted from the *Medical Herald*, October, 1882.

Some Thoughts on Phthisis, with Special Reference to the Value of Laryngeal Symptoms in Diagnosis. By M. F. Coomes, M. D., Louisville Ky. Reprinted from the *Archives of Laryngology*, Vol. iii, No 3, July, 1882.

Reflections on Criminal Lunacy, with Remarks on the Case of Guiteau. By Charles K. Mills, M. D., Lecturer on Mental Disease and Electro-Therapeutics in the University of Pennsylvania. Reprinted from the Transactions of the Pennsylvania State Medical Society for 1882.

Hall's Journal of Health, for November, 1882. E. H. Gibbs, A. M., M. D., Editor.

Proceedings of the Seventh Annual Session of the Southern Illinois Medical Association.

Annual Report of the Barony Parochial Asylum, for the Year 1881.

Annual Report of the Government Hospital for the Insane for 1882.

Biennial Report of the Vermont Asylum for the Insane.

Twenty-second Annual Report of the State Lunatic Hospital at Harrisburg, Pa., for the Year Ending September 30th, 1882.

Report of the Board of Trustees of the Arkansas State Lunatic Asylum, Little Rock, Ark., January, 1883.

The Sanitary News, Vol. ii, No. 6, Hamilton, O.

Twenty-second Annual Announcement of the Bellevue Hospital Medical College, 1882-1883.

Thirty-ninth Annual Report of the State Lunatic Asylum, Utica, N. Y. 1881.

Reports of the Lunatic Asylum of Georgia.

Annual Report of the Superintendent of the Cleveland Asylum for the Insane.

Report of the Vermont Asylum for the Insane, for two years ending July 31st, 1882.

Report of the Medical Superintendent of the New York City Lunatic Asylum, Blackwell's Island, New York.

Fifth Annual Report of the Danvers Lunatic Hospital.

Thirty-fourth Annual Report of the Indiana Hospital for the Insane.

Extract from Third Biennial Report of Board of Trustees of the State Charitable Institutions of the State of Kansas. Relating to the Management of the State Asylum for the Insane, at Topeka, Kansas, for the Biennial Period ending June 30, 1882.

The St. Joseph Medical Herald for January, 1883, Vol. i, No. 1. Edited by J. L. Geiger, M. D. and F. C. Hoyt, M. D., St. Joseph, Mo.

Fifteenth Annual Report of the Inspector of Prisons and Public Charities on the Asylums for the Insane and Idiots of the Province of Ontario, 1882.

Conjoint Session of North Carolina Board of Health and Medical Society of North Carolina, held in Concord, May 10th, 1882.

Third Biennial Report of the Board of Trustees of State Charitable Institutions of the State of Kansas, for the Biennial Period ending June 30, 1882.

Biennial Report of the Alabama Insane Hospital, at Tuscaloosa, for the Years ending 30th September, 1881 and 1882.

Twenty-seventh Annual Report of the State Lunatic Hospital at Northampton.

Twenty-third Annual Report of the Longview Asylum, Carthage, O., to the Governor of the State of Ohio.

177

THE
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No. 2.

ORIGINAL CONTRIBUTIONS AND PREFERRED TRANSLATIONS.

Some New Experiments in Muscle-
Reading (thought reading).

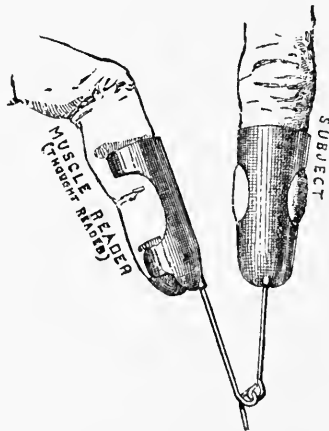
By (the late) GEORGE M. BEARD, A. M., M. D., of New York.

IN *The Popular Science Monthly* for February and July, 1877, under the title of "Physiology of Mind Reading," I gave an account of a series of experiments begun as far back as the summer of 1874, in the phenomena of so-called "mind reading" or "thought reading," to which public attention was first called in the United States by the performances of the famous Brown, "the mind reader."

The general conclusion from those experiments, which were continued through a number of months and with a large variety of different subjects of both sexes, was that what was called "mind reading" or "thought reading" was really *muscle reading* or *body reading*, and that in experiments of this kind an operator, blindfolded and taking the hand of a subject, found the place to which the subject's mind was directed, by *detecting the muscular or body movements of the subject, muscular tension in the direction of the locality thought of, and relaxation when the locality was reached*. It was further proved by those experiments, that nothing was found unless there

was physical connection between the subject and the operator, at least a part of the time, sufficient to get the direction, either direct (hand to hand or hand to some other portion of the body) or indirect, through some solid body; and that not the object, but simply the *locality* of the object was what was really found. It was further demonstrated that not only large localities but very small and limited areas could be found in this way when a skillful and practiced operator had the co-operation of a good subject. The results obtained in experiments of this kind were of such a character that they seemed incredible; and ten years ago would not have been believed to be possible by any scientific man in the world.

The recent experiments in muscle reading have been made with the view of determining the precision to which these experiments can be carried; to find how small an area could be found by an expert muscle reader in connection with a good subject. For this purpose I have devised the following apparatus, which consists of two annexes to the fingers, so to speak, thimbles with wire projections, which fit on to the index finger, one of which is worn by the subject, the other by the operator. These thimbles are hooked together as shown in the cut:



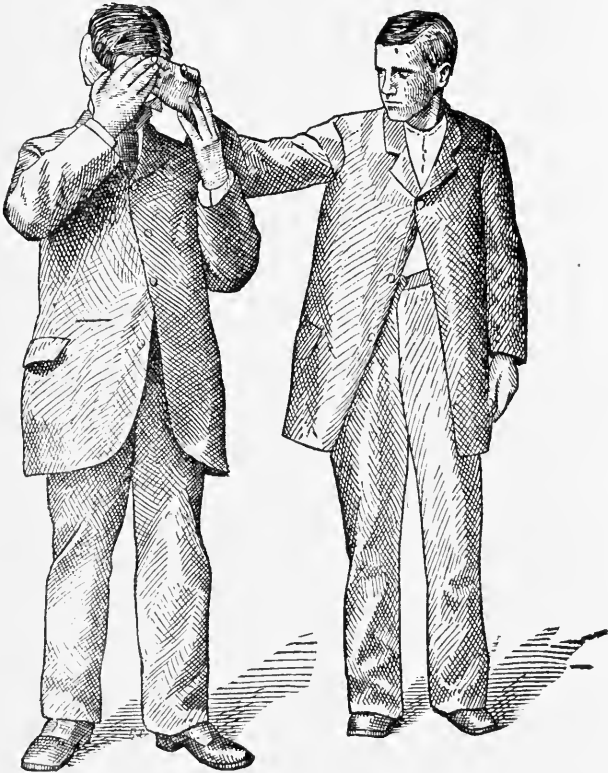
so that any impulses from the subject are communicated to the operator the same as though they were really parts of the fingers—natural instead of artificial fingers. In the ordinary method of experimenting, where it is desired to see how small a locality could be found with precision, the finger of the operator is pressed against the finger of the subject; but in experiments conducted in this way, no localities smaller than the breadth of the finger could be found, as the breadth of the finger would cover several small localities. With the device here represented, it is possible to find the one-sixteenth of an inch on a ruler, or any one of a row of pins in a paper of pins, or any one of the smallest letters in a diamond type. This I have proved with a number of subjects and with different operators.

I have experimented at different times during the past eight years with large numbers of muscle readers, including the founder and father of the art, Brown; the mind-reader, W. Irving Bishop, and many persons of both sexes, whom I have trained or who have trained themselves by my suggestions.

These later experiments were made with Mr. Stuart Cumberland, the English mind-reader (now in this country), and with Mr. Marshall P. Wilder, of New York. Mr. Wilder, though known to the public as a reader of humorous and pathetic selections, rather than as a muscle-reader, is yet a very expert muscle-reading performer indeed. He goes into a trance state spontaneously (natural trance) as soon as he begins an experiment. This is not the case to the same degree with all the performers. Mr. Cumberland is usually quiet, cool and leisurely in his movements, though at times he becomes somewhat excited. Mr. Bishop's pulse would run to 130 a minute and his movements were at times very rapid, and in some cases he has physical contact with the subject only part of the time.

A resumé of the history of the whole subject can be found in *Allgemeine Zeitschrift fuer Psychiatric*, Berlin, 1882.

Also the same journal, page 494, contains a thorough explanation of my paper in the *ALIENIST AND NEUROLOGIST* of Jan., 1881, on "Current Delusions Relating to Hypnotism (artificial trance)."



MUSCLE READING.

The method of "Brown, the Mind-Reader."

My friend, Dr. Kuh, tells me that Prof. Stricker of Vienna, in lecturing on this general subject, remarked that if we close our eyes and think of a bird flying in the air, our body moves slightly in the same direction as the bird, and that if we stand by a rapidly flowing stream, we tend to go with the stream. The illustrations of this unconscious action of mind and body are numberless.

More time is required frequently in these delicate experiments than in the rougher and more familiar kind; but not always necessarily so. I have seen the operator find the smallest of these localities thought of, in less than a minute after he began, and out of possible hundreds and thousands from which the subject could choose. I have also had paper marked off into very small squares—a miniature checker-board—and have had the subject concentrate his mind on one of those squares or even on one of the corners of a square, with the same result. In some cases considerable time is required for the operator to be sure that he has found what the subject is thinking of.

It was some time after I began the investigation of this subject before I could believe it possible that small areas could be found by any operator with any subject; indeed at the outset of my investigations I felt confident that a small object like a pin would baffle any performer. This delusion was dispelled by subsequent study.

A second fact, developed year before last, and which I have recently re-investigated, is that operators who in the normal state cannot detect this muscular tension and relaxation sufficiently to find objects thought of, can do so when in a condition of artificial trance or hypnotism; this fact has been proved in a large number of instances. This experiment is of double interest as one of the demonstrative phenomena of trance, showing the genuineness of the hypnotic state. It is also another of a large mass of illustrations of the tenability of the concentration theory of trance. Persons artificially entranced when they receive suggestions that they must find the locality thought of, have their sense of muscular tension exalted, with corresponding diminution of their senses in some other directions; this is simply a concentration of force in that particular line. It is, therefore, an advantage to the operator to be blindfolded, since the power to detect slight muscular thrills thereby tends to be exalted. That there was an important relation between trance and

muscle reading was early seen and suggested by me. This fact was brought out in my original systematic paper on the subject. The members of the Royal Society in England who last year experimented carefully in this same line, Francis Galton, Prof. Ray Lankaster, Mr. Romanes and Prof. Croom Robertson also went so far as to observe a reverse like state of the subject on whom they experimented, as was seen from, their report, which they published in *Nature*, June 23rd, 1881.*

The remarkable fact, scientifically, about these muscle reading experiments is the rapidity, the certainty, the precision, with which oftentimes they are accomplished. A good operator often knows, as well as if he had been actually told by the subject, when he is right.

Muscle reading has a dual relation to trance; the operator may go into that state through the emotion of wonder and expectation, through the general excitement of the occasion, spontaneously, and the subject operated upon may for the same reason go into the same state; this I have seen in a number of instances. That a so-called spiritual seance is one of the most powerful known means of hypnotizing a person, I have been able to demonstrate from many experiments. Muscle reading experiments to a less degree have the same effect, especially when done in the presence of large audiences and under the influence of the delusion that some wonderful and terribly mysterious thing is to be done, which science cannot explain, but which is supposed to have some supernatural explanation.

The lesson impressed by these experiments is that mind *is* body, that when we think we move, that the body thinks with the mind, not to the same degree in all persons, not as readily perceptible in all persons, but yet demonstrable in these experiments in the majority of civilized beings. While the best performers will fail with many subjects, yet the majority of persons who thoroughly

* I would improve this occasion to thank Prof. G. Croom Robertson for the handsome letter in acknowledgment of my priority in the scientific study of muscle reading, as published in *Nature*, February 14, 1881.

concentrate their minds on the locality thought of, will find that they are lead to that locality. Here, as in all things, practice tends to make perfect.

The phenomena of mothers' marks, the causation of the cure of disease by mind action on the body, the success of charlatanism in all forms and in all ages, find their best single explanation in these muscle reading experiments; in all their stages they seem to me to unlock, better than anything I know of, the mysteries of psychology.

The history of muscle reading is one of the most interesting facts in regard to it, quite as incredible and important as the phenomena itself. When, in July, 1874, Brown, the mind-reader, who was to this subject what Mesmer was to artificial trance or hypnotism, came to New York, the phenomena of muscle-reading which he exhibited were as new to the scientific world and to the popular world as was the telephone or phonograph at the time they were invented. It is true that, in a rough way, phenomena of a similar character have been developed by school girls in their play among themselves, both in Europe and America, but under the influence of delusion always and never with sufficient precision and power to make any impression on the people or on men of science; so that, in fact, it may be said that the subject was absolutely new; and if the scientific world had been gathered in congress at that time, with representatives from all nations, and the question had been asked them if it was possible to do what now the whole scientific world knows can be done, if they were asked if the experiments noted here and in my previous writings on the subject could be done, the universal and unanimous answer would have been in the negative, and without any investigation. The phenomena, when explained, therefore, become a positive, original, radical contribution to science, like the phenomena of artificial trance, with which it is connected, to which, indeed, it is closely related.

A noticeable fact connected with this topic is that

the climate of America is specially favorable for experiments of this kind, as well as for all experiments in artificial trance and hypnotism. In our dry air—and dryness of the air is a feature of the eastern, western and northern part of our continent—it is possible for many persons in many places to light gas by electricity by simply shuffling across the carpet. European men of science doubt and deny this fact, but it is a matter of daily and hourly observation, and it is as easily proved as any phenomena of electricity. The explanation is supposed to be found in the dryness of our atmosphere, and this same quality of dryness makes the nervous system sensitive, and develops both good subjects and good operators for muscle reading experiments, as well as for all trance experiments. It is found that dry, clear, bright days are better than moist, muggy days for experiments; and that the northwestern part of our country, as Minnesota and Wisconsin, furnish a greater proportion of good subjects than the eastern and southern portion; and in the country over, the proportion of those who would make good subjects in these and all allied experiments is probably greater than in Europe.

The Rights of the Insane.

By C. H. HUGHES, M. D., of St. Louis.*

Late Superintendent Missouri State Lunatic Asylum, Honorary Member British Medico-Psychological Association.

THE age in which we live is pre-eminently regardful of the rights of man. The corner-stone of our political fabric was laid in the professed sanctity of personal rights. Constitutions were and are framed, and statutes enacted, for the protection of the weak against the possible encroachments of the strong. The right to life, liberty and the pursuit of happiness, is the recognized right of all sane persons, and law cannot take from any citizen that which is not absolutely essential to his own or the community's welfare. The citizen's house is his castle; the law cannot enter it, "the king cannot enter it,"—and in this country the voice of the people is king,—unless it be to protect him in some of those rights of person or of the community connected with individual affliction.

In an age and country such as ours, the very weakness of mental disease is its safeguard, just as the weakness of woman secures to her that chivalrous protection in society which her own frail arms could not obtain for her, and should be always. And when, mentally maimed, a citizen falls in the battle of life, the government—National or State—cares for the fallen one, as though he were a soldier, fallen in defence of his country's flag. Moral duty and philanthropic patriotism combine to lift up the fallen, and "bind up his wounds."

No fault can well be found with the manner in which municipal government discharges its plain duty of caring for its insane in hospitals. In fact, so liberally have State and national governments housed these unfortunates, that some have regarded the substantial and enduring buildings erected for them, as too costly and palatial in

*Read before the American Medical Association, St. Paul, June, 1882.

character. These palaces are the monuments which a philanthropic age erects commemorative of its charitable purpose toward those most afflicted of the "children of affliction;" serving to show what will further be done for these helpless ones, when communities are fully awakened to all of their needs and rights (and the necessities of their affliction are their rights).

Among the other rights of the insane, not yet fully regarded by the State, which are so obvious as to require only a plain statement of them to carry conviction, are the following:

First, to such protection against themselves, and the consequences of their malady, as will secure to them recovery, where recovery is possible, by care and treatment in the incipiency of their disease.

Under this is the right to have that prompt surveillance and treatment for himself, which, in his best estate, he would demand for his similarly afflicted friend. The abstract right to liberty is subsidiary to that of the insane man's welfare and happiness.

It is the duty of the State to inquire into the existence of incipient mental disease, and avert its culmination in consequences disastrous to the afflicted one and others, because it is a right which the strong owes to the weak, which a protective government owes to its helpless citizens.

In thus protecting the insane, the State incidentally protects the community against the consequences of insanity. The rights of the insane and the duty of the State here go together; and the right of every community to be quarantined against the often disastrous consequences of unguarded insanity likewise suggests the obvious duty of the State.

Out of this right of the insane to have that attention from the State which their malady requires, grows the necessity of State inquiry, by competent medical commissions, into the existence of incipient and advanced insanity, outside of the asylums, and such surveillance as will secure to the insane of every grade, in every community,

their right to proper medical and personal care and guardianship against self-neglect or possible indifference of their families or near friends. Every consideration combines to strengthen the plea for the rights of the insane to the paternal watchfulness, and, where necessary, the care of the State, not alone after they have found lodgement, by judicial process, in the state institutions, or may have been declared "dangerous to themselves or others" by a medical inquiry, but in that stage of their malady when there is hope of averting the culmination of the ultimate dire consequences of the disease from themselves and others.

The marital rights of the insane should also be regulated as well as guarded. Insane persons should receive such protection from the law as they, were they sane enough to realize consequences, would ask for themselves; and posterity should be guarded against the fatal heritage of unstable organisms, the natural consequence of the marriage of the insane. No virile lunatic should be permitted to marry. No insane woman should be allowed by law to bring into the world a mentally maimed or dwarfed progeny (wherever it can be prevented) to become an ultimate burden upon the State, and add to the already large sum of human misery and woe.

Marriage of all insane persons at certain ages should be interdicted by law, and the victims also of such diseases as entail insanity or epilepsy, should also be forbidden to enter into matrimony before the sterile time. In behalf of the rights of the insane, who would not wish to have a maimed offspring, if, under the dominion of their right reason, it should be lawful for proper persons to forbid such disastrous bans, and the duty of the State to prevent them.

It is a terrible thing for the State to tacitly consent to such deterioration of the race as is caused by such marriages; and duty to humanity, sane and insane, demands repressive legislation. No "pestilence that ever walked in darkness, or destruction that has wasted at noon-day"

ever called more loudly for State intervention against their spread, than the destructive heritage of the neuropathic diathesis calls for the concern of the State. Its evil influences are all about us, even more disastrous than any plague or pestilence, afflicting the humblest citizen, as well as the highest, and their posterity.

Discussion of the marital relations of the insane is not the purpose of this paper. To exhaust the subject would require more space and time than this section has at its disposal.

Under what circumstances the rights of the insane to retain the marriage relation inviolate should be held sacred, need not be here discussed in view of what has been said. Their rights are better secured by interdiction than by divorce; but the circumstances under which divorce ought to be granted we prefer to leave to inference rather than enter on its discussion.

We turn now to briefly notice the rights of the insane before the law in civil and criminal trials.

Insanity is conceded to be a disease of the brain in which the mind is morbidly affected in its natural manifestation, by which the insane person is made incapable of conducting his cause as a sane person would, or as he would in his rational mental estate. It is on the basis of disease that the insane should have rights before the law different from those accorded the sane. Their rights are not all secured to them when they are tried exclusively in the same manner as the sane are. Disease of the mind, if it exists, must be established in the same manner as any other fact.

Now, a just regard for the rights of the insane as mentally diseased persons, and consequently more or less crippled and perverted in their mental operations, demands that we should accord to them a medical examination after medical methods, into the question of the disease; and that courts should aid in the inquiry by every means known to them or suggested by medical science, as calculated to elicit the "truth, the whole truth, and nothing

but the truth," respecting the existence or non-existence of disease.

It is obvious, therefore, that the hypothetical case, without ample personal examination by medical men, is not full justice to the really insane, while it may, and often does, answer the purpose of casting doubt on the jury's mind respecting the sanity of really sane persons, thus aiding the unworthy to escape the consequences of crime, while it does not give the best chance to the innocent, by reason of mental disease, to fully establish the existence of disease, or, rather, to have their disease established for them. The really insane should not have their chances of vindication imperilled by possible medical deficiencies of counsel. Defending counsel may fail, through ignorance of essential symptoms, to so present them, as to convince medical experts, and yet the prisoner may be insane, and his insanity may be susceptible of proof if sought out by medical men by medical methods.

As the determination of the question of disease in general by an ordinary jury trial must obviously be very unsatisfactory and unjust to the afflicted, so must such an inquiry in special cases of mental disease sometimes jeopardize the interests of the really insane, as in times of great public excitement, and in localities where prejudice has grown up against the plea by reason of previous escapes of the guilty upon it, through misuse and misapplication of the hypothetical case. At such times and occasions it would seem only just to the insane for the court to order medical expert commissions, selected from remote distances, to deliberate upon and determine the question of the prisoner's mental status from personal examination and all obtainable evidence.

Finally, a proper regard for the rights of the insane before the law should secure for them rulings by courts in accordance with the nature of their malady, as shown by clinical experience, rather than in accordance with those theoretical conceptions of courts which are often judicial misconceptions of insanity. Such judicial

rulings as declare that evidence of the existence of the knowledge of right and wrong in the mind, is evidence of responsibility, regardless of the overmastering influences of those resistless morbid impulses which are common to and characteristic of certain forms and phases of mental aberration, do violence to the sacred rights of the insane, to that just protection due to the helplessness of disease, from the rational and powerful to protect or crush them. Insanity is a law unto itself, and is no respecter of the theoretical boundaries with which jurists have sought to circumscribe it. We know from observation of this malady, that an abstract knowledge of right and wrong may exist in a mind rendered powerless, by reason of overmastering disease, to resist the wrong and morbid impulsion, as may be demonstrated, in many cases, in asylums for the insane. A really insane person is entitled to judicial rulings in accordance with the facts and truth of his malady, whether it conflict or conform with non-medical conceptions of what the nature of insanity ought to be.

A subsidiary right of the insane is to have the State provide criminal lunatic asylums, in order that the rights of the insane may not be put in jeopardy by the just fear in the public mind of having insane murderers and others go free. An insane murderer, with certain exceptions, notably those of temporary puerperal mania, should be under the State's surveillance for life, and law should secure to the lunatic and the community this protection against the possible consequences of disease. Such security to society incidently guards the insane man in his rights, and makes the chances for equal and exact justice, when insanity is pleaded in excuse for crime, much more secure.

The last right of the insane, but not the least, that I would here mention, is the right to medical inquiry, in lieu of the ordinary trial by jury, into the question of their insanity, before committing them to asylum care and custody,—such an inquiry and so conducted as might not aggravate the sick man's malady, by undue causes of

irritation or needless publicity, or jeopardize his chances of timely hospital treatment by a verdict of "not insane enough for hospital treatment, because not yet dangerous to self or others, or a disturber of the public peace;" such a thorough, unimpassioned medical inquiry as would certainly reach the true nature and needs of his malady—and such an inquiry is best secured by men competent from experience to investigate the nature of mental disease.

No such construction of the "due process of law" guaranteed to any one deprived of liberty should be made, as to deprive a mentally diseased man of a thorough medical inquiry, conducted in accordance with the nature and demands of his disease, in preference to the ordinary "jury of" the insane man's "peers."

A last incidental right of the insane is to have proper instruction, in regard to insanity, provided for in the medical schools, and we make this demand for them, that henceforth no medical college shall be chartered that does not provide a chair of psychiatry. The true friends of the insane are in the profession, and its members should understand them.

Case of Syphilitic Gumma of the Brain.

By E. M. NELSON, M. D., St. Louis.

MRS. M., aged thirty, a native of the United States, first came under my care Jan. 19, 1882. She complained of intense pain in the right side of the head, sometimes extending down to the right eye-brow but always present at the right of the vertex. The pain was constant and had continued almost without interruption since the middle of October. There was also complete ptosis of the right eye-lid, which she said occurred suddenly (within one day) about six weeks before her first visit.

The pupil of the right eye was fully dilated and there was complete paralysis of all the motor muscles of the eye, except the external rectus and the inferior oblique which retained slight power.

She states that in the spring of 1878 she had sores on her genitalia, which were treated locally, but had no constitutional treatment. She was then pregnant, carried child to full term, but it only drew a few breaths and died. The physician in attendance told her that the child was terribly diseased.

About a year afterwards, having perceived no symptoms of disease of any sort, and having received no medical treatment, she became pregnant again. During this pregnancy she was troubled with an eruption on her chin which persisted for some months and disappeared just before the time of confinement. There are some scars now, showing that there must have been deep ulceration. There were also similar eruptions upon the arms. She says the spots were dark red, that they ulcerated, that there was no itching. The arms were free from eruption much sooner than the face. The child that was the product of that pregnancy was born at full term,

has always been a perfectly healthy and robust child and continues so now at the age of two and one-half years.

About one year before the time of her first visit to me, she began to suffer with a "sore throat," which persisted for some three months, causing her intense suffering. The present condition of the upper part of the pharynx gives evidence of extensive ulcerative processes at that time.

About the latter part of the summer she was hanging out clothes in the yard one day, having nothing upon her head, when she became very dizzy and sick at the stomach which continued during the remainder of the day. Next day she felt pretty weak, but no other trouble.

No other symptoms were noticed until her head-ache commenced, as noted above.

I prescribed for her, ten grains of bromide of potassium and five grains of iodide of potassium, three times a day.

Two days later she reported little, if any, change. I then gave her a prescription containing one grain of bi-chloride of mercury and a half ounce of the iodide of potassium dissolved in three ounces of water, of which she was directed to take a teaspoonful four times a day.

One week from that time, the same prescription was repeated, except that the quantity of the iodide was doubled. She was feeling a little relief from the severe pain in her head, at least, enough to encourage her to continue the treatment. Her general condition was bad, and beside the pain which still persisted, she was much troubled with giddiness and, when she walked, staggered so that she had every appearance of one intoxicated. In walking there was a constant disposition to turn to the left. She complained of hearing voices talking in the room when she was really entirely alone. Her condition seemed very critical, and the more so, as her stomach then rebelled against so large doses of the iodide, and we were obliged for a time to reduce them. After about three weeks' treatment, she reported that the severe pain

in her head had entirely disappeared, and there has been no recurrence of severe pain since.

The treatment was continued for four months. After the pain disappeared, there was rapid improvement in other respects. She gained in strength and flesh and seemed better in every respect, except that the ptosis persisted without any material change until early in May, after which there was decided improvement in the power to raise the lid. The external rectus has nearly or quite its natural power, while the other muscles are still impaired, and there is a consequent divergent strabismus with diplopia which annoys her a good deal, being worse at some times than at others.

She was delivered about the middle of June of a male child which lived only a few weeks, dying of inanition without any pronounced lesions characteristic of syphilis.

The general condition of the patient, now one year from the time when she first came under observation, is tolerably satisfactory. She still has a certain degree of paralysis of the motor muscles of the right eye, and at times has some pain similar to that which first brought her to seek relief, but it is not so definitely localized as at that time.

The case seems to me an interesting one, as showing the characteristic symptoms of brain tumor and the rapid relief afforded by anti-syphilitic treatment.

GUITEAU.—A Case of Alleged Moral Insanity.

BY J. J. ELWELL, M. D., Cleveland, O.

MEMBER OF THE CLEVELAND BAR.

CONTINUED discussion of this case is only tolerated and justified on the ground that its rank is at the head of the *cause celebre* of American and English Medical jurisprudence.

An impartial discussion of the matter is not to be expected, until a sufficient time has passed to allow the sediment of popular indignation and professional zeal to fall to the bottom. Truth will then reveal herself and not till then, for she shuns excitement and prejudice.

Mind sound and unsound, with many sided and ever changing phenomena, has escaped the grasp of language and no satisfactory definition has ever been formulated of these terms. No standard of measurement or court of appeals has been erected by which the issue of sanity or insanity can be measured or decided. Each case is *sui generis*, and encompassed by its peculiar difficulties, and must be judged by its own characteristic phases for which no precedent can be found. An examination of mental questions, therefore, is much like a voyage of discovery on an unknown sea, without chart, beacon-lights or headland.

Aberration of mind or insanity is a symptom of disease of the higher centers of the brain, or of the rush of diseased blood through the tender tissues of thought in a healthy brain—the disease being located elsewhere—in which the mind loses to a greater or less degree control of its healthy forces; presenting a class of phenomenon

NOTE.—For a more full discussion of the subject of Moral Insanity, see Chap XXIX, page 400, 4th edition of the writer's work on Medical Jurisprudence; also his article in the North American Review, for January, 1882, on the Moral Responsibility of the Insane.

unlike and antagonistic to its former habit of thinking and acting; failing to adjust its surroundings to its former normal condition; interrupting the harmonious relations of the material and the immaterial which make up a healthy mind or soul; and in extreme cases, destroying a clear knowledge of right and wrong, and with this last condition, moral responsibility.

This journal has laid down the following rule, which is undoubtedly correct: "If no change in the habits of thought, feeling and action takes place, then it is not insanity. The true test of insanity, therefore, is this comparison of the individual with his former self, taken in connection with disease of the brain." By this fair rule let Guiteau be judged.

The writer proposes as briefly as practicable to group the salient points of this remarkable case, which, as he understands them, establishes the proposition of the entire sanity and consequent responsibility of this homicide on the 2nd of July, 1881.

First. Insanity, as a disease, is not transmissible from parent to child, only a tendency or susceptibility thereto. A person cannot be born insane. Congenital defects are conditions of idiocy or imbecility, which are not technically insanity.

There are no positive indications of this hereditary tendency to insanity being present in the family of Guiteau. The family physician and John W., his brother, with others swore to the sanity of the father, and it is not pretended that the mother was ever insane, or any of the direct ancestry. Guiteau had apparently as fair a start in life as men in general; his career, however, from childhood, seems to have been that of a wayward and undutiful son, and as a man, he was erratic, egotistical and immoral. He was a smooth villian, and his entire life mischievous, unstable and annoying, as it must have been to his friends and acquaintances; no one thought of having him shut up in a lunatic asylum, though he was more than once sent to jail as a common felon. His health

was always perfect. According to his policy of life insurance, and his own evidence on the stand and his statements to the physicians who visited him in jail, he had never needed a physician and had never called one; a condition of health absolutely inconsistent with disease of the brain. This perfect health throughout life, justifies and sustains the appearance of the brain and membranes on post-mortem examination, as reported by Drs. Sowers and Hartigan: "which were such as are often found without previous history of disease—the consistence of the brain normal, with no apparent asymmetry of the hemispheres." As some controversy has arisen as to the revelations of the autopsy, among those present, and from the microscopical examination of the brain, it should be said that there is not much reliance to be placed on these post-mortem examinations and microscopical observations of the brain, as an indication of the standard of intelligence. Some of the most distinguished and well-balanced men that ever lived, have been found after death, to have had extensive chronic disease of the brain, with structural changes of apparently long standing, while on the other hand, the brains of the insane, who have been lunatics for years, show no evidence of disease, or but little. Extensive lesions of the brain are not incompatible with a normal condition of the intellectual faculties, nor is insanity inconsistent with an apparently healthy brain as developed under the microscope.

Had Guiteau shown signs of a diseased brain, to a man as sharp as Scoville, he would not have offered him a business partnership in 1876, which he did do. Dr. Hamilton pronounces the cranium symmetrical, and that there were no symptoms of general paralysis. Dr. Spitzka, the defendant's chief and most important medical witness, says he found "his skin was in a healthy condition; found his appearance perfect; his eyes perfectly healthy. "No changes of habit, of life or thoughts."

A life of consistent villiany and brazen impudence; a healthy body with symmetrical cranium; a normal

consistency of the substance of the brain, with well balanced hemispheres; no need of a physician throughout a lifetime; each and all are evidences, not of insanity, but of a sound mind.

The long established and well settled rules of evidence as applied in this case, establish these facts and bring us to a clear conclusion in which an overwhelming preponderance of medical testimony agrees, to-wit: "No change in the habits of thought, feeling and action have taken place; that a comparison of Guiteau with his former self shows no material change, and that there was no disease of the brain." Therefore it is not a case of insanity and irresponsibility.

Second. It has never yet been held in law, medicine or morals, that the commission of a great crime—even when there is apparent, no adequate motive, which was not the case here, makes a *prima facie* case of insanity or in any way lessens the degree of guilt or responsibility of the criminal, while the sentiment is universal, that the greater the crime, the greater should be the punishment.

Guiteau's great crime was the logical result of a vile and vicious life. His father said "in my judgment, his wickedness has been caused by an unsubdued will." His sister: "his childhood was turbulent and flagrantly disobedient to parental authority."

His estimate of human life is shown, when he says to Mrs. Garfield: "A human life is of small value." Dr. Barker says: "his insanity is wickedness." This wickedness he was conscious of, and attempted to justify it by an impious allusion to the Saviour of mankind: "Jesus Christ struck back; and so do I. I do just as Jesus Christ did." In his rascality he was only following the example of the Apostle Paul, whom he alleges did not pay his rent. He was no more a murderer than was Abraham. His mania was "Abrahamic." His shocking godlessness reaches its climax in the declaration that he was the junior member of the firm of "Jesus Christ & Co." He was leprous morally as he was physically syphilitic.

Gross wickedness and reckless immorality, however, is not insanity. Dr. George M. Beard stands alone when he says: "the essence of insanity is immorality and the insane are always immoral." Neither is immorality insanity, nor are the insane generally immoral.

Third. The annals of criminal law nowhere show a more deliberate and cold-blooded murder, than the one committed by this homicide. In its conception, pursuit, preparation to extreme details and consummation; from beginning to the end, everything was complete and there was no miscarriage in his plans till twelve men pronounced him guilty of murder in the first degree.

With excellent judgment and care he selected the bull-dog pistol, as well calculated to do the work in hand. Without practice, the deadly weapon was useless in his hands, for he was not even "used to its sound;" so he shot at the willows for weeks, until he had mastered its use. As carefully and with the same coolness he chose his place and time for the final use of the bull-dog. All the long weeks of thoughtful preparation, his will power seemed to be in good working order and well in hand, for he made no mistake, nor revealed his deadly purpose for that would have defeated the result. He could and did control the impulse to kill the President at the church, because his own life would be in danger, when there were so many personal friends of the victim present; he could, and did control the impulse to kill, when Garfield was walking with Blaine in the night, as he dogged their footsteps, for, as he said afterwards, he "thought he had better take him alone." At the time when the fatal shot was fired, he said he would not have killed the President, if Mrs. Garfield had been present—he had once before refrained from shooting, for the reason she was with him. So the "grinding, grinding pressure," was completely under the control of his will. He could grind harder, when he chose to do so, than the "Deity." He took especially good care of himself, that an indignant and

excited populace might not tear him to pieces or hang him on the nearest lamp-post, at the depot.

Where there is so much judgment used, so much coolness and deliberation, caution and will-power, insanity has no standing ground.

Fourth. Before the smoke of the pistol had cleared away—before the wounded and dying man had reached his home to go out no more but to die—in a lawyer-like manner, as a matter he had well considered, he announced the legal proposition that malice is an element in murder, and “I had no malice,” therefore, there could be no murder in his case. The “grinding pressure” and “inspiration” theory was an after-thought, not having been heard of, up to the latest stage of the drama. It was not long, however, before the prisoner himself, as in the no malice theory, started the insanity idea for a defense. Guiteau was the inventor, and Scoville only took it at second-hand and used it in the trial. “I was legally insane, but not in fact insane. I know I could prove this by fifty physicians, for physicians can easily be bought.” This vile slander is only another evidence of his inherent meanness. He also declared that the doctors killed the President.

It was then to Guiteau himself, to whom the defence was indebted, for the suggestion in the first place, and it was the only practical line of defense, offering the least chance of escape. It seems, also, that he furnished his counsel with the leading authorities; for before the day of trial, he had mastered all the leading cases on the subject of insanity in this country and Europe, not missing the case of Charlotte Cordoy, who has never before been classed with the insane. The Freeman, Coles-Hiscock, McFarlane, Sickles cases, as well as the celebrated English cases, were as well understood by him as by any superintendent of an insane asylum or criminal lawyer in the country. He also prompted his attorneys as to the latest decisions in the courts on the law of insanity. He said to Judge Porter: “You would have hung Charlotte Corday.”

When, since the world began, has a really insane man suggested his own insanity as a defense, and urged it for two and a half months, in the presence of court and jury with such steadiness of purpose and marked ability? The writer does not recall such a case.

As the tide was turning strongly against him, his brother came upon the stand, and swore to his insanity. The prisoner cried out: "He has not known me for twenty years; all that I claim is transitory mania." While making a firm stand and fighting hardest at the insanity point, he was too shrewd a general to neglect the balance of his line. Every rod was most stubbornly defended.

"The doctors killed Garfield."

"Blaine was morally responsible for his death."

"The President was himself to blame, for he destroyed the Republican party, and betrayed Guiteau and others who had voted for him. For this he died."

"Mrs. Garfield was responsible; I would not have shot Garfield, had his wife been present on the 2nd of July."

The Stalwart newspapers and speeches, he claimed, had inflamed his mind and impelled him onward to commit the crime.

Thus he fought every gun, while he had a shot left, being himself the chief figure upon the field of battle.

If such able leadership and management prove aberration of mind, who can be pronounced sane? Then was Guiteau insane?

Fifth. It is herewith now in order, to ask those medical gentlemen and journals who still insist on the insanity and irresponsibility of this homicide: Is there then no significance and no reliance to be placed in expert testimony when it comes, as in this case, from thirteen or more of the most eminent and experienced professional men of the country, all, or nearly all, of them distinguished superintendents of lunatic asylums, with a reputation in the Old World as well as in the New? There is at this time, a very strong and growing feeling in the courts

and among the unprofessional, that medical expert testimony is of little and doubtful value when insanity is set up as a defence for crime. Is this feeling to be strengthened and intensified by the profession? It would seem so.

Admit the scientific evidence in this case, and the theory of insanity is annihilated beyond dispute.

A full and carefully made analysis of the medical evidence has been proposed as part of this article, but on second thought, and in view of the exactions and limitations of journalism, it will make the paper too long, if printed, and is therefore withheld for the present.

These distinguished expert witnesses arguing from an entirely different standpoint, and taking their stand on another class of premises from those followed by the writer in the foregoing argument, and with the strong light of science fully turned on the case, illuminating its purely medical features, exhausting all the resources of their profession in this examination, spending months in the presence of the defendant and watching all his actions and hearing what he has to say, go upon the witness stand and solemnly declare that, in their mature opinion, Guiteau was, on the 2nd of July, 1881, perfectly sane and responsible. These witnesses were not only learned, but they were honorable and disinterested men, anxious only for the success of truth and the vindication of their profession.

Law and medicine never confronted each other in a court of justice or elsewhere with an issue so momentous, witnessed by the intelligent people of two continents as excited spectators; never did law make greater demands upon the resources of medicine; such requisitions were never more fully and promptly met, by so many and so able representative men of the profession; never was testimony given under weightier and more solemn circumstances; and finally, never has a great profession been so triumphantly vindicated from the clamor, general distrust and odium into which medical expert testimony had

fallen—when insanity was interposed as a defense for crime—and completely lifted out of that quagmire of sentimentality, fatalism, “moral monstrosity,” and wickedness, called moral or emotional insanity, into which it had fallen.

A Contribution to the Question of the Mental Status of Guiteau and the History of His Trial.

By EDWARD C. SPITZKA, M. D.,

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IT WILL probably be many years before a full and impartial history of the remarkable events which culminated in the conviction and execution of the assassin of the late President can be written. In view of the somewhat isolated position which I occupied at the time of the trial, and the natural bias which might be expected to exist in my mind on the entire subject, I had at first intended to refrain from adding to the enormously increasing “Guiteau” literature, which will form the basis of such a history. As far as my individual position, and the historical vindication or non-vindication of my positive opinion that Guiteau was insane was concerned, I believed that I might leave the matter to fair commentators, and, therefore, “rested” on the record of the trial.

But, unfortunately, Congress has *not* ordered the printing of three thousand copies of the trial report, as was moved by one of the members, and whose general distribution would have facilitated a correct understanding. The few copies extant are either in the hands of the counsel or of the medical witnesses. Those who have written upon the subject, as spectators from a distance,

have consequently based their opinions largely on the reports in the daily press, or the scientific communications made by those who were active participants in the trial. And it is a fact, that even those who were on the ground, at Washington, carried away with them quite confused notions of many of the incidents of the trial.*

With the grave prospect presented to my mind that the dissemination of erroneous, views, and faulty or improper records might lead to a flaw in the judgment of a later generation, it seems to me a duty to correct such errors as have already been committed, and to do this, even at the risk of seeming autobiographical. It will probably be admitted that if it is worth while discussing the mental state of Guiteau, of balancing the alleged criminal and insane perversions of his moral state with Folsom; of analyzing the faulty state of his logical apparatus with Godding, Fisher, Hughes and Channing, and of endorsing the opinion that he was undoubtedly insane, as is now being so generally done on both sides of the Atlantic, it is worth while determining whether these or other correct opinions were announced at the time of the trial. It strikes me as somewhat pharisaical on the part of several distinguished gentlemen who took part in the trial of Guiteau, that they carefully omit any mention of the opinions actually given at the trial, and shield their own unwillingness or inability to give a temporarily unpopular opinion behind a condemnation of, or slur upon Mr. Scoville's notorious hypothetical question. We know from Dr. Godding,† that the real trouble was "a lack of positive belief on the part of the experts for the defense in the prisoner's insanity;" I heard from Mr. Reed that the same gentlemen were intimidated, and declined, with the exception of Drs. Godding, McFarland and Kiernan to give

* Thus Dr. Godding, in his excellent and impartial "Two Hard Cases," speaks of my having criticised Mr. Corkhill's conduct of the case in the "public journals," when in point of fact I was cross-examined on an article written over the pseudonym "Philalethas" in the Medical Record, and was one of the few witnesses in the case who had neither written for the public journals, nor permitted themselves to be interviewed by their representatives.

† "Two Hard Cases," page 189.

him their views on the prisoner's mental state. All these facts will become ingredients in the history of the trial, and the effort to stifle them by condemning our present system of calling experts, and examining them in court, or by raising any other side issue not immediately relevant to the case, cannot alter the fact that there were opinions given at the trial under every disadvantage which, if the prevailing view that Guiteau was insane, passes into history as a correct one, will stand for all time.

In the first place, Dr. Rice, the family physician of the Guiteaus, gave an opinion of Guiteau's mental state in a very few words it is true, but in words which fully anticipated the opinions published in the essays of Channing, Fisher, Godding and Kiernan, as well as the opinion I subsequently gave on the stand. It is to be recollected that Dr. Rice was called as an ordinary and not as an expert witness, but I believe that his opinion will be looked upon in the future as an expert, that is as a skilled and scientifically true opinion.

The only opinion given by a physician called in as an expert witness that Guiteau was insane was my own. I understand from Dr. M. Farland that he was willing to testify as positively to the same general effect, but he was excluded from the stand on a technical quibble, and compelled to listen in silence to the unprovoked vituperation of two of the counsel for the prosecution. I am also aware that Dr. Kiernan entertained views very much like my own, but while he gave lengthy descriptions of the form of insanity under which he believed Guiteau to be laboring, Mr. Scoville not once asked his opinion regarding the actual prisoner at the bar.

My position in the trial was a very peculiar one. I doubt whether a medical witness in this country has ever enjoyed the advantages of a similarly independent *status*, and but for the unpopularity of the views I announced, I think that this would have been more generally recognized than is the case. I was

approached by the prosecution as well as the defense and declined for partly personal reasons to appear on any side. I declined to appear for the prosecution because I was well satisfied that Guiteau was insane, and that sane or insane, his prosecutors were not proceeding to determine his mental state in a proper manner. I declined to appear for the defense because I had no ambition to become a target for attacks which I foresaw would be made, nor did I care to interrupt my labors in behalf of so unpopular and unprofitable a cause. Mr. Scoville, knowing of my opinion through several private channels (as I subsequently ascertained), had a compulsory process issued against me in the shape of an attachment. I discovered that I could not evade it, and to avoid the semblance of an arrest, went voluntarily to Washington. I informed Mr. Scoville that I would refuse to testify; but he claiming that the court would compel me to do so, I concluded that it would be of all things desirable to examine the prisoner beforehand. I may say also that my sympathies were strongly enlisted for Mr. Scoville after the interview,* and when I received such positive and valuable confirmation of my surmise regarding Guiteau at my personal examination of him, I resolved to make a less emphatic protest against being compelled to testify than I had intended when I left New York, and I finally took an excusable pride in testifying in behalf of what I thought was a scientific view against an almost unprecedented prejudice.

On the 11th of December, I testified under the order of the court, and it is but just to say that while Judge Cox allowed the prosecuting lawyers to indulge in many assaults that might have been checked then and there, he sufficiently appreciated that his order compelling me to testify after the issue of an attachment, made me a witness for the court, and not for any party. More than

*When I called on Mr. Scoville, his wife acted in so strange a manner, among other things, suggesting conferences with herself relating to the testimony I was to give, as to strongly indicate her being herself insane. I have since received evidence of a disordered mind from her, and I understand that a jury in Chicago have pronounced her insane.

once he rebuked the counsel for the prosecution for some of their worst attacks, and protected me to the extent of his ability under the practice of the district court. When I resented an examination as to my religious belief, as an impertinence of District Attorney Corkhill, and when I repudiated having intended to cast any reflection on the medical witnesses for the prosecution, as the same person intended I should do—and which some people, not conversant with the real facts, believe I did—the Judge gave me his most emphatic support, and although doubtless aware that one of the bitterest newspaper attacks made on him was made in a New York paper whose columns were controlled by one of the prompters of the prosecution, because he did his duty to the witness, he protected me—feebly, it is true—but still he protected me against the assaults made after I had turned my back on Washington, and was not on the ground to defend myself.

In submitting from the stenographic report of the trial the opinion I actually gave, I may say that I had had no opportunity of preparing my testimony. I omitted detailing many items of my conversation with Guiteau in jail, and I did not state what form of insanity I believed him to suffer from. As Dr. Kiernan has been criticised—inferentially, at least—for pronouncing Guiteau a case of the “*primaere Verruecktheit*” of the Germans,* it may be as well for me to say I thoroughly agree with him, and that I had, long before testifying, in an anonymous communication,† whose authorship I avowed at the trial, expressed a similar view based on Guiteau’s published writings and life history.

The substantial portions of the testimony are the following (p. 965 of record):

“I may say that it would be very difficult for me to render clear to any jury not composed of experts. I can

*Godding’s “Two Hard Cases,” p. 189. Remarkably enough, Dr. Godding substantially agrees with my estimate of Guiteau, but the facts making up that estimate fit no clinical picture so well as the “*Originaere Verruecktheit*” of Sander.

†*New York Medical Record*, Oct. 19 h, 1881. This communication was signed by a pseudonym because I did not care to provoke a subpoena, or to add to the grounds on which I might be compelled to testify.

simply say that the marked feature of this man's insanity is a tendency to delusive or insane opinion, and to the creation of morbid and fantastical projects, that there is a marked element of imbecility of judgment, and while I had no other evidence than the expression of his face,* I should have no doubt that he was also a moral imbecile, or rather a moral monstrosity."

(p. 966.)—*Ques.*—Will you state whether you observed any indication of insanity from his eyes? I do not mean from your examination, but† from his general appearance. *Ans.*—That was to my mind,‡ the most conclusive evidence of insanity. I concluded that I had an insane man to deal with on sight, before I asked him any questions. He has got the insane manner as well marked as I have ever seen it in an asylum.

(p. 971.)—*Ques.*—I am not asking what you are testifying on now, or on what basis; I want to know on what basis you rested the opinion that you expressed to Mr. Porter? *Ans.*—Upon the man's insane documents, the insane expression in a good picture which I saw, and his hereditary history as stated in the papers, and the almost unanimous interpretation made by the laity at the time and shortly before and after the crime, of his mental condition. (p. 972.)—*Ques.*—Can you tell me what documents you refer to? *Ans.*—The one addressed to General Sherman. *Ques.*—You think that was an insane document? *Ans.*—That was one. Then there was the letter about that woman he was going to marry, with a million dollars or \$400,000.

(p. 972.)—You have mentioned the Sherman letter. Give us the rest of the documents? *Ans.*—The letter in which he spoke of the Paris consulship in connection with a rich or wealthy lady he was going to marry. *Ques.*—The third (element) was the almost unanimous opinion of the laity. How did you get that opinion?

* Refers solely to the examination in jail.

† Refers to ophthalmoscopic examination.

‡ This was corrected in the subsequent testimony to "a most conclusive evidence of insanity," whether a stenographer's error or a slip of the tongue.

Did you take a vote of the laity? *A.*—No, no! I refer here strictly to what was stated in the daily papers at that time; the opinion of General Logan for example. I do not speak of the laity in general, but the laity who saw this man; the statements of Mr. Reed and others who have already appeared as witnesses in the case, and who at that time were interviewed, and their statements published in the daily papers,

(p. 976.)—*Q.*—Go on. You say you examined the shape of his head? *A.*—I did. Then I said to him: "I will have to know a little more about the psychology of your crime* in the removal of the President." He then said: "Psychological, doesn't that come from *ψυχη* *mind, soul?*" "Yes," I said. Then I said: "What objection did you have to the President?" "I hadn't any; he was in the hands of Blaine." I said: "Why didn't you remove Mr. Blaine, if you had these objections against him—not the President?" He said: "Because that would not have done any good; there would have been just such another as Blaine to step into his shoes and Arthur would not have been President, and he has cemented the Republican party." Then he became wildly excited about the trial, yelled forth about the way the prosecution was attacking him, bringing up as he said, "lying witnesses," and he yelled out loudly, declaiming and showing the insane manner to perfection.

Q.—(interposing) One moment; you are too fast; he yelled out what? *A.*—That they were liars, and intensified the word louder than I choose to repeat. I told him to keep cool, as it was difficult to restrain him, and he wandered off to another subject; I disremember which. I said to him: "Why do you interrupt the Court then, if you say that God has got this thing in His hands, and will lead it to a successful conclusion as far as you are concerned, and that you are resigned to whatever fate is administered to you." "Why" said he,

* I examined Guiteau in the character of an alleged phrenologist, knowing his predelection for this and other spurious sciences. I may add this is a characteristic of many of his class.

"don't you know that Jesus Christ himself, who was so lamb-like, said something." I am not a good Biblical scholar, but he gave a very good quotation that I recognized at that time, about somebody being sent down to utter damnation* for lying. "Can I not do the same thing? Am I not just in the position of Jesus Christ? Am I not here a martyr? Have I not sacrificed myself for the American people?" And so on, through a regular farrago of the kind that is familiar to those who visit the wards of a lunatic asylum. That will about comprise what I found of his mental condition.† I found his memory good. I found that he had the legal attainments, as far as I have a right to pass an opinion, of a third rate shyster of a criminal court; he parried questions to answer those he preferred to answer, and betrayed great egotism in everything he said.

(p. 678.)—*Q.*—You found that he parried questions?
A.—Wherever a question was asked, whose answering would wound his egotism and vanity, he parried it to go off to some subject that would develop his greatness or his high position, or his great services or whatever else was flattering to his self-love.

(p. 979.)—*Q.*—What do you mean by a tendency to insane delusion? *A.*—I mean a phenomenon frequently exhibited by those having the insane constitution, a tendency to misinterpret the real affairs of life, especially those of a complex nature, and to interpret these affairs in some way as having connection with themselves, the starting point being the exaggerated self-feeling of the morbid egotist in this case.

Q.—What made you think he had a tendency to the formation of morbid projects? *A.*—Because he told me. May I speak of his manner? *Mr. Davidge*—O, yes; speak of anything you choose. *A.* (continuing)—He told me, as positively and sincere as a man could, that when he

* "Condemnation," in original.

† I had taken full minutes of the examination, but did not attempt to use them. I understood that they would have been ruled out.

got out of jail, and he felt firmly convinced that the American people would never allow him to die a disgraceful death in consideration of what he had done for them, he would go to Europe for three or four months, and then he would come back and lecture, and he expected to make a great success at lecturing. That was a morbid project in anticipation for the future. I became convinced in my examination of him that the crime for which this man stands indicted was the result of a morbid project rather than of a delusion, strictly speaking—delusive opinion entering into the crime.

Q.—I understand you found then that he shot President Garfield, not in consequence so much of any insane delusion as on account of this other element: that is, the formation of a morbid project? *A.*—Based on delusive opinion; I would wish to be clearly understood there. If you make a wide construction of the word “delusion,” of course the murder would have been the result of a delusion, but in the narrowest sense, not. * * *

Q.—What other instance of the formation of morbid projects did he afford, except what he said about going to Europe? *A.*—Well, I said that was in the future. In the past, he gave me the history of his removal of the President, which I interpreted as being another morbid project. That is all I obtained from my personal examination.

Q.—Now, that is reasoning in a circle. The thing to be ascertained by you was the condition of his mind when he removed the President? *A.*—I did not so understand it when I went to the jail. The only thing I expected to get was his present condition at the time, and what he said.* In so far as it would tend to elucidate the condition of his mind at the time of the assassination, I should require, of course, facts that he could not give, and that I could obtain in no † examination outside of this, to form a complete opinion upon the assassination, which have not been furnished me.

* Erroneous punctuation in minutes; here corrected.

† Should read “an examination, etc.”

Q.—You do not then undertake to give an opinion in regard to his condition at the time of the assassination, do you? A.—Only in so far as I would say that that man has always been of a morbid character covering the whole of his life. * * * * *

(p. 983.)—Q.—Moral monstrosity was your last conclusion. What do you mean by that? Will you be kind enough to define that? A.—By a moral monstrosity I mean a person who is born with so defective a nervous organization, that he is altogether deprived of that moral sense which is an integral and essential constitution of the normal human mind, he being analogous in that respect, to the congenital cripple, who is born speechless, or with one leg shorter than the other, or with any other monstrous development which we now and again see. * * *

A.—Then you mean to say, what enabled me to say this was the result of a congenital taint, and not the result of circumstances? Q.—Yes. A.—The shape of his head and his face, and certain indications of imperfect brain development which I found, those being a defective innervation* of the facial muscles, asymmetry of the face, and pronounced deviation of the tongue to the left. These were the evidences that I found that he was born with a brain whose two sides are unequal, or so much more unequal than the normal difference as to constitute a diseased difference. * * * A.—No, not a tendency, but an actual deviation, which, at the point of the tongue, would amount to nearly three-quarters of an inch, or a-half an inch from the median line. *Now, I do not wish to be understood that on either one of these evidences, singly, I should call a man insane, I simply speak of the collective group.* * * * And I may say that my opinion was tinged by what I heard of his hereditary history. The fact that a relative died at an asylum, and that another is at Pontiac, and that they are blood relations, were among the facts that induced me to believe that his was a congenital case. Q.—Then you do not base your

* "Innovation," in original.

opinion upon the data you have mentioned to me. *A.*—These data, by themselves, would only allow me to form a very strong suspicion that such was the case. (p. 986.)—*Q.*—Now this had some influence upon your mind, as you say yourself—the idea of heredity—in forming your judgment in respect to the head, the facial muscles, and the deviation of the tongue? *A.*—I have no hesitation in saying that it certainly had a strong influence on my mind. *Q.*—Now, suppose that influence had been removed altogether, would you still have reached the conclusion you did in respect to the head, the facial muscles and deviation of the tongue? *A.*—I should only be able to say what I said before, that it would amount to no more than a strong suspicion.

(p. 987.)—*Q.*—Now, let us go back to the first. I want to know whether the fact of a human head being larger on one side than the other is indicative of moral monstrosity? *A.*—*Not by itself.* *Q.*—To what degree is the element of increase in one side over the other in the head of the prisoner greater than that of other people? *A.*—It would be very hard to express that, and I think you misunderstand me, if you believe that I lay great stress upon that. *Q.*—Coming right down to the point, I want to know, for I am seeking after truth, whether the inequality of the two sides in the case of the prisoner is greater than in very many people in the world? *A.*—Yes, sir.

I have been thus lengthy in reporting the portion of the voluminous testimony, relating to the question of cranial and facial asymmetry, because I have been made painfully aware of the fact that it is assumed that I made more positive assertions about cranial atypy, than are warrantable. I understand, indeed, that the implied criticism of my character as a witness, in the last number of the *ALIENIST AND NEUROLOGIST*, was based on such a belief, as well as on the prevailing erroneous impression that I acted the part of an aggressive witness.

I presume that the writer of the criticism alluded to, will now, with the true facts reported from the official testimony, agree with me, that nothing was said in regard to the physical signs of Guiteau's condition, that has not been confirmed by the autopsy, by Drs. Folsom and Godding, and that is not in accord with men like Krafft-Ebing, Meynert, Westphal, Muhr, Stahl, Morel, Lombroso and others. One reason why I introduced the subject of the physical signs at all was that I knew the "Government experts" were about to advance the theory of simulation, on which they subsequently differed so gravely amongst themselves. It is a cardinal canon of psychiatry that the existence of somatic signs of insanity is the best evidence of the genuineness of the disorder. And I am perfectly willing to be placed on record as committed to the view that where I find the signs of reasoning insanity (originaere Verruecktheit) evidences of heredity, and cranial malformation with defective peripheral innervation, I do not hesitate to assume an intimate relation to exist between these factors.*

As the reports in the daily papers read, I can censure no one for believing that I indulged in—however justifiable—repartee to an extent which may have damaged the influence of the testimony. It must be recollected that the testimony occupied a day and a-half in its delivery, that this period of time was, with the exception of in all about twenty minutes, consumed by the cross-examination, and that everything resembling repartee was selected for the delectation of a sensation-loving public, to the exclusion of the substantial points of the testimony. The assaults made on me by counsel were of such a nature that no meaner a commentator than the *Springfield Republican* concluded that they had strengthened my testimony, a view somewhat in opposition to that of Dr. Godding. It may be also believed that if the impression

* I have elaborated these views, which are so far removed from the absurd that Schuele was induced to open a question as to the priority of one of them, in my essay on the Somatic Etiology of Insanity, now in course of publication.

left by that testimony had been inconsiderable, that the three counselors for the prosecution would not have seized at every opportunity for launching forth into bitter personal tirades against him who gave it, on almost every subsequent day of the long trial. If what the witness said could leave no trace on the minds of the jury, it is remarkable that the counsel for the prosecution should endeavor to fan up religious prejudices against him, and to falsely assert that he was a "horse doctor," an "agnostic," "did not care to acknowledge a deity," etc.

I think a perusal of the following extract from the report in the *New York Herald* will show that I was forced against my inclination to indulge in what was considered then and there as the hit of the day by not a few:

"Q.—Have you been a professor in any college? A.—Not in any medical* school. Q.—At any college, medical or not? A.—I was Professor of Comparative Anatomy at the Columbia Veterinary College. Q.—You were Professor of Comparative Anatomy at Columbia Veterinary College?† A.—I said so. Q.—What sort of a college is that. A.—It is a college where physicians are instructed in the art of treating the lower animals. Q.—Horses, mainly, I suppose? A.—Yes, sir. The branch I taught is one taught in medical schools. Q.—Yes? A.—The branch that is pursued by such men as Thomas Huxley, Baron Cuvier, by Gratiolet, by Haeckel, and other of our most eminent scientists. I have no reason to be ashamed of it. Mr. Davidge—I do not say that you need to be ashamed of it. Witness—The question has been asked me before, and suggested from a special quarter,‡ I know that this comes from the same quarter now, and I have

* I was not at that time.

† To have a full conception of the scene, the reader must imagine the drawn sneering manner in which the question was—so demonstratively—repeated.

‡ At the Gosling trial, it was suggested by one of the "Government experts," who so publicly boasted of the achievement that I need not hesitate to publish the fact, which is well known in New York medical circles.

expected it, it is done with the purpose of casting a reflection on the witness. Q.—All these celebrated gentlemen, whose names you have mentioned, belong to what are called horse doctors? A.—I have never treated any other animal than the ass, and that animal had two legs, and therefore I could not consider myself a veterinary physician, but a human professional. Q.—But you are a horse doctor, are you not? A.—In the sense that I treat asses who ask me stupid questions, I am. [Laughter and applause.]”

Am I asking too much if, in view of the criticism so freely indulged in by, I am happy to say, but a few of my colleagues I demand that some of this criticism be directed to the medical prompter who would prompt such questions, and the counsel who could lend himself to be the instrument of an inter-necine warfare? I know very well that the counsel for the prosecution were cautioned by their medical adjutants against attempting to cross-examine me on the literature or the problems of insanity! On a former occasion, although a similar retort was on my lips, I refrained from giving it, owing to views of professional decorum and dignity, which I then entertained, which would have been proper to entertain in a continental court of law, but which are a little too narrow with such juries and court-room audiences as we have to contend with here and in England. I had the choice between being laughed off the stand, as I was on the former occasion, or of turning the laugh on the counsel, and securing what I did secure, a most respectful hearing! I should question the mental integrity of the individual who could hesitate which alternative to adopt, with both alternatives clearly before him, and such an experience as I had had to reflect on. The end certainly justified the harmless means employed.

After these digressions, I may state briefly what my present opinion concerning Guiteau's mental state is.

Early in life, Guiteau showed signs of defective brain development, learning to speak many years later than

ordinary children, and being unable to pronounce certain sound combinations, even after he had learned to speak.* During his youth he showed that vacillating wandering and fantastic tendency so characteristic of those constitutional lunatics described by Sander under the designation, "Originaere Verruecktheit." His insanity might have assumed any of several phases after he reached adult life, according to the complexion of his surroundings. There could be no better proof of the claim which has been repeatedly urged, that the formal contents of delusions or insane conceptions are merely incidental, the essential factor being their mechanism, than the fact that at various periods of his life, Guiteau exhibited indications of so-called Theomania, "Querulantenwahnsinn"—erotomania or simple megalomania. All these are simply names indicating the direction in which one and the same fundamental logical flaw may carry the subject. His tendency to litigation displayed toward the Oneida community and the *New York Herald*, his keen enjoyment of the controversial episodes in his own trial, were a faithful reproduction of what Krafft-Ebing and others have described as "Querulantenwahnsinn." His marriage schemes, his platonic distant admiration of women whom he did not know, and whom he took no steps to enter into any reasonable correspondence with, savor strongly of the erotic monomania of the French. His religious reformatory schemes, his exaltation on the scaffold, and his early display of what Dr. Rice called a pseudo-religious feeling—though towards the close of his career, I think it burst out in that full-blown fixed delusion which it was impossible to determine the existence of during the time of the trial—correspond to the symptoms of so-called Theomania, the group in which Dr. E. C. Mann locates him. Finally, his political and social aspirations, his financial and business schemes place him among the sufferers from systemized megalomania.

*A difficulty in labial sounds was observed at my examination of him. His niece, Mrs. Scoville's daughter, said "trat" and "tritten" for cat and kitten, down to the time of the trial. Guiteau's speech defect was testified to by a Government witness, his school-teacher.

I think that with the extensive record of Guiteau's life, his documents, his career after his conviction, and the manner in which he took his departure, as well as his hereditary antecedents, there can be very little doubt in any impartial, competent and truth-seeking mind, that these were evidences of a disordered brain action.

I was much surprised at Folsom's conclusion that Guiteau's crime arose from criminal motives. As I understand his view, a lunatic committing a crime from criminal motives is one whose crime is neither prompted by, nor directly connected with, his insanity. I can readily conceive of such a thing, I have evidences which satisfy me that a lunatic might commit a murder or a robbery from ordinary criminal motives. But, in the instance of Guiteau, I believe the connection between the insanity and the crime is clear. In the first place, we have that peculiar moral color blindness which marked this lunatic's career throughout his life. We then have that tremendous egotism, which later upheld him under the execrations of fifty million people, the hatred of the civilized world, the bullets of three would-be assassins, the howlings of the mob, the threats and vituperations of the press, matters which this remarkable person in great part foresaw, and, as he thought, provided against. This morbid egotist is disappointed in his political aspirations; at this moment the person whom he holds responsible for the disappointment is made the subject of a thousand attacks in the "stalwart papers," one of them actually suggests the removal of the President as the very best way to break the power of Blaine. His weak and one-sided mind ponders over the "situation;" the outcry of the stalwarts is an echo of his own little trouble, and he determines to take the risks of martyrdom in as pseudo-patriotic a character as he had risked ridicule and the evils of dead-beatism at an earlier period of his life in a pseudo-religious spirit. From the time he presented a copy of his speech, with the word "Paris" written in lead pencil in one corner, to the President, as a reminder of his claim to

the consulship, all through that now well worn record: the threatening letters to persons high in authority; the purchase of a silver mounted pistol, that it might make a better display in the Army Medical Museum; the visit to the jail to see whether it would resist mob-violence; the attack on the President in a crowd, and in open day, when he could have killed him more safely on an earlier night, in a comparatively deserted locality; the letter to General Sherman; the "Address to the American People"; the collection of newspaper scraps and other documents in his pockets, I cannot discover a single unquestionably sane step in the man's reasoning. Most of these acts, individually considered, suggest rather unsoundness than soundness of mind. Some are characteristically insane acts, considered by themselves; all, in their aggregate, are, typically, features of the inception, maturation and consummation of a morbid or delusional project.

Guiteau, I think, felt confident (almost to the last moment) that he would never be executed. I feel convinced that his assertion, that he was God's man, was "dead earnest," to use his own words, just as I feel sure that his comparison of himself to Jesus Christ was not blasphemy—as it was characterized in the most nonsensical effort ever indulged in in any court of law: that "protest in the name of the American people," made by the leading counsel for the prosecution—but a delusional conviction. What else but the faith of a madman supported this person under the terrific denunciation of the press, the pulpit, and in sight of the hangman's rope, this physical coward, who shrank from the report of the first shot he ever fired in his life?

It is hardly necessary for me, in the face of my testimony given at the trial, to add that I do not consider Guiteau as a "homicidal lunatic," whatever that may mean. The assassination was an episodic development of an insanity which was not impulsive in its character. I do not think that Guiteau had any imperative conceptions; as to hallucinations, I am not so certain. His

so-called "dream" related to me, and corroborated by him in court while I was referring to it in my testimony, if it was not an hallucination, bore the same relation to the subsequently developing aspirations to the Presidency in 1884, that the hallucination of delusional insanity sometimes bear to subsequent delusions. He dreamed, as he claimed, that he was holding a reception at the Presidential Mansion, that it was an immense affair, and that the crowd extended miles and miles away. Who will not recognize in this dream a reflection of the pride Guiteau took in his jail receptions? If the prosecution had intended to prevent Guiteau from breaking out in insane fury, they could have selected no better method than the permitting him to hold these receptions, which tickled his vanity and kept him in a complacent mood.*

To the reflecting psychologist, however, the readiness with which Guiteau accepted bogus checks for fabulous sums, in sober earnest, while in prison, his childish indignation at the written curses, threats, miniature gallows and hempen rope sent him by mail; his belief that the persons visiting him from motives of curiosity were his admirers; his replies to alleged candidates for his hand in marriage, and so on, are among the strong cumulative evidences of his insanity; evidences which did not require the unexpected post-mortem signs of insanity revealed in Guiteau's brain to elevate them to the dignity of proofs!

But it was not my purpose to do more than to sketch hurriedly my own views, as entertained at the present moment, in order that I may be on record with such modifications as the reader may detect on comparing these expressions with those cited from the testimony given over a year ago. I recognize regretfully that the personal pronoun and personal matters have been so prominent in this paper, but how I could otherwise correct errors for which I am not personally responsible,

* Mr. Scoville informed me that he tried to have this scandal stopped, but in vain.

but which have formed the basis of invidious personal criticism, I do not know. I trust that I have at some risk of inviting further criticism of a different nature, at least relieved those who hold the view that Guiteau was insane, of the imputation that the only witness who had the opportunity of defending the conviction which they shared, held the ridiculous view that Guiteau was insane merely because his head was asymmetrical, and ruined the effect of his testimony by unprovoked sarcasm and repartee, or believed Guiteau to be a "moral monstrosity," and nothing else.

I will add, that under the excellent clause on responsibility of the codes of the Central European States, Guiteau, the free determination of whose will was impaired by disease or defect, was not a responsible agent when he killed President Garfield. I have always held the view, perhaps not emphatically enough expressed at the trial, that he did not appreciate the ethical aspects, that is the right and wrong of the act for which he was executed, although at every time preceding, during and after the act, he was aware of the ordinary legal results following the commission of a crime. I am also of the belief that if Guiteau had been certain, or had even considered it probable that his shot would earn him an ignominious death, it would have prevented him from slaying the President. But it is precisely because such subjects as Guiteau will rarely, if ever, recognize their own condition or their relation to their surroundings properly, that they are not able to adopt the rules of action governing reasonable persons, as guides. Because Guiteau was insane, he believed that his foul deed was a meritorious act; because he was insane, he believed that he could commit that crime and not only escape punishment, but earn the gratitude of a nation; and because he was insane, when he had no refuge on earth left, he turned to a future which, if he had been sane, would have held out little of the consolatory to him, and arrogated to himself in the other world a position side by side with the Almighty—and

in this a monument erected by a grateful and contrite nation, after the long and bloody war he predicted would grow out of his execution. Could sane conceit and sane egotism ever approach this? Could the check of the law ever be applied so as to influence such overwhelming self-exaltation?

The Influence of Age upon the Mind and Body in Relation to Mental Derangement.

A CHAPTER FROM A FORTHCOMING TREATISE ON INSANITY.

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TIME, which exercises its influence even upon inorganic bodies, is immeasurably more powerful in its relations with organized beings. They spring into existence, increase, decay and die according to the laws of their being. In some, the cycle is completed in a few days, or even hours; in others, in a few years; and in others, again, not until centuries have elapsed.

This is equally true of animals and vegetables. The moth of the silk worm and certain cryptogamic plants measure the period of their existence by hours, while the crocodile, the elephant and the oak count hundreds of years of life.

King David fixed the length of human life at seventy years, with eighty as an exceptional limit. Flourens* believes, with Buffon, the natural life of man to be one hundred years, and adduces many ingenious arguments in support of his opinion. Instances are not wanting in which even this limit has been greatly exceeded. Thomas Parr, for instance, is said to have lived to the age of one

* "De la longevité humaine et de la quantité de vie sur la globe," Paris, 1856.

hundred and fifty-two years, and then to have died from indigestion caused by overeating at a feast given to him by Charles I. Harvey made a *post-mortem* examination of his body, and found all his viscera in normal condition. The cartilages of his ribs were not ossified.

Mr. E. Ray Lankester* cites instances in which one hundred and nine and a hundred and eleven years have been reached, but doubts if there is any authenticated instance of more than one hundred and twenty years having been attained. He cites statistics which go to show that in civilized communities the average duration of life is greater in females than in males.

During life, the fluids and tissues of the body are constantly undergoing change. New matter is deposited, and the old is renewed with ceaseless activity. The body may be regarded as a complex machine, in which the law that force is only generated by decomposition is fully carried out. Every motion of the body, every pulsation of the heart, every thought which emanates from the brain, is accompanied by the destruction of a certain amount of tissue. So long as food is supplied in abundance, and the assimilative functions are not disordered, reparation proceeds as rapidly as decay, and life is the result; but should nutrition be arrested by any cause for any considerable period, new matter ceases to be formed and the organs, worn out, act no longer, and death ensues.

The animal body differs from any inorganic machine in the fact that it possesses the power of self-repair. In the steam-engine, for instance, the fuel which serves for the production of steam, and subsequently for the creation of force, can do nothing toward the repair of the parts which have become worn out by use. Day by day through constant attrition and other causes, the engine becomes less perfect, and must be put in order by the workman. In the animal body, however, the material which serves for the production of force is the body itself.

* "On Comparative Longevity in Man and the lower Animals," London 1870.

the substances taken as food being first assimilated, and converted into brain-substance, muscle-substance, heart-substance, etc.

The body is therefore undergoing continual change. The hair of to-day is not the hair of yesterday; the muscle which extends the arm is not identically the same muscle after, as before the action; old material has been removed and new has been deposited to an equal extent; and, though the weight and form, the chemical constitution, and histological characters are preserved, the identity has been lost. If, however, a muscle be detached from the recently dead body of an animal, accurately weighed, made to contract many times by a current of electricity, and then weighed again, it will be perceived to have lost appreciably a portion of its substance.

So long as the processes of waste and repair exactly counterbalance each other, life continues. If it were possible so to adjust them to each other that neither would be in excess, there is no physiological reason why life, if protected against accidents, should not continue indefinitely. But this is not, with our present knowledge, possible; decomposition eventually predominates, and death from old age results.

The life of man has been variously divided by different authors into artificial stages or periods, the limits of which are by no means accurately fixed. A natural division which is based on the physiological course of life, is not only more convenient, but is more correct. In accordance with this principle, therefore, I would divide the life of man into three periods: 1.—*The period of increase*, in which the formation of tissues predominates over decay; this stage extends from birth to about the twenty-fifth year, varying according to individual and sexual peculiarities. 2.—*The period of maturity*, in which the two processes counterbalance each other, extending from the twenty-fifth year or thereabouts, to the thirty-fifth year. 3.—*The period of decay*, in which the tissues are not regenerated as rapidly and perfectly as they are broken

down and excreted from the system, and reaching from the thirty-fifth year to the extreme limit of human life.* Each of these stages is marked by strong peculiarities, both of organization and action, and they exhibit immunities to some diseases, and susceptibilities to others, which are only to be accounted for by a reference to the physiological condition by which each stage is characterized.

THE PERIOD OF INCREASE.—The average height of the human subject at birth is between eighteen and nineteen inches, and the weight about seven pounds. The bones are not yet completely ossified, the muscles are soft, the skin thin and highly vascular, and the circulatory and nervous apparatus developed to a much greater extent, comparatively, than at any other period of life.

A great tendency exists during the first five years of the period of increase to diseases of the nervous system, and this is at its maximum during the first dentition. Convulsions due to irritation, and inflammation of the brain and its membranes are accordingly of common occurrence. As we have seen, insanity may exist at this time, and this either from hereditary transmission, or arising from some accidental cause. In addition to the facts cited in the immediately preceding chapter, the following are worthy of notice:

Guislain† states that he possesses in his notes several remarkable examples of infants who have become maniacs before the age of puberty. He has seen subjects only three or four years old, who, up to that age, had shown much intelligence, and even a precocious development of the mental faculties, experience suddenly an entire change of character, becoming at first morose and then excited, violent, and exhibiting in their countenances the signs of intellectual derangement. This condition has lasted several months, and has then disappeared, to be replaced by an apparently normal state. Moreover, such instances have

*This division, which is as old as Aristotle, is preferable to any which has been since devised.

† "Leçons orales sur les phrenopathies, ou traite theorique et pratique des maladies mentales," Paris, 1850, t. i, p. 447.

occurred in several infants of the same family, in which, nevertheless, insanity was not hereditary.

Morel* cites from his own experience the case of a girl ten and a-half years old who, on being frightened, fell into convulsions, and immediately lost the faculty of speech. Her mental state was characterized by exacerbations of such a nature that it was necessary to confine her in an asylum, in which she was a constant source of trouble. She seemed never to be happy unless she was destroying everything which came into her hands, and tormenting the adult lunatics.

In another case which also came under his notice, the subject, a boy five years of age, was suddenly frightened, lost the power of speech, and for three years that he was in an asylum, exhibited constant turbulence and frequent maniacal exacerbations.

Dr. Chatelain† reports a remarkable case of acute mania occurring in an infant four years and nine months old, who was frightened by a fire-engine. At first she had hallucinations of hearing and of sight, then, as the violence of the disease increased, she was constantly in motion, gesticulated violently, grew angry, struck at persons, wept and wished to kill her relations. Finally, after several weeks, she became better, and probably entirely recovered.

Several cases of insanity in youths of either sex have come under my observation, but only one in which the subject was of very tender age. This was a boy about six or seven years old, whom I saw in consultation with Dr. E. M. Hunt, of Metuchen, New Jersey. Frequently, during the day, he would experience attacks of acute maniacal excitement, during which he would bite, kick, and strike all who come near him, and destroy everything within his power or reach. While the paroxysm was on him he was in constant motion, running and dancing around the room, climbing over the tables and chairs,

* "Traité des maladies mentales," Paris, 1860, p. 101.

† *Journal de Médecine Mentale*, t. x, p. 322.

gesticulating violently, and shouting or talking incoherently at the top of his voice. There was some evidence to show that when an infant in arms he had received a fall, striking his head. The place was pointed out differently by his mother and grandmother, but, acting upon what I conceived was the better evidence, I determined to trephine him. The operation was performed with Dr. Hunt's assistance, the cranium being perforated at the right parietal eminence. No injury of the bone was found but recovery took place immediately, and the patient is now, as I believe, a healthy and sane young man. It is a notable fact that insanity in young persons is very apt to take the form of mania with destructive tendencies. The patients exhibit strong propensities to kill or torture animals, and to inflict wanton cruelties on their companions.

Strange as it may seem, suicide is by no means an unknown act with very young children. With youths, as we are constantly being informed by the newspapers of the day, it is more common. M. Durand-Fardel* found that, of 25,760 suicides occurring in France in the ten years from 1835 to 1844, one hundred and ninety-two were in persons under sixteen years of age. Of these latter, one was under five years, two between eight and nine years, two between nine and ten years, and six between eleven and twelve years of age.

Referring to these statistics, Brierre de Boismont † says :

"We can understand suicide by infants when we read in the confessions of Saint Augustine that a child at the breast, when its nurse suckled another baby, went into a violent fit of anger at the sight, and almost had convulsions."

According to the census of 1880, there were in the United States, during the preceding ten years, two suicides by children between five and ten years of age, twelve

* "Etudes sur le suicide chez les enfants." *Annales Medico-Psychologiques*, Janvier, 1855.

† "Du suicide et de la folie suicide," Paris, 1856, p. 68.

between ten and fifteen years, sixty-six between fifteen and twenty years, and one hundred and thirty-six between twenty and twenty-five years.

Montaigne* states that in his time there were many examples of children committing suicide in order to escape from some slight inconvenience.

And this is one of the chief characteristics of suicide when perpetrated by children—that it is generally for some notion which, to the adult mind appears to be altogether inadequate, often ridiculously so.

Esquirol† cites the case of a boy thirteen years old who, for some trifling cause, hanged himself, leaving a statement in writing that he left his soul to Rousseau and his body to the earth. And from Falret another, also a boy, twelve years of age, who hanged himself because a composition which he hoped would obtain the first place, was only twelfth. The following cases are reported by Dr. Forbes Winslow:‡

Harriet Cooper, aged ten years and two months, upon being reprov'd for a trifling fault, went upstairs and hanged herself with a pair of cotton braces. Another, named Green, aged eleven, drowned herself from the fear of correction for a trifling fault. And he cites from Casper the statement of Dr. Schlegel that in Berlin between the years 1812 and 1821, no less than thirty-one children of twelve years of age and under, committed suicide either because they were tired of existence or had suffered some trifling chastisement.

Collincau§ refers to the case of a boy ten or twelve years of age, who, on being sent back to college before his holiday was over, hanged himself, as he said in writing, *to make his parents angry.*

Another, ten years old, on being reprimanded by her mother, answered: "If you torment me in this way, you

* "Essais," liv. i., chap. xv., p. 293, edition de Lefevre.

† Op. cit., t. i., p. 289.

‡ "The Anatomy of Suicide," London, 1840, p. 269.

§ "Du suicide chez les enfants," Journal de Médecine Mentale, t. viii, 1868, p. 417.

will some day find me hanging to the bed-post;" another of nine years actually threw herself out of the window, to avoid a scolding for having broken a goblet; and still another of only five years hanged himself to escape from the bad treatment of his mother.

Cases like these might be cited by the dozen. The daily press makes them familiar to us all; only to-day (August 10th) the New York morning papers report the case of a boy aged fourteen, who, having broken a pane of glass in the shop in which he was employed, was told that he would have to replace it. Afterward he was sent out with a clock which had been repaired, and on which he was to collect a dollar. Then he hired a row-boat, went out on Jamaica Bay, and anchoring at about three hundred yards from the shore, shot himself with a toy pistol. His dead body was found at the bottom of the boat.

A short time ago, a case went the rounds of the press, of a boy of ten years who had hanged himself because as he said he "was tired of so mush dressing and undressing." Surely there must be an innate abnormal brain-formation in such children, one that if they had lived, to attain maturity, would have caused infinite trouble to themselves and those around them.

As the age of the individual advances, the body becomes more fully developed, and is enabled better to resist disease. By the time puberty is attained, which in the United States is about the sixteenth year for boys and the fifteenth for girls, the tissues have acquired considerable solidity, the bones have become harder, though the epiphyses are not yet consolidated with the shafts, and the circulatory, respiratory and digestive organs have in a measure, lost the excessive sensibility by which they were characterized in infancy.

The genital organs, which have hitherto exercised but little influence over the general system, now become capable of performing their functions. In the male, the secretion of semen takes place, in the female menstruation

begins. The larynx, which, in the infant, is small and round, now becomes lengthened, and in the male especially the voice assumes a more grave tone.

The intellectual faculties have not been behindhand. The brain, though relatively smaller, has undergone consolidation and hardening of its substance, and has, in conjunction with the other organs of the system, lost to a material extent the peculiar sensibility to external impressions which belonged to it in early infancy, gaining in strength, in force, and in capacity for improvement.

The relation between the formative and distinctive processes is more nearly balanced, and the body has nearly attained the period when growth ceases. This point is in males about the twenty-fifth year, and in females about one year earlier.

Insanity in some one of its several forms, though not especially common about the age of puberty, is nevertheless not infrequently encountered. Its more usual variety is mania, but it is sometimes met with as an affection mainly of the emotions, or as characterized by blind and unreasoning impulses to acts of deceit or violence. Fixed delusions are not a prominent feature, but, as Blandford* states, there are perverted feelings, hatred of relations, wanton and indecent behavior, cruelty and destructiveness, and hallucinations of the senses.

Several cases of insanity occurring in young persons have come under my observation, and all were, with one exception, of the types above described, presenting very much the general appearance of reasoning mania, to which attention will subsequently be fully directed. In one of these instances, the patient, a young lady about fifteen years of age, had been for some two or more months affected with an impulse to torture and kill every animal which came under her notice. How it originated she could not precisely say, but was disposed to think that the first time she felt it was when witnessing a cat playing with, and finally killing, a mouse. At once she pro-

* "Insanity and its Treatment," Edinburgh, 1871, p. 125.

cured several traps, all so constructed that the animals were captured alive. Then she would put some into a wash-basin, and, gradually turning on the hot water, would watch their struggles with the greatest pleasure till they were finally scalded to death. Others she placed in the trap on the top of a hot stove, enjoying their struggles in their frantic efforts to escape. And others again were deliberately cut to pieces with scissors. Upon one occasion, she threw a whole litter of kittens into a bucket of boiling water. When the larger animals were not available, she spent her time in catching and killing flies. She confessed to me that her great desire was to steal a baby and skin it alive, but that she was afraid to make the attempt lest she should be arrested and hanged for it. She was, at the same time, a teacher in a Sunday-school, and she declared that it was with the utmost difficulty she could refrain from enticing one of the younger pupils into a corn field, near which they passed on their way home from church, and killing her. She had even gone so far as to put a piece of twine into her pocket, with which she designed strangling her victim, but the fear of the law had always prevented her.

There were periods of remission in which she was a prey to the deepest feelings of remorse, and it was in one of these that she was brought to me by her father, a worthy gentleman, who had endeavored to conceal his daughter's misfortune, and to cure her by moral suasion. Not finding this successful, he had called together a few friends, and together they had prayed for her recovery, also without favorable result.

She reasoned with entire calmness about her misfortune, and with tears in her eyes and much lamentation regretted her inability to control the impulse which moved her, and which she was sure came from the devil. I attributed it, however, to another cause, and, by regulating her menstrual function, succeeded in a short time in restoring her to health. Such cases, however, more properly belong to the following chapter, on sex. Others

of similar character will engage our attention in subsequent parts of this treatise.

I am inclined to think that this disturbance of the moral and emotional faculties without marked aberration of the intellect, when occurring in young persons, is more common in girls than in boys.

Later on, during the period from fifteen years of age to twenty-five, the tendency to insanity is still greater, the emotional system is more fully developed, and in both sexes, love begins to play an important part in the promotion of mental disorders. The struggle for existence and position has begun, and the individual is sometimes slowly, sometimes rapidly, but always surely, taught that there are trouble and sorrow and exertion before him. To some this knowledge is more than the mind can bear. There are very few at this age and at this day, according to my experience, who injure themselves by intellectual exertion. Occasionally, however, the mind is overtaken, and a *quasi* insane condition is produced, which, if not promptly relieved, terminates in mental alienation. The struggle for position is by no means confined to adults. It exists with the boys and girls in our schools, counting-houses, and even in our work-shops. Not long ago a young man, not over sixteen years of age, was brought to me in a high state of acute mania, induced by his efforts to excel in the work of copying letters; and I was shortly afterward consulted in the case of another of like age, who had become melancholic and subject to the delusion that he had committed the "unpardonable sin," the consequence of excessive application to his trade as a violin-maker. This is the exceptional case to the rule of moral perversion only, to which allusion has just been made.

THE PERIOD OF MATURITY.—Some authors consider that physiologically there are but two periods in the life of man, that of increase and that of decline. Strictly speaking, this view may be the correct one, but there is a time when if there is any increase in development it is

scarcely perceptible, and if any decline, this is so gradually effected that it is inappreciable by any means at our disposal.

This period may very properly therefore be regarded as that at which the formation and destruction of tissues are so nearly balanced that the body may be regarded as fully mature. Tissue is not, as in the preceding stage, deposited faster than it is removed, but the wants of the system are exactly compensated by the deposit of new material to take the place of that removed as effete.

At the beginning of this period, which ordinarily extends from the twenty-fifth to the thirty-fifth year of life, the epiphyses of the bones become firmly incorporated with the shafts, the flesh becomes hard and firm, and the physical strength is at its maximum.

The mental faculties, though more strongly developed than in the former period, are not yet in their prime. This is a curious circumstance, and one which is at variance with our preconceived opinions. Some faculties of the intellect and some of the emotions are, perhaps, equal in force and activity to their development at any period of life, but, as a whole, the mind is not possessed of the capacity, the strength, the endurance or the power of concentration, which it has during the next period, when the physical powers have begun to decline.

A little reflection reveals to us the reasons for this, which are two in number :

1. The brain does not attain to its maximum degree of development at the same time as do the other viscera and the osseous and muscular systems. So far as size is concerned, it probably does not, as the Brothers Wenzel contended, reach its maximum at the seventh year, but, as Dr. Boyd* has shown, it is very nearly as large at this period as it ever will be, and by the twentieth year it has attained to its full size. But, after this point is arrived at, it continues to gain in firmness of structure, owing to the gradual loss of a portion of its water, and

* Quoted by Thurman, *op. cit.*

thus there is a comparative augmentation of brain-tissue, an increase of weight, going on far into the period of decline.

2. As the mind feeds on the impressions which reach the brain through the special senses, it has not had time by the end of the period of maturity, which is at the thirty-fifth year, to acquire all the information necessary for it to reach its greatest stage of development, which is during the next period.

It is during the period of maturity that insanity is most common. Wealth and station have generally not yet been fully reached even by those most favorably situated for getting them, while, on the other hand, the contest has terminated disastrously for many who entered upon it with high hopes and expectations. These circumstances cannot fail to increase the wear and tear of brain, and, consequently, to augment the number of cases of mental alienation over those of either the preceding or the following period.

Moreover it is during this period that the cares of life are greatest in both sexes, through the necessity which exists for providing for a family not yet able to provide for itself. This, alone, is often a cause of insanity.

THE PERIOD OF DECLINE.—The period of decline is marked by as many striking characteristics as those which belong to the period of increase. After the body has remained at nearly a fixed point of development for a few years, varying from five to ten, a disposition is manifested to degeneration. The process of decay becomes more powerful than that concerned in the regeneration of tissues, and, in consequence, the body not only loses weight from the atrophy of its parts, but the functions are less perfectly performed. Thus, the action of the heart becomes weaker and less frequent, the respiration slower, the digestion feebler, the muscles thinner and more rigid, the skin shrunken, the joints stiff, the teeth fall out, the hair becomes gray or the arteries ossified, and the entire form loses its elasticity and becomes

less erect than in adult age. The whole tendency of the body is toward consolidation. The generative function is greatly weakened or altogether lost in both sexes, and in the female the menses cease to flow.

The organs of special sense, toward the latter portion of the period, also become involved in the process of degeneration. The eyes lose their brightness, and the sight grows dim and presbyopic. The hearing diminishes in acuteness, the taste is blunted, and the sense of smell is almost if not altogether, lost at a comparatively early period.

In these changes the mind also participates, but not in an equal ratio to the changes going on in other parts of the body. Indeed there is during the first ten or fifteen years of this period, an increase in the strength and powers of endurance of the mind, and quite often this process continues for several additional years. The judgment, owing to the experience which the individual has obtained in the affairs of life, becomes riper and more unerring; there is a greater power of determining the value of facts, and a less disposition to be governed by the emotions.

But after a time the intellect becomes less absorptive of perceptions and less creative of ideas. The power of mental concentration is markedly diminished. The memory fails, especially in regard to recent occurrences. The imagination loses the vividness and extensive range of youth and maturity, and the judgment becomes feeble and vacillating. The individual begins to rely on others for advice as to his affairs, and little by little he parts with his own will, even in matters of the smallest importance. The emotions no longer sway the whole being as they once did, and some of them are utterly extinguished. Often, however, a maudlin or fretful condition is developed, which ends with its own expression of tears or sniffles, never prompting to volitional impulses or producing more than a momentary disturbance.

To all this, however, there are sometimes notable ex-

ceptions, but yet not enough to invalidate the law that the period in question, is one of decline in fact as well as in name.

If the alterations are gradual and uniform throughout the system, death from old age is the consequence; but it rarely happens that derangement of some one important function does not produce this result before the general breaking-up of the vital principle occurs.

During the first ten or fifteen years, the decay of the organism is so slowly effected that very little inconvenience results, and occasionally, as has been intimated, we meet with individuals who are able to withstand, to a very advanced period of existence, the tendency to degeneration. But it is nevertheless advancing, imperceptibly it may be, but surely, to the extinction of the principle of life.

Such is a brief outline of some of the conditions which attend the period of decline. The diseases to which it is especially liable are those which are connected with the most important organs of the body—apoplexy, paralysis and mental affections being chief among them.

Owing to the failure of the nutritive processes of the brain, the power of this organ is so greatly diminished that what is known as a senile dementia is a not infrequently engendered pathological state during the latter portion of the period of decline. This condition, which is the result of pathological changes in the brain, rarely makes its appearance before the sixtieth year, and generally not till much later. Willie* has shown that there is a positive shrinking of the brain in size and weight, to which, doubtless, the failure of mental power is directly due.

General paralysis, though met with in both the other periods, is far more frequent after the age of thirty-five, when the system has reached its acme, than at any other part of life, or, in fact, than both the others combined.

* "Des psychoses de la senilité," *Allgemeine Zeitschrift fuer Psychiatrie*, 1873.

The cessation of the menstrual flow in women, occurring as it does during this period, is a prolific cause of mental alienation.

But the individual who has attained to an advanced age without suffering from any form of insanity is generally safe for the rest of his existence. Acute mania is rarely met with in these persons, and melancholia, though more common, is nevertheless comparatively infrequent. It is not, indeed, to be expected that, with the exception of senile dementia, old age, when the intellect is dull and the passions burned out, can afford many examples of active mental alienation. I have, however, witnessed a few cases of what Morel calls senile insanity (*folie senile*), occurring in very old men and women. In some of its features it is not unlike general paralysis, but it has altogether a different course and character of termination. There are the same mental exaltation and weakness of the muscular system, conjoined with a peevishness and disregard for the rights and feelings of others, which tend to render the subjects a nuisance to those about them, at the very time that they should be exhibiting the calmness and dignity of a majestic old age. It generally ends either in an attack of acute meningitis or of cerebral hemorrhage, which quickly carries off the patient.

Studies on the Minute Anatomy of the Central Organs of the Nervous System.*

By PROF. GOLGI, of Pavia.

NEVER so evident in our epoch, in which such notable progress has been made in the physiology of the nervous system, has it appeared that, from the point of view of the relations between anatomy and physiology, the studies of the central nervous system stand in contrast with what has been verified in the studies of other organs and tissues.

Whilst it may, in general, be frankly asserted that the discoveries relating to the anatomical condition of organs, tissues and elements, have opened up the path to the discovery of the laws under which these structures function, on the contrary, in the study of the nervous system, it has been found that anatomy has been, and still is, at all times, constrained to seek for direction for its own researches, and for the support of its own conclusions, in the data of physiology.

Microscopic anatomy has, it is true, conquered much territory within the last decades, yet physiology stands always far ahead of it; and it is the fact that the former has not yet attained a position from which to reply to the most important and most simple questions of the latter. Physiology, for example, is able at last to say, with security, that to the various parts of the brain diverse functions appertain, but anatomy is not only unable to give the reason for such differences, but not at all can it tell whether the different mode of functioning of the various regions of the brain is related to difference of form or structure of the constituent elements of the regions. As to physiology, there can be no doubt, that, between the different functions of the nervous

* Translated by Joseph Workman, M. D., from the *Rivista Sperimentale*, etc.

centers, there exists an intimate relation. Has anatomy, up to this time, been able to tell through what path, and through what mechanism the colligation is secured? To this question, the response of anatomy has, of necessity, up to the present, been merely negative.

This insufficiency of our anatomical knowledge of the central organs of the nervous system certainly cannot be ascribed to deficiency of studies, for in the last decades this domain has been well trodden, and not without some result; but there is too much ground for the confession that the final result of the work done has left yet unsolved all the questions which, as regards the minute anatomy of the nervous system, have been debated over in the last ten years.

Impelled by the desire of being able to contrapose to ascertained physiological laws, some anatomical data, the special explorers of the central nervous organs were unable to content themselves with veritably established facts, but they frequently wished, from a special fact, to deduce general laws. Thus, it so frequently happens that, in the anatomy of the nervous system, *schemes* are substituted for vigorous description of the forms and relations which they are brought forward to verify; these schemes, although, perchance, wearing the semblance of reality, since they, under a certain stretch of control, harmonize with physiological doctrines, are nevertheless but so many anatomical hypotheses. A few examples may suffice:

As regards the structure and elementary morphology of the central organs, we may to-day see generally accepted as indisputable the ideas of *Gerlach*, *Schultz*, *Boll* and *Meynert*; now, whatever there is in these ideas of essential character is simply resolved (and it shall be my task in this work to demonstrate the fact) into a series of *anatomical hypotheses*, which do not cease to be such because they may give a sufficient explanation of facts ascertained in the field of physiology.

As to the direction and relation of the nerve fascies, the reciprocal relations between single elements, between diverse

provinces, and between various zones of provinces, we see actually accepted as laws the assertions of *Luis*, *Meynert* and *Huguenin*, etc. ; now, whoever sets to work with the object of special exploration of any of the cerebral provinces, whose histological structure has been described with the greatest exactitude, will certainly encounter disappointment in being constrained to the discovery that the facts do not correspond to the assertions which, in great part, will be discovered to have been so many arbitrary complements of schemes imagined to meet the requirements of a theory.

The description which I have undertaken to give of the minute structure of each of the cerebral provinces will afford me occasion for furnishing proof of my assertion.

It may readily be understood that a system, so constructed to complement, theoretically, the results of observations, must have produced injury, even in this way, that young observers, in undertaking the study of the nervous system, finding, as regards the more obscure points, absolute assertions sustained by authoritative names, have become stultified in their attempts to master the subject by new researches, or have taken, as proofs of the doctrines submitted to them, certain mere appearances. It is in this way that inexactitudes, errors, mere hypotheses or schematic descriptions have been handed down from school to school, from book into book, as incontestable verities.

It is, however, incumbent on us to recognize the fact that the paucity of the conquests achieved in the minute anatomy of the nervous centers must in great part, be attributed to the extreme difficulty resulting both from the complication and the extreme delicacy of the texture, and the lack of means adapted to their search.

The methods by the aid of which, in the modern phase of anatomical studies, so many conquests have been achieved in the domain of minute anatomy of organs and tissues generally, have, in so far as relates to the nervous system, given, in the hands of patient enquirers, some fruits, which, though noteworthy, are far from meeting the amplitude of the wants. Nor could it be otherwise.

Convinced that, in order to pass beyond the limits hitherto reached, it was necessary to try new ways for opening them by special means corresponding to the special and complex structure of the organs, I dedicated myself to the anatomical study of the central nervous system, and it was almost my first care to put myself in trace of methods which might, better than those before known, enable me to enlarge the field of research, and thus to present to me, from some new points of view, the structure of the organs in question.

Nor did my endeavors prove fruitless; for it was granted to me to find means which, by the fineness and precision of the results, leave far behind all those which, even in the most recent epoch, have been employed by anatomists.

Availing myself of these new methods, without at all disregarding those more commonly used, I have been able to extend considerably our knowledge, to throw light on some points and to expose some errors, the demonstration of which I have been prompted by a part of my results to undertake.

Confronting the great extent of the *lacunæ*, it is but too evident that the contribution which I can offer to the study of the minute anatomy of the central nervous system is but a small thing; it has, however, the value of regarding facts incontestably ascertained. Not one of the particulars exposed in the work, not one trace of the illustrating plates, exists, that has not, on my part, been the subject of the most scrupulous and patient examination, and which I have not found myself in a position to demonstrate with the clear evidence of preparations.

As regards the work, I can further say that it has been almost my chief preoccupation to see that the illustrations corresponded to the truth; and, as relates to the fineness and clearness of the details, I permitted no liberty to the artist, so that whilst they serve to prove the goodness of the methods adopted by me, they may also be used as documents, or as terms of appeal, by those who, with the view of extending or of controlling their knowledge, may desire to undertake similar researches.

Among the problems pertaining to the general anatomy of the nervous system, whose solution is, for physiology, of essential interest, the following have appeared to me most deserving of new research :

1st. The general problem of the mode in which the nervous fibres in the brain are put into relation with the gangliar cells.

2nd. That of the exact cellular morphology, studied in its central relations with the function of the single regions of the brain ; determining, that is to say, whether the difference of functions of the single regions of the nervous organs, stands in relation with differences in the cellular forms, and in what the eventual differences consist.

3rd. That of the disposition and the mutual relations of the elements in single parts.

4th. Finally, that of the progression of the nerve fascies, and of their relations to the diverse groups of gangliar cells.

It is superfluous to say that all these problems may be posited for every single province, or indeed for every zone into which the central nervous organs are wont to be divided ; such exactly would be one of the undertakings which modern anatomists might propose to themselves, that is, to scrutinize minutely every zone, point by point, by different methods of research, whether modern or ancient, in order to be able to find the response from each of the single regions, to the problems above stated.

It is understood that we have, from the very outset, engaged in a simple labor of analysis, the collection and proper ordering of materials, illustrated by figures which shall reproduce with scrupulous exactitude, the form, size and relations of the different constituent parts ; but it is beyond doubt that it is only from the whole assemblage of the materials so disposed, that we can be permitted to deduce well-founded conclusions. And yet, to arrive at this result would be an undertaking such as to occupy for years, not one, but several investigators, and to require means which but few could command.

If, however, I could not, alone, hope to accomplish all

the work, nevertheless by devoting myself to it with patience and constancy, as I have done, for not a short series of years, I have, I fondly trust, been able to indicate at least the principal lines, and to lay down a tracing of one of the paths which may with certainty be followed with profit. This has been my aim; and I shall believe that I have attained it, if it shall have been granted to me to solve a part, however small, of the problems enunciated; but more still, if by diffusing the knowledge of the methods of study, by making known especially by means of plates, the notable result obtained by these methods, and by indicating some of the questions which may without doubt, by these means, shortly be solved, I may be able to awaken in others the desire of repeating and continuing their researches with the same intentions as I have had.

1.—Preliminary notes on the structure, morphology and mutual relations of the gangliar cells.

The first question presented, in undertaking, from a general point of view, the study of the central nervous cells, is whether these are furnished with absolute characters, such as to differentiate them from other elements chancing to have identical aspect.

The preliminary treatment of this subject will not appear superfluous, if we consider that even very recently some observers have held that there exists no absolute distinction between the nervous cells and the connective cells, forming the fundamental stroma of the gray substance, and that they have even met with some transitional forms between the two. On the other hand, it is known that the most accredited histologists, including Gerlach, Boll and Deiters, deny to some categories of gangliar cells the sole character from which a nervous nature can be attributed to them.

To the enquiry included in the above question, it may be answered, that in general, by the form, by the special aspect of the cellular body and of the nucleus, by the manner in which they originate and are prolonged, as also by their aspect and mode of ramifying, and finally by a certain particular aspect as a whole, the nervous cells may, by an expert

observer, be differentiated from the other cellular elements; yet no one of the above stated characters can be given as absolute; so true is this, that, holding as the basis of our judgment these data alone, not rare is it the case that we must remain uncertain whether some elements should be regarded as of connective or of nervous nature; and it is known that the elements are not few, relative to which the judgments of histologists are contradictory; for example, the numerous nervous cells of the gelatinous substance of Rolando, and the so-called granules of the cerebellum, which have been regarded by many, and are yet regarded as of connective nature, though they are nervous.

There is, however, yet a datum, which is an absolute characteristic by which a cell may with certainty be designated as nervous, and this consists in the presence of a prolongation (unique) of special aspect, different from all the others, by means of which direct connection with the nerve fibres is established: this characteristic cannot be clearly shown unless by means of special reactions.

Desiring now to give a concise definition of the nervous cells, we may say that those alone can be considered as such, which are furnished with a special prolongation (always unique) differing from all the others, and destined to continuation in the nervous fibres.

Description of central nervous cells.—The nervous cells are presented to us as bodies whose form and size notably vary, according to the provinces to which they belong. The modifications of form, and the differences in diameter corresponding to separate parts, will be given in our study of the different regions of the centers with which I intend to occupy myself.

Limiting myself for the present to some general notes, I shall say, that as regards their forms it is usual to distinguish these cells as pyramidal, irregularly polygonal, globose, pyriform, ellipsoid, fusiform and irregular. As to their size, the nervous cells vary within very large limits; indeed no normal texture of our organism presents, relatively to the size of its cellular elements, gradations so extended. The

largest nervous cells may, in fact, be seen by the naked eye, under the form of very small points. Taking into account all the categories of central nervous cells, we may say that their diameters range from 10, 12, 15, to 100, 150, 200 μ . (micromillimeters). We may find a prevalence of types of more conspicuous diameter, especially in the anterior cornua of the spinal cord, in the medulla oblongata, and in the nucleus dentatus of the cerebellum; examples of nervous cells of very small diameter are on the contrary furnished by the so-called granules of the cerebellum (which have been well characterized as nervous cells) and by the cells which people the gray stratum forming the fascia dentata of the foot of the hippocampus major, and by the gelatinous substance of Rolando in the posterior horns of the medulla spinalis.

In the elements in question, we should distinguish a cellular body from its prolongations.

The cellular body presents characters somewhat diverse according as it is studied in the fresh state, or after it has undergone the influence of the hardening reagents commonly employed. In the fresh state it has an aspect perfectly clear and transparent, and even with the greatest magnification, we are able to observe in it only very fine granules. By treating the nervous cells with various reagents (iodocserum, the weak solution of chromic acid and osmic acid), it is shown that their bodies present a very fine striation parallelly disposed on the surface, and concentrically in the nucleus; the several striæ are then seen separated by a very thin stratum of finely granulated substance.

The nucleus of the nervous cells is, as a rule, pretty large, its diameter usually being from 2 μ . to 8 m. m.

When observed in the fresh state, they appear clear and transparent, and show a double contour, giving the impression of an extremely small globose bladder.

The fact that the granulations enclosed in the nucleus are sometimes seen subject to an oscillatory movement (molecular) seems to indicate that the bladder may be occupied by a liquid. Examples of cells with two nuclei are very

rare; the cases observed ought to be considered as manifestations of arrest of development of the cells; the process of segmentation which always begins at the nucleus, may sometimes have been limited to this part, and not at all have interested the cellular body, and this state may have become stationary. According to some writers, the double nucleus should be a proof that even in adult life there persists in the nervous cells a formative activity (cellular multiplication). The first interpretation is the most probable.

The nucleus is usually provided with a relatively large nucleolus, which is splendid and readily colorable by carmine; within it there is frequently visible a little grain (nucleololo, anglice, a baby nucleolus). With respect to acids, the nucleus of the ganglionic cells is wont to be much less resistant than the nuclei of other elements.

In the majority of the nervous cells, at a point near the nucleus, between this and the cellular periphery, some granules of brownish-yellow pigment are disposed. This normal pigmentation is seen more or less marked, according to the age and to the regions to which the ganglionic cells belong. It is scarcely shown in the young, more pronounced in adults and still more in the aged. In some regions we meet with not a few granules in proximity with the nucleus, but with large accumulations which fill the whole body of the cell, and in fact hide the nucleus. Such an advance of pigmentation is, for example, observed in the nervous cells of the strata of gray substance existing in the cerebral peduncles and in the medulla oblongata, and it is exactly to the yellowish or brown pigment occupying the nervous cells, that we should attribute the particular color which has caused to be given to these strata, the name *substantia nigra, locus niger* of *Sommering*.

There has been discussion on the nature of the substance which forms the body of the nervous cells. At first a protoplasmic nature was assigned to them, in conformity with the idea entertained as to cells in general; this idea, as is known, was combatted by Max Schultze, who held that on the contrary, only the soft substance, homogeneous or finely

granulous and contractile, which stands around the embrional cells existing in the adult organism, should be considered as protoplasmic.

It is now admitted that the greater part of the cellular body, like the contractile substance of the muscular fibres, the substance of the cornea, of the epithelia, &c., is a secondary formation, or a modification of the primitive protoplasm, and that we ought to regard as true protoplasm only those central parts of the cells surrounding the nuclei, and which appear clearer and softer and with a more finely granulous aspect.

With respect to this question it is, however, proper to state, that several histologists, basing their conclusions on their own direct observations, have asserted the protoplasmic nature of the entire body of the nervous cell. Thus Waller, as far back as 1868, asserted that the gangliar cells have the capacity of executing, in a rather limited measure, some ameboid movements, and this fact, he said, he had realized in the gangliar cells of the brain of the frog. More recently, Recklinghausen and Popoff have believed that we might correlate with this supposed contractility, the fact that by injecting Indian ink into the meninges, or into the cerebral substance, of a living animal, the nervous cells after some time are seen loaded with dark granules. As it has been demonstrated that penetration of extraneous bodies into young cells takes place by the action of contractility of protoplasm, therefore according to Recklinghausen and Popoff, the supposition that the gangliar cells, completely developed, conserve a certain degree of contractility, appears not unfounded.

To the discomfiture of the assertion of Waller and the argument of Recklinghausen and Popoff, it is now admitted that the principal constituent substance of the gangliar cells has a nature different from protoplasm, and correspondingly a structure essentially different.

Relative to the structure of the substance proper of the nervous cells, the discussion now circles round the opinion of Max Schultze, according to whom the structure characteristic

of such elements is the fibrillar or granulo-fibrillar; but to this opinion is opposed that of other histologists, who denying the fibrillar structure, consider the cells in question as simply formed by a homogeneous or granulous substance.

The fibrillar structure of the nervous cells had been mentioned by Remak as far back as 1853; subsequently numerous other observers alluded to it, among whom were Beale, Fromman and Kolliker, but their remarks remained isolated. The same cannot be said after the publication of the observations of Schultze, who by studying especially the large nervous cells of the brain of torpedoes, found reason to be convinced of the exquisitely fibrillar structure of the elements in question, not only of the cellular body, but also of its prolongations. According to his exposition, the fibrillar structure may be shown in a most evident manner, by isolation, in the fresh state, in serum, and it is more conspicuous towards the cortex of the cell, but it will be evident also in the internal parts; it is much more apparent in the young than in the old. Nevertheless the structure treated of is not absolutely a pure fibrillar one; an attentive examination would show that between the fibres there is a finely granulous substance which contains a yellow or brownish-yellow pigment, and that this is often continued in the prolongations. The nucleus would appear to have become surrounded by a notable quantity of a substance of purely granular structure by means of which it will be found perfectly isolated from the fibrillæ, with which it has no connection whatever.

According to Schultze, the course of the fibrillæ within the cells must be very complicate. They would seem to issue from each prolongation and to be extended into the substance of the cell, but very soon to pass out of view, because of the extreme complication of the resulting fibrillar entanglement (*intreccia*, not network) and the intermission of the interfibrillar granular substance. It would appear as if each of the numerous prolongations drew the numerous fibrillæ which constitute it, from those of the cellular substance, thus giving the impression that the entire fibrillar band does no more than traverse the cell.

According to the same writer, however, the gangliar cell, from which the cylinder axis for a nervous fiber departs, possesses the significance of the organ of origin of this axis, merely in the sense that the constituent fibrillæ are conducted to it by the paths of the so-called protoplasmic prolongations.

But the fibrillæ which are seen to pass across (traverse) the substance of the gangliar cells, will not, properly, have had their origin in the cell, as in it they merely undergo an evolution intended for the formation of the cylinder-axis prolongation, and for the passage into other protoplasmic prolongations; and further, according to Schultze, it ought to be admitted, "that in the brain and spinal cord, there absolutely exist no true terminations (or origin) of the fibrillæ, and that these all depart from the periphery, and do no more than traverse the gangliar cells," which would thus be mere stations of passage along the nervous paths.

Prolongations of the nervous cells.—The body of a nervous cell is of no limited contour, but, as has been said, it is continued into a greater or less number of prolongations or processes. As regards the number of the prolongations, there have been distinguished nervous cells, multipolar, bipolar, tripolar and quadripolar, etc., and even apolar cells, that is to say, cells without any prolongation have been described. It is almost superfluous to say that the apolar variety may, unhesitatingly, be excluded; evidently those which have been described as unprovided with prolongations have so appeared because of the management of the preparation. The variety of monopolar cells also may be excluded, since there always exist more than one prolongation.

If we exclude the physiological sense, in which all central nervous cells would be monopolar, as it is always only one prolongation that serves for the specific function of centripetal and centrifugal transmission, it may be said that, in general the nervous cells are multipolar—that is, provided with three, four and five prolongations; but those with ten, fifteen and twenty and even more are frequent.

The bipolar cells also, which are presented in the preparations made by dilaceration, are pretty numerous; these may be considered, in general as cells with elongated fusiform bodies, whose ramifications are to be seen to a notable distance from the middle of the cellular body.

Whatever may be the number of the prolongations, one of them, always unique, is gifted with special characters which serve to differentiate it from all the others. This is the prolongation, which, according to Deiters, is usually designated by the name *cylinder-axis prolongation*, or, *nervoso-fibrous prolongation*, a term chosen by Deiters, who holds it as a constant rule that it goes directly to constitute the cylinder-axis of a medullate nervous fibre.

For different reasons, which will be seen further on in this article, and especially for this one, that we hold it as a thing established, that from no other of the prolongations of the gangliar cells besides this one, have the nervous fibres origin, I believe that for designation of the prolongation in question, the more simple one, *nervous prolongation* should be preferred.

The other prolongations may continue to have the name used by Deiters, *protoplasmic prolongations*, although this may not be the most exact, since the characters of true protoplasm are wanting in them as they also are in the cellular body.

It is proper here to observe that Schultze, signaling the inexactness of the qualificative *protoplasmic*, and observing that it does not include any differentiation with respect to the cylinder-axis prolongation, which is a direct emanation from the cellular body, wishes to substitute for protoplasmic prolongations, ramified prolongations. This denomination, he says, would have the value of implying a neat separation from that of cylinder axis prolongation, which he, in common with the generality of histologists, holds to be always simple. But as this change, which is the chief one pointed out by *Deiters*, has now no value with us, because we know that, at the least, for the great majority of the gangliar cells, the nervous prolongation, also is not at all simple, but

complicatedly ramified ; we do not therefore believe that these two denominations merit any preference, as titles of superior exactitude. I add, that the designation *Protoplasmic*, which (besides being now legalized by long use), serves better to characterize prolongation, as in every way it implies the most essential datum, which is that of not giving origin to nervous fibres, whilst on the other hand, as I shall hereafter show, the protoplasmic prolongations probably represent the paths for the nutrition of the ganglionic cells.

Protoplasmic Prolongations.—The number of these prolongations may vary from 3 or 4 up to 15, 20; they have a structure quite identical with that of the cellular body, that is to say, they are presented as finally striated in their longitudinal direction.

This striature, as it has been called, for the cellular body, should, according to *Schultze*, be the expression of its fibrillar constitution. He holds the constitutive fibres to be a continuation of those which form the cellular body, and they would thus be so many primitive nervous fibrillæ.

The protoplasmic prolongations, even in proximity to their origin, begin to ramify discotomically and gradually as the subdivision proceeds, they undergo a progressive dwindling. The most important question presented in regard to these prolongations is that which relates to their final destination.

The opinion which, on this question has had, and still has greatest credit with many, is that after a more or less short course, they become interjoined or anastomose, thus giving place to a complex concatenation. This concatenation was so much the more willingly admitted, as it permitted an easy explanation of the functional relations evidently existing between the diverse systems of nervous fibres. Above all, for the reflex phenomenon, it appeared to be a quasi absolute necessity, to admit compléate nervous anastomose.

Anastomoses, which, indeed, had been already admitted

before histologists, by means of particular minute researches, engaged in the work of verifying their real existence.

Under the influence of this preconception, when some refinement in the methods of studying the nervous system were but commencing, it seemed to be an easy matter to confirm, by observation the presupposed connection; and in fact both the histologists and physiologists of that time, as a general rule, described them and even gave delineations of them. They evidently believed that an anastomosis came into view every time two prolongations of nervous cells were seen bearing towards each other, and afterwards coming into contact.

Among the anatomists and physiologists who pretended to have verified the anatomoses on a large scale, and who even give figures of them, I record *Schroeder Van der Kolk, Lendhossek, Marithener, Jacobowitz, Funke, &c.*

But to those among the histologists, who, not contenting themselves with appearances, set to work to verify by means more nice, and above all by patient dilacerations, the asserted anastomoses, not only did they become less evident, but by degrees, as in order to reach their object, they redoubled their accuracy, the fact appeared less clear, from which they at first began to doubt it and finally to deny it.

Passing under review so much as has been written on this subject, we may see that the associated anastomoses had for a considerable time past, begun to be doubted and even explicitly denied. The subject is so important that it seems to me not superfluous to record how, in this relation, the observers who have the highest credit for accuracy, expressed themselves. *Deiters*, for example, declares that despite the many observations made by him by section and dilaceration, he fails in verifying even a single case of anastomosis, and he was therefore constrained to admit that the data submitted to confirm the supposed direct connections, the anatomoses, were the pure result of illusion.

M. Schultze also asserts that the numerous anastomoses of the great cells of the medulla spinalis and the medulla oblongata, described and figured by *S. Van der Kolk* and *Lendhossek* have long been known to be illusions; he adds, also, that the other anastomoses, admitted by *Meynert*, between the gangliar cells of the different strata of the cortex, have yet to be demonstrated; he gives, in this relation, the negative results of the accurate trials of isolation made by *Deiters*, and he adds that, to himself, analogous trials on the electric lobes of the torpedo organs exceptionally adapted for the study of the gangliar cells, proved altogether fruitless.

Kælliker, in his treating of the subject of the probable connections existing between the elements of the nervous and central organs, begins by saying that the farther we advance in the knowledge of the complex structure of the medulla spinalis in man, so much the more increases the difficulty of proving how its elements stand in connection with each other. He afterwards declares that he had never seen anastomoses, and this, although he had examined the preparation of *Stilling*, *Gold*, *Clarke*, *Lendhossek*, &c. The very preparations of those histologists who have described the numerous anastomoses. In concluding, he says he does not wish withal to exactly deny them, but under no circumstances is anyone authorized to declare general laws from isolated observation.

Among modern anatomists, *Krause*, in like manner, denies that in the central organs of man and of a majority of the vertebrates, direct connections exist between the nervous cells by means of robust branches of prolongation.

Analogous declarations may be found in the special works of *Gerlach*, *Boll* and others.

Upon the whole, then, the opinion of ancient and modern anatomists and physiologists, that the protoplasmic prolongations directly conjoin, may be declared an hypothesis; it is not corroborated by direct observations, and the figures representing such connections, which

we see even in some modern histologists, may be declared theoretic, or schematic.

Notwithstanding this accord in the denial of anatomists, as a general law, it is necessary to take into account a few cases of direct connection between two nervous cells, which have been made the subject of special description, and which, from the authority of the describers, ought to be regarded as authentic. Such would be the cases of anastomosis between two cells described by *Wagner, Arnold, Baffer*, and some others.

The authenticity of these isolated cases is not at all contested, but such cases cannot be made the basis of a general law; rather does the fact that, despite innumerable researches, there could be collected the very small number recorded, go to prove that these represent, rather than a general law, some rare exceptions, or which should be regarded as occurring under an exceptional law. The explanation which seems most reasonable is, that the very rare known instances of nervous cells, united by a robust prolongation, or bridge of conjunction, ought to be considered as instances of arrest of development.

During the period of embrional development there certainly takes place an active multiplication of the elements destined to be transformed into nervous cells, and the cellular-scission, as is known, takes place first in the nucleus, and then proceeds to the cellular body, in which, before all, an elongation happens, and next a dwindling in the median part, and thus it occurs that the two portions of the cells, to each of which a nucleus corresponds, appear at a certain period united by the medium of a bridge of connection. It may then be affirmed that the scission was arrested at this period, and the cells so continued into after life.

In conclusion, the cases of anastomosis between nervous cells, as yet described, rather than proving that direct connections exist by a general law, ought to be regarded as exceptional, and precisely as examples of

cells in which the process of scission, having commenced in the embrional period, did not progress to the complete formation of two distinct cellular individualities.

On this question of anastomosis I would add another observation. If there be a method of preparation, as there now certainly is, which will permit us to see the anastomosis on a large scale, it certainly would be that of the black coloration. In fact, by means of this method, not only the cellular body with its chief prolongations, but still more, the finest ramifications of these are brought into view, with a clearness which is beyond comparison with anything possible of attainment by other methods of preparation, however accurately applied. By this method the black coloration may be now limited to a few cellular groups, or again extended to considerable groups, and sometimes even a general coloring may be obtained of a whole province of the central nervous system.

I have obtained preparations thus made, and I have placed many hundreds of them under minute and patient examination, but not in one of them has it been granted to me to establish a case, however unique, of anastomosis between either the large or the very small prolongations. It is true that there did not fail cases in which, from the fact of two prolongations going against each other, the impression was given of reciprocal fusion, chiefly when the examination was made with low or medium enlargements, but an accurate examination made with strong objectives readily showed that we had been dealing with an appearance, resulting from reciprocal contact.

The Supposed Indirect Connection of Nervous Cells by Means of Network.—The idea having been destroyed, that the protoplasmic prolongations serve to establish functional relations between cells and cells, by means of direct complicated anastomosis, existing not as exceptional forms, but by a general law, the problem is *de novo* presented as to the mode of behavior of these prolongations at some points of distance from their origin. This is the problem which in the last decade has been the principal object of the

researches of those observers who, from an anatomical point of view, have been engaged in the study of the central nervous system. In saying this I naturally leave out of the account those who, subordinating the admission of anatomical data to the functional conception, have continued, and still continue, to admit, *a priori*, the existence of the anastomoses, without at all caring, not only that direct demonstration is wanting, but even that anatomical researches show the contrary.

Apropos to this new direction of histologic studies of the central nervous system, I observe that up to the present some of the opinions expressed in the recent epoch, with many persons have had, and now have, the credit of presenting the definitive solution of the problem of the final disposal of the protoplasmic prolongations. This new phase, also, of researches, has in a certain measure its points of departure from the accurate studies of *Deiters*, who may be said to have advanced as far as was possible with the finest means then at command. Speaking, in general, of the protoplasmic prolongations, he says that, having subdivided down to immeasurable fineness, they are finally lost in the *fundamental porose* existing in the gray substance. He asserts afterwards that on attentively examining these prolongations there is seen to depart from many of them a certain number of very fine, fragile fibrillae, which are not simple divisions, but something of special nature; that is, they may be seen inserted on the sides of these prolongations, through the medium of a triangular new swelling, presenting no marked difference as compared with the cylinder-axis of the finest nervous fibres, with which they rather have something in common—an aspect somewhat irregular, a slight varicosity, and chromical characters.

In some cases *Deiters* believed that he succeeded in seeing those fibrillæ invested by a thin medullary sheath. In fine, resting upon such data, he declared that he had no hesitation in recognizing in the fibrillæ in question a second system of cylinder axis, proceeding from the ganglia

cells, a system absolutely distinct from the cylinder axis prolongation." I note incidentally that *Deiters* thought this second category of nervous fibres emanating from the protoplasmic prolongation, should be taken into consideration in the explanation of the functional relations between the diverse cellular groups, and between the nervous provinces.

As to the final mode of comportment of the *ramified prolongations* (protoplasmic), *M. Schultze* expresses himself in a rather unprecise manner; he, however, leaves it to be understood, with sufficient clearness, that his opinion on the subject is subordinate to the conception which he has of the exquisitely fibrillar structure of the nervous cells and their prolongations. After having occupied himself on the cylinder-axis prolongation, he says, referring to the protoplasmic prolongation: "Many other prolongations of the cells place the latter, and with them the cylinder-axis prolongation, in dependence on the more distant region of the central organs, and most likely those on the surface of the body—a dependence which does not permit us to designate the gangliar cells as the exclusive origins of the nervous fibres." And, again, according to my observation, it should be thought that a real termination of the fibrillæ in the brain and the spinal cord, hardly at all exists, that is to say, that all the fibrillæ have their origin on the periphery, and hence do no more than traverse the gangliar cells."

On the subject *Kœlliker* confines himself to the observation, that the prolongation of the gangliar cells can be followed much farther, and reduced to much greater fineness than we might be led to believe, from the observations of those who have pretended to have verified the anastomoses, and who, wishing in conclusion to express their own opinion, do so in a rather vague manner, which permits us to regard it as the announcement of an hypothesis: "Only," says he, "by way of supposition, do I note that the terminal ramifications of the nervous cells serve at first to conjoin the nervous distant cells of the diverse regions,

and that in the second place they may be in connection by means of some of their terminations, also with the nervous fibres."

I shall lay aside the opinion of *Hadlich* and *Obersteiner*, who, as regards the nervous cells of the cerebellar cortex, pretend to have observed that the peripheral ramifications (protoplasmic prolongation) of the cells of *Purkinje*, reduced to extreme fineness in various points of the cortex and especially in proximity to the surface, bend upon themselves, forming arches of various sizes in order then to return, in directions perpendicular to the surface and parallel to one another, to the stratum of granules, and concurring in a certain number, to form the cylinder-axis of a nervous fibre.

The researches of *Rindfleisch* and of *Gerlach*, on the contrary, call for more particular notice, solely, however, from the importance which has been ascribed to them, especially to those of *Gerlach*.

The study of *Rindfleisch* may be considered as an endeavor to return to the ancient conception, favored by *Wagner*, *Hanley* and others, of the existence of a diffused nervous substance.

According to R., the protoplasmic prolongation of the nervous cells of the convolutions, after repeatedly ramifying, are brought down to an extreme fineness, and in the end are seen to be composed of very small points, in rows, so that the idea of a filament vanishes, and there is substituted the impression of threads in a direct continuance with the interstitial granulous substance. On the other part, many fibres would be separated into a pencil of extremely fine fibres, which, in their turn, would present, like the protoplasmic prolongation, the immensely graduated passage from the *fibrous* to the *granulous*.

Rindfleisch is therefore of opinion that in the cortex of the cerebrum there is a double termination of the medullate nervous fibres. 1st, by direct passage, as described by *Deiters* and others, into the cylinder-axis prolongation of the nervous cells; 2nd, by dissipation (ravelling out) in

that granulo-fibrous substance, in which are dissipated the protoplasmic prolongations of the nerve cells. The granulo-fibrous interstitial would, then, according to *Rindfleisch*, be of nervous nature, and the denomination, anciently used, of *diffused central nervous* substance, would well befit it; and among the parts constitutive of the central nervous system, the greater consideration should be awarded to it, whilst to the gangliar cells would pertain only the significance attributed to them by *Schultze*,—that of apparatus destined to transmit nervous excitation.

The notion of a diffused nervous substance was soon combatted by *Gerlach*, who, in preparations obtained by the method of chloride of gold, was enabled to see that the fine ramifications of the protoplasmic prolongation pass into a netting of very fine fibrillæ, non-medullary, from which, on the other part, the nervous fibres are developed.

This very fine netting in the cerebral cortex, would be found alongside of the gangliar cells, in the interspaces of a net with large meshes, formed by horizontally running medullary fibres.

Gerlach, however, remained in doubt, whether all the gangliar-cells of the cortex are furnished with cylinder-axis prolongation; he was able to see only one such prolongation in the largest gangliar cells, which sent towards the surface of the cerebrum a long and large protoplasmic prolongation.

To conclude: The opinion which to-day has the chief credit as to the mode of behavior of the protoplasmic prolongations is that sustained by *Gerlach*, according to whom they, after very complicate subdivisions, pass into a network of very fine fibrillæ, non-medullary, from which on the other part numerous medullate fibres originate; or otherwise these concur in the formation of the diffuse nervous network, on one part, the protoplasmic prolongations by means of indefinite subdivisions, and on the other many nervous fibres, by means of corresponding fine subdivisions. Granting, however, that this opinion was

well founded, we might count upon two distinct modes of connection of the gangliar cells with the nervous cells. That is, first, by means of the nervous prolongation which should pass directly, without ramifying, to constitute the cylinder axis of a nervous fibre; second, by means of very fine subdivisions of the protoplasmic prolongations, which should become constituent parts of the fine network of the gray substance.

That this opinion is attractive, insomuch as it would furnish the anatomical explanation of the reflex activities, and of the functional relations between the diverse groups of elements, is a thing too evident; but that it has a right to be collocated among incontrovertible facts certainly cannot be asserted with any sure foundation. For my part, I do not hesitate to declare that it cannot resist the severe pressure of observation. And to express myself in terms still more concise, I shall say, that the doctrine of *Gerlach* is but an arbitrary interpretation, or a completely ideal one, of those appearances which are obtained by treating the central gray substance by the chloride of gold method.

To him who has with accuracy tried the application of the method of *Gerlach*, in studying the gray substance of the nervous centers, it is certain that he will have succeeded in sometimes obtaining the coloration of an intricate diffuse network, in all the gray substance; at other times, on the contrary, of nervous cells, with some prolongations, and their first subdivisions, also some secondary ramifications. In the last case the prolongations naturally withdraw from examination, from becoming confounded in the midst of the fundamental entanglement (*intreccio*). But between the fact of gradual disappearance, with the asserted decomposition into primitive nervous fibrillæ, and the relative formation of the diffuse network, there is a great chasm (*lacuna*). Now, *Gerlach*, who would fill up this lacuna by introducing into the field the transit of the protoplasmic prolongations into a nervous netting, advances nothing more than a supposition, quite unfounded.

If, then, it has not been demonstrated, nor is sustainable, though it is the doctrine of *Gerlach*, who in every way, in the modern phase of histology, has had, *per se*, the highest honors, it may be now asked, what finally is to be the behavior and the significance of the protoplasmic prolongations?

To the answer which now, at length, I believe I am able to give to this question, I deem it useful to preface the following observations:

1st. If there is any process which may enable us to see the passage of the protoplasmic prolongations into the fundamental network, it must be that of the black coloration, which, by the fineness of the results far exceeds all the methods used by *Gerlach* and others, who have asserted that they have seen the passage, in question, into the diffuse network. Now this method actually permits us to follow the protoplasmic prolongations to a very great distance from their origin, and to see them ramified dicotomically down to considerable fineness; yet never does it show anything which would lead us even to suspect that they pass on to form the supposed network. Far from assuming an aspect which would cause them to resemble primitive nervous fibrillæ, or ramifications of nervous prolongment, they constantly conserve their granulous aspect and their particular mode of running and ramifying altogether different from that of nervous fibres.

2d. In the direction of the ramifications of the protoplasmic prolongations, so far from a tendency to be carried into the localities in which nervous fibres exist having been verified, it has, on the contrary, been noted that, prevalently, they are carried into localities in which these fibres are absolutely wanting. For example, in the cerebral cortex it is easy to show that the protoplasmic prolongations are directed, in greatest part, toward the free surfaces of the convolutions, where, exactly, as a rule, nervous fibres do not exist.

3d. There is a cerebral region whose study can offer

a decisive answer to the problem of the supposed relations between the protoplasmic prolongations and the nervous fibres, and it is the lamina of gray substance forming the so-called *fascia dentata* of the *great foot of the Hippocampus*. This region, as I shall show in an apposite study, is no other than a well defined convolution, continuous with a thin stratum of gray substance (a rudimental convolution, which, in the form of a streak, runs along the whole surface of the corpus callosum, by the side of the linea media (the so-called *striæ longitudinales*, or nerves of *Lancisi*). Now, this stratum is occupied by characteristic small nervous cells, situate with the most regular and invariable disposition in double or triple series along the internal margin of the stratum, whose nervous prolongation having origin from the deep pole of the small oval cellular bodies, crosses the convolute stratum in order to unite with the band of fibres which runs along the internal margin of the same convolute stratum.

The protoplasmic prolongations, on the contrary, by a law equally invariable, emanating from the opposite pole, traverse the whole gray stratum, forming the *fascia dentata*, in order to terminate on its surface, which, besides by a blood-vessel, is limited by a thin stratum of connective cells. On the surface of this stratum there absolutely exist no nervous fibres, hence, for these typical cells, the possibility is excluded of any relation of origin between the protoplasmic prolongations and the nervous fibres.

4th. With regard to the direction of the protoplasmic prolongations, I have above noted that in these here is discovered a tendency to be carried into localities where no nervous fibres exist. I shall add, now, that this fact might lead us to suspect that they rather tend to be brought into relation with connective cells; and here we are reminded that both on the surface of the cortex, and in other regions, where the ramifications of the prolongations in question terminate, the tissue is constantly formed solely by connective cells, which are always found in the closest relation with vessels.

The data here set forth may have but an indirect value unless completed and explained by another, which though it is in contradiction to whatever has been generally asserted by histologists respecting the final disposal of the protoplasmic prolongations, I yet hesitate not to announce, as I have succeeded by innumerable trials, in obtaining preparations which furnish evident proof of the real existence of the fact.

I intend here to allude to the connection existing between the ultimate offshoots of the protoplasmic prolongations and the connective cells. An opportune ground for the demonstration of this fact is the cortex of the convolutions, and especially their marginal zone, towards the free surface. The next part more especially adapted is the gray stratum before mentioned, which forms part of the great foot of the hippocampus, under the name of fascia dentata.

It is not rare that the impression is given that the protoplasmic prolongations are inserted directly into the walls of the vessels by a thin expansion.

It is true that along the whole course of the vessels, and in direct relation with them, there exists a continuous and sometimes a complicate series of connective cells, so that it becomes difficult or impossible to say whether the thin expansions of the protoplasmic prolongations above mentioned appertain directly to the walls of the vessels, or to the connective cells, which are applied to the walls.

In conclusion, I believe I am authorized to hold that the protoplasmic prolongations take no part in the formation of the nervous fibres; from the latter they always maintain themselves independent; they have, on the other hand, intimate relations with the connective cells, and with the blood vessels.

Desiring to say a word yet on the functional significance of the protoplasmic prolongations, I believe I am able to assert that their purpose ought to be sought for from the point of view of the nutrition of the nervous tissues, and to speak more precisely, I think that they

represent the paths through which the diffusion of the nutritive plasma is brought from the blood vessels and the connective tissue to the essentially nervous elements; to which elements it would otherwise be difficult to say by what other path the nutritious material could arrive.

Both a direct and an indirect derivation of the nervous fibres from the protoplasmic prolongations being excluded, and it being placed in clear light that these prolongations, neither directly, by means of anastomosis, nor indirectly, by means of the supposed diffuse network, can serve as a functional communication between single cellular individualities, and between diverse groups of them, the question is now presented, whether, notwithstanding this, a sufficient anatomical explanation of the origin of the nervous fibres of the gray substance can be given; and in the second place, whether what has been here exposed can furnish a probable response to the problem relative to the functional bond, the existence of which it is a necessity to admit, between the diverse cellular individualities, and between the diverse provinces of the gray substance.

To both these questions I think I shall reply, as far as I shall go in exposition, in the following paragraph, relating to the nervous prolongation:

The Nervous Prolongation.—The characters by which the nervous prolongation, from its origin onward may be distinguished from the others, are paramountly the greater homogeneity, the hyaline aspect, the more glossy surface; these characters contrast with the granulous or striate aspect, similar to that of the cellular body and proper to the protoplasmic prolongation, which last are besides seen more distinctly in direct continuation with the cellular body; these prolongations are, at their origin, usually more robust, not very regular and early ramifying; in fine, the nervous prolongation, as an almost absolute rule, from the point of their origin from the cellular-body or from their roots, as far as 10 and 15 micromellimeters distant, proceed gently (*dolcemente*) and regularly slen-

dering, so that their first part usually has the aspect of a fine and regular cone. It may be added, that as regards the point of emanation and the successive direction, there exists for the diverse categories of cells, laws sufficiently determinate, that is to say, in these cellular groups the thread in question emanates from corresponding points on the contour of the cells; though in this respect there are sufficiently numerous exceptions. For example, from the gangliar cells of the cerebral cortex, as a rule, the nervous prolongation originates from the middle of the base of the pyramidal forms which constitute the prevailing type of these cells, and from this point it is directed towards the deep part of the cortical stratum and is carried directly towards the white substance; yet it may be said that cells are not very rare, whose nervous prolongation is carried in the opposite direction, that is, towards the surface of the cortex.

In the large nervous cells of the cerebellum, on the contrary, with constant law, the nervous prolongation derives its origin from their diploe, and it is carried, traversing more or less tortuously to the stratum of granules, towards the region of the respective convolution.

In many ganglia cells of the posterior cornu of the medulla spinalis, the prolongation in question is carried for a certain distance in the direction of the anterior cornu after which its further course is uncertain. The other more precise particulars respecting the origin and course of this prolongation will be a subject of study in our description of the single provinces of the central nervous organs.

Some observers believe that they have seen an essential differential datum, between the nervous prolongation and the protoplasmic, in the different manner of origin, as respects the diverse parts constitutive of the gangliar cells. It has been asserted, for instance, that the nervous prolongation is paramouly characterized by having its origin from the nucleus, whilst the protoplasmic is derived from the cellular body.

On this question the majority of modern observers (*Deiters, Schultze, Kælliker, Boll, &c.*), concur in asserting that they have never been able to establish this pretended connection of the cylinder-axis prolongation with the nucleus.

The ulterior mode of behavior of the nervous prolongation is of great importance, and is always a subject for careful study.

Ever since *Deiters*, on the basis of long and minute researches, furnished the demonstration of the existence of this special prolongation, which, however, had already been perceived by *Remak*, the subject has been the object of the researches of numerous observers, and as the description by *Deiters* related to only the cells of the medulla oblongata, the new researches have been specially directed to the cells of diverse other provinces of the central nervous system.

On this domain the researches of *Koschewnikwo*, are signalized above all, and next those of *Gerlach, Handlich, Obersteiner, Boll, Butzke* and some others, who, with one accord, assert that they have in some cases established the direct continuation of this special prolongation in the cylinder axis of a medullate nervous fibre.

Under the influence of these concordant assertions, the scheme of central nervous cells given by *Deiters*, has naturally been generally adopted. And in truth this scheme represents all of the finest and most accurate obtainable by the means of research, until a few years past, at the command of histologists, for the study of the elementary morphology of the central nervous system.

But since the discovery of the most delicate chemical reaction of the nervous cells of which I have before spoken, (the black coloration obtained by subjecting the nervous tissue to the combined action of the bichromate and the nitrate of silver), by means of which reaction these elements may be clearly brought out in their most minute details of configuration, and with all the finest offshoots, whilst they continue *in situ* in the tissue, and maintain their re-

lations with the neighboring parts,—after this discovery, I say, it has been possible to give new pace to the progress of our knowledge of the morphologic character and the relation and laws of ramification of the elements in question, thus correcting ideas too absolute, and demonstrating certain erroneous assertions, which rested more on pre-conception than on accurate observation.

As I have already had to observe, a particularised description of the mode of behavior of the nervous prolongation in the diverse categories of the gangliar cells, cannot conveniently be given unless by studying the single regions of the central nervous system to which the cells belong; and as it cannot yet be asserted that there are absolutely general characters, that is, which may, without exception, be applied to all the central nervous cells, I think it useful to take as the basis of my description the cells of the cerebral cortex, which evidently, from their quantity and importance, have a great predominance over the others.

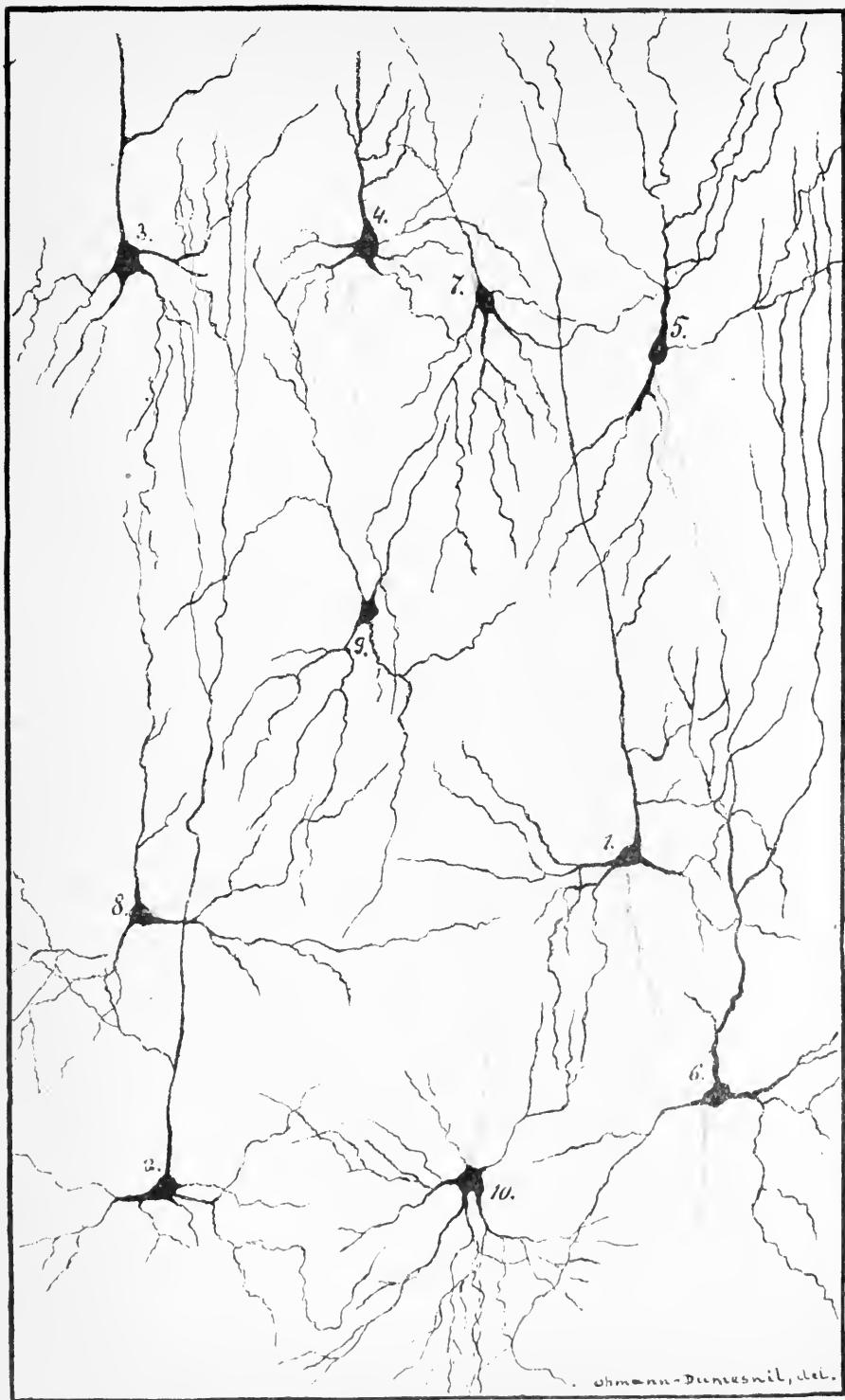
In the cerebral cortex, subjected to the reaction above mentioned, it can be shown that at least in the great majority of the gangliar cells, the nervous prolongation has a mode of behavior notably different from that described by *Deiters* and other observers who have asserted that they have established in their categories of cells the facts described by *Deiters*. Severed either directly from the cellular body, and in general from that surface of it which is turned toward the white substance (the base of pyramidal forms), or from the root of one of the large protoplasmic prolongations which emanate from the now called surface of the cell, from the point of emersion to the distance of 20 and 30 m. m. it proceeds gradually dwindling, till at last it becomes a mere threadlet, but always preserves its simple, usually rectilinear, regular, sleek form. At the distance above stated it often presents a white tortuosity, then it sometimes continues for a short space still simple; very frequently closely after the tortuosity, some lateral filaments begin to emanate, and this process of

emanation of lateral branches continues at pretty regular interspaces, as far as the success of the black reaction permits us to follow the promulgation; it afterwards preserves its regularity and slenderness, but assumes a slightly tortuous course (perhaps the result of shrinking of the tissue), and thus it is not rare to be able to see it traverse the whole thickness of the cerebral cortex, and even further, to bury itself in the stratum of nervous fibres (in many instances I have been able to follow it to a distance of 600 or 800 (*millimetres*); even at this distance I could see filaments given forth. As to thickness, it presents notable differences; sometimes in departing from the tortuosity mentioned it offers distinct variations of diameter, and arrives in the stratum of nervous fibres in the form of a manifest filament; much more frequently, however, as it proceeds gradually giving out branches, by insensible degrees it goes on diminishing till it reaches an unmeasurable fineness.

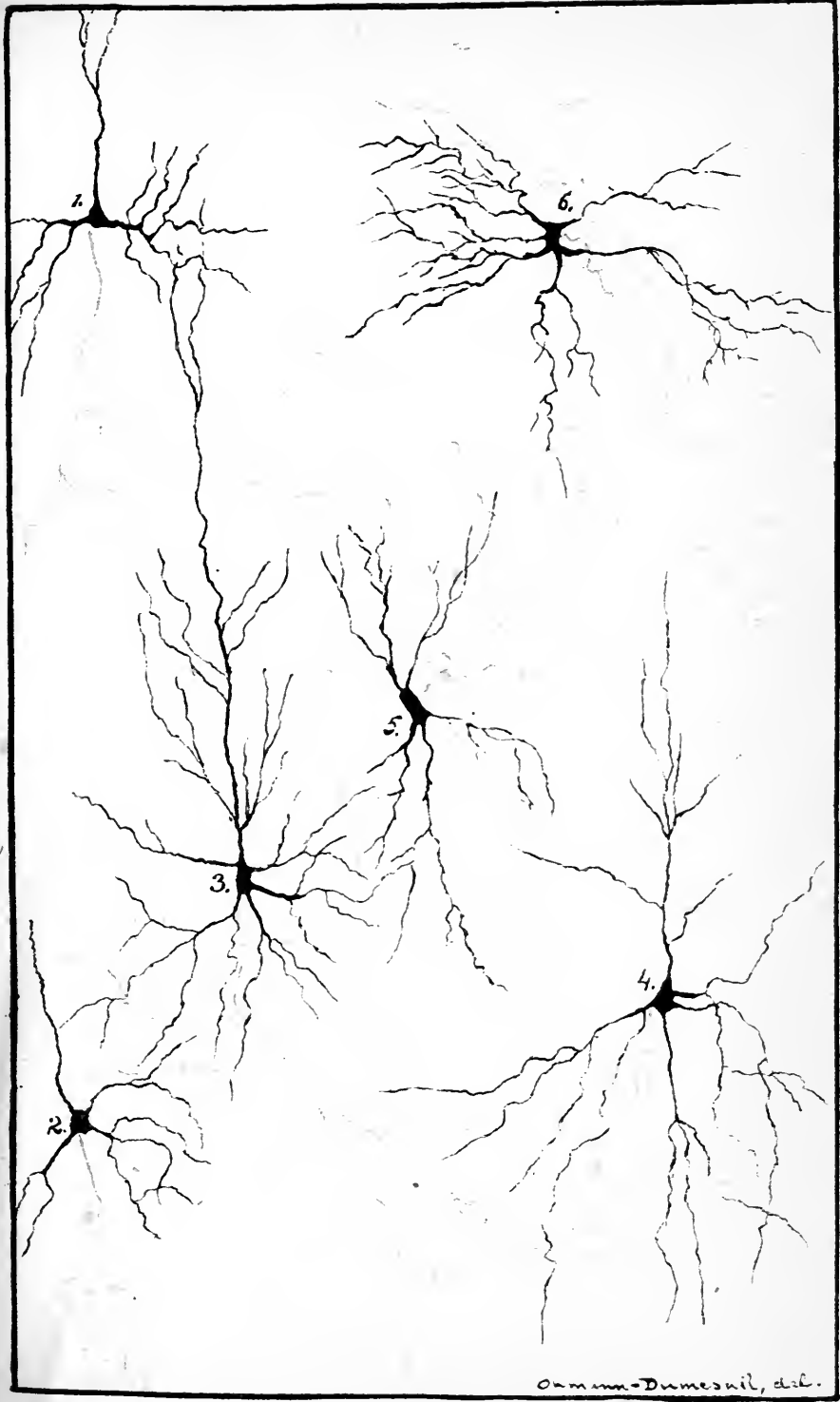
I have said, that in all its course, the nervous prolongation from spot to spot, at pretty regular distances, gives out lateral threads; in relation to these I shall now add that with almost constant rule they emanate at right angles, and by following their course, they, in their turn, like their parent thread, give out lateral branches, and these in like manner go subdividing into threads of three, four, five order, ever finer and finer, passing at last, sometimes far from the origin, into filaments of extreme fineness. From all these ramifications of the diverse nervous prolongations, there naturally results an extremely complex entanglement (interlacement,) which extends into all the gray substance. That, from the innumerable subdivisions, there may result, by means of complicate anastomoses, a network in the strict sense of the word, and not a mere entanglement interlacement (*intreccio*), is a thing very probable; one would be rather inclined to admit it after examining some of my preparations; but whether this is really the same as the complicate entanglement I cannot assuredly say.

Among the details relating to the behavior of the nerv-

266



Ohmann-Deneswil, del.



ous prolongation, I would finally observe that many of them in giving off branches, acquire the highest possible fineness, a good space before arriving among the nervous fibres, and that, having reached such extreme fineness they yet divide into threads, three, four, five, which in their turn ramify and become confounded with the diffuse network of which I have above spoken.

The fact, then, is well worthy of new, special consideration, that from a not insignificant number of nervous cells, chiefly of the deep parts of the cortex, the nervous prolongation neither emanates from that part of the cellular body which is turned towards the white substance, nor is it directed towards it, but goes in the opposite direction, presenting changes analogous to those just stated; that is, they are decomposed into filaments of the second, third, fourth orders, which enter to make part of the general *intreccio* above described.

Finally, it seems that in the cerebral cortex (and probably in the gray substance of the nervous centers in general), there are placed two types of gangliar cells, viz.: 1st, gangliar cells (plate 1st, fig. 1, 3, 4, 6, plate 2d, fig. 3, 4; plate 6th, figure unique), whose nervous prolongation gives out but few lateral elements, and is directly transformed into the cylinder axis of a medullary nervous fibre; 2d, gangliar cells (plate 1st, fig. 2, 5, 7, 8, 9, 10, plate 5, fig. unique), whose nervous prolongation, subdividing complicately, loses its individuality and takes part, *in toto*, in the formation of a nervous network, which extends to all the strata of the gray substance.*

* Of the twenty-six plates furnished by the author, only two are presented in the *Rivista*, and these are of such excellence and neatness as to create a keen longing for more. We have the assurance of the author that no liberty for artistic refinement was conceded to the artist, so that the figures may be relied on as genuine reproductions of the natural forms, and it is deeply to be regretted that the readers of this translation cannot avail themselves of these excellent representations, as valuable aids in the study of the text. To the American reader, who has so often to grieve over the confused daubs which interlard so many of our cheaply got up medical publications the inspection of these and many other Italian plates we have had the pleasure of seeing, would indeed be a rich treat.

Since the preceding note was written, we have received Fascicolo IV. of Anno VIII. of the *Rivista*, giving a continuation of Prof. Golgi's splendid article, together with four exquisitely executed illustrative plates. The translator will regard his part of the work as a pure labor love, hoping the readers of the *ALIENIST* may be equally interested in the continuation.

At this point I believe I should recall attention to the manner of comportment of the nervous fibres, or of a certain number of them, within the gray substance.

In studying the preparations treated in the method above given, in the same manner as in these, some fascies of nervous prolongations are often seen which are diverted towards the white substance, in which other fascicles of the cylinder axis are frequently seen, colored in like manner black, and having, from their aspects and their mode of running and of ramifying identical characters, as to the nervous prolongations of the cells. In following the course of these it may be shown that many are accompanied by fascicles of nervous prolongations, confounding themselves with these in such a manner as to render it impossible to differentiate; but also, that many others, on the contrary, continually giving off secondary threads, which in their turn continue subdividing, are reduced to fibrils of unmeasurable fineness, and then lose themselves, in like manner as has been said respecting the nervous prolongations, in the diffuse network of the gray substance. Nevertheless, just as, in relation to the comportment of the nervous prolongation in the gray substance, we have distinguished two types of gangliar cells, analogously we may distinguish two categories of diverse nervous fibres, by the behavior of the respective cylinder axis, and these correspond to the two described types of cells, viz.:

1st. Nervous fibres which, although they administer some secondary fibrillæ (that by subdividing are lost in the diffuse network), yet conserve their own individuality, and go on to be put into direct relation with the gangliar cells of the first type, and continue into the related nervous prolongation.

2d. Nervous fibres which, by subdividing complicately, lose their own individuality, and pass in wholly to take part in the formation of the diffuse network before named.

In the formation of the diffuse network there therefore concur:

1st. The fibrillæ which emanate from the nervous prolongations of the cells of the first type.

2d. In totality, the nervous prolongations of the cells of the second type.

3d. The secondary ramifications of the cylinder axis appertaining to the nervous fibres of the first category.

4th. Many cylinder axis in totality; that is, those which, in like manner decomposing into very slender filaments, unite in the general *intreccio*, and lose all individuality (nervous fibres of the secondary category).

After this exposition of minute particularities relating to the structure, and above all to the mode of behavior, of the diverse prolongations of the gangliar cells, as well as to the disposition of the nervous fibres entering the strata of gray substance, it seems to me that I have gathered in sufficient material to warrant me in claiming the right of decisively, from a general point of view, engaging the problem of the manner in which the nervous fibres have their origin in the central nervous organs.

[*To be continued.*]

The Progress of Psychiatry and Neurology.

By P. R. THOMBS, M. D., Pueblo.*

Superintendent and Physician Colorado State Lunatic Asylum.

BUT little more than a century has passed into the history of medicine since Cullen recorded his conviction: "That from all that he could discover of the movements of the system, in disease, they were so dependent upon the nervous system as to entitle them, in a manner, to be called nervous diseases."

His utterance at the time seems to have made a very profound impression on the minds of his professional brethren; but time in its flight which attests the truth of scientific and prophetic assertion alike, has verified the correctness of the great nosologist's observation.

And the intimate relationship which the nervous system bears to all morbid processes, is an established fact in medical science, as firmly enthroned in the professional mind as Galileo's assertion of the rotation of the earth on its axis, or Newton's law of gravitation, are fixed in popular acceptance.

No intelligent physician now doubts the implication of the nervous system, more or less complete in all morbid phenomena, from the disturbance paralysis of the sweat centers in the medulla spinalis in ordinary fever to the higher involvement of the psychical centers of the cerebral cortex when delirium attends upon the same disease.

*Read before the Colorado State Medical Society, at Pueblo, June, 1882.

NOTE.—We give place with pleasure to this address. It likewise gives us pleasure to see the subject of the Progress of Psychiatry and Neurology engaging the attention of an assemblage of general practitioners, and to see the subject so fully and fairly presented. These subjects are deserving of and must claim no small share of general medical attention. The real physician must cultivate these departments more than is now done. It is surprising that some good schools have not yet classes devoted to these branches. They can never have the fullest professional confidence or be what they ought to be, as true fountain-sources of medical knowledge, without them.

The vaso-motor paralysis, too, which permits of that dilatation of the cerebral vessels, and the vessels of other parts, in states called hyperæmic, and in a more extreme degree, allows of many of the fluxes and effusions, as in cholera morbus and in certain dropsies, is no longer a matter of controversy.

Were we to go on noting down these morbid conditions in which the nervous system plays a primary or secondary part, when not long ago it was not conceded to play any part at all, we should occupy more of your time and attention in the detail than you might be expected to give.

But a very cursory glance will suffice to convince us that neural-pathology and neuro-therapy are now engaging a very large share, and justly, of professional thought, and that they are evidently destined to engage still more consideration in the not remote future. The humoral pathologists have had their day, the glory has departed from the solidists, the vascular theories are losing some of their hold while the neural-pathology asserts its sway and contests with every other theory, on sound physiological and pathological grounds, the right to reign, if not supreme, at least jointly, over the vast domain of pathology.

Psychiatry, which is the keystone of the medical arch,—the highest department of medicine, and chief branch of neurology—has made most rapid strides since Chiarugi, Pinel and Tuke unshackled the insane of their respective countries. Italy, France and England melted their chains into deeds of charity. Our profession is justly proud of its work in this direction. And the beautiful hospitals with their neatly furnished rooms and pleasant surroundings, which have taken the place of the old, dingy, prison-like buildings, and their dark, and damp, and mouldy cells of confinement, and keepers, and savage turnkeys, stand as everlasting monuments to the humanity, philanthropy and advancement of the medical profession.

The Roman Matron pointed with just pride to her

children; and to those comfortably-housed children of misfortune, many of them restored to the usefulness of rational life through our care and ministrations, we might, with pride, point as "our jewels."

It is not my purpose to specially discuss the modern management of the insane, but we ought not to omit in passing, to note among the crowning glories of medicine, this signal evidence of *our* advancement in keeping with the rapid progress of the age in which we live, in so many other directions, what we have done for the insane is not less than Jenner did to save the race from the ravages of small-pox. Humanity has no greater foe to the perpetuity of the species than insanity, and the insane temperament, or neuropathic diathesis.

Neurology, embracing as it does, and should, psychiatry, to which we have briefly referred, is now the most generalized specialty in our science, so that in order to be a skillful physician we must be somewhat of a neurologist, and the most skillful physicians of the day are those who least ignore neural-pathology.

With the progress of neurological research, invasion is being steadily made into the territory of general medicine, and each year instances the surrender of some of the battle-ground. The invading horde of neurological ideas will soon possess the field, and become naturalized invaders, and accepted as good and useful citizens.

It has been but a few years since, to pronounce a case "nervous" was to dismiss it from our notice. Now nervous diseases receive from us all no inconsiderable attention.

Only a few years ago gangliopathic disorders were unrecognized. Within the last two decades Edward John Tilt, and hosts of others, have given us floods of light on this subject.

Certain heart troubles, once sealed as fatal, receive from us hopeful prognosis, as having their seat, not in the structure of the organ itself, but in its motor ganglia, or somewhere along the ganglionic chain of the sympa-

thetic nervous system, and reflected to it, as in the ovaries, or other parts of the female genitalia, "A wave of morbid irritation," as Fothergill expresses it, beginning in a congested ovary, perhaps, and not ceasing until it reaches the heart, and precipitating an alarming tumult of movement there, which we may stop at will by firm, persistent pressure at the distant starting point of the morbid movement. The irritable heart first described by Da Costa (Flint?) during the war, and differentiated by him from organic disease, as having its foundation in an irritable state of the cardiac ganglia principally, that is, primarily, is an illustration of direct neural trouble. Certain renal conditions also, associated with changes in the quantity and quality of the urinary secretions, have lately been found to be primarily nervous disorders, notably among them Bright's disease, which Da Costa, Longstreth, Hughes, and others, place in the renal ganglia, and which, in all probability, has its incipient stage there in states (often remediable) of gangliopathic neurasthenia, without marked structural neural change.

Likewise Addison's disease, the starting point of which Semola, with great plausibility, places in the renal ganglionic centers, the characteristic alterations of the supra-renal capsules representing only the last struggle of trophic disorder caused by the nervous filaments which preside over the function of nutrition in these organs, the bronzing of the skin likewise having a nervous origin, and leading us to address our attention to the sympathetic nervous system and its ganglia, early, if we would remedy this terrible trouble.

Diabetes Mellitus has also been assigned a place of origin in the medulla oblongata, possibly also, in connection with the middle lobe of the cerebellum, by Dr. Julius Althaus, of London, in "*Brain*," and is arrested by him by occipital galvanism. He considers the final organic changes in the kidneys as due to the excessive and long-continued diuresis, causing maceration of the renal tissue.

Thus we might go over the whole field of neurological research and discover everywhere, traces of the rapid progress of the neural pathology.

Even cancer and phthisis, the former by Richardson, and the latter by Vanderkolk, have been asserted to be closely allied to neural diseases, being found generally prevalent in neuropathic families, alternating with the insane diathesis, and taking the place, in certain branches of neurotic families, of insanity.

Notwithstanding the undoubted contamination of the blood in advanced stages, and their probable communicability by contact, syphilis too, in some of its most insidious forms, is an adneural affection that is engrafted on the nervous system, as Gowers has demonstrated, and Althaus, Fournier, and others, have shown us, where it displays itself in paralysis, epilepsy, and insanity.

These familiar illustrations suffice to show the direction of medical thought and the result of investigation, within the past few years. These, with the new disease recently described by Gilleneau, as narcolepsia, characterized by distinct, persistent, resistless, but intermittant sleep paroxysms, and the not remotely familiar terms of pseudo-hypertropic muscular paralysis, progressive muscular atrophy, "athetosis" (yet struggling for distinctive recognition as different and distinct from chorea), and exophthalmic goitre, the longest recognized of all; sclerosis anterior and posterior, and diffuse, multiple and cerebro spinal sclerosis; the general paralysis of the insane and many other localized diseases of the spinal cord and brain, which it would be needless to mention.

The distinctive recognition of diseases of the cerebellum are known to be much more frequent as the result of malaria and other congested states of that organ, than was, up to quite recently, supposed; and the study of the advanced views of cerebral localization, as taught by Ferrier, Hitzig and Jackson, and the grudging acquiescence of Brown Sequard, could not here be touched upon with sufficient distinctiveness to be profitable, without

consuming more time than this body has to give. This glance serves to reveal to us how much medicine owes to neurology, and a hint to the wise is sufficient.

We have gone a great way on our journey, and stand now, as Moses did, on the mountain looking over into the promised land, longing to go in and possess it. Moses never reached it, but some of us in the ranks of medicine are yet young enough to hopefully expect to realize the fruition of our hopes.

We are destined yet to see the many crooked ways made straight, many dark places made clear, and when the straightening out takes place, and the grand illumination comes, it will be through the electric light of scientific truth, largely generated and thrown out through the progress of neurological research.

Importance of a Knowledge of Insanity by the General Practitioner of Medi- cine.*

By IRA RUSSELL, M. D., Winchendon, Mass.

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England Psychological Society, and Massachusetts
Medico-Legal Society.

MR. PRESIDENT AND FELLOWS OF THIS SOCIETY:—You are well aware that for several years I have made the study and treatment of nervous and mental diseases a specialty, and that I have had a great variety of cases under my care and treatment in my family-home.

It has occurred to me that some of the results of my experience and observations may not be uninteresting to the general practitioner of medicine, especially that which relates to the early and incipient symptoms of insanity and the general treatment of the insane. Until recently but little attention has been given by our medical schools to the subject; when myself and the older members of this society attended medical lectures, we had no instruction upon matters relating to insanity.

At the present time many of the medical schools have taken a new departure, and professorships upon psychological medicine have been established. Never before has the general public been so much interested in the subject of insanity as at the present time.

The trial of Guiteau has awakened an interest in the public mind, and the symptoms of insanity and the responsibility of the insane have become matters of general fireside and table talk. It was the universal belief in Guiteau's responsibility that decided his fate and influenced the jury, rather than the medical testimony.

*Read before the Worcester North Medical Society.

That the general public should know more about insanity, its causes, symptoms and treatment, is undoubtedly desirable; but much more desirable is it that the general practitioner of medicine should be well informed upon the symptoms and treatment of this disease.

Almost every form of insanity in its earlier stages is amenable to treatment. Take cases of acute mania, the symptoms of which are so palpably plain that there can be no mistaking the disease, and when they are at once put under treatment, the result is that a large per cent. recover.

But there is a large number of cases that come on insidiously; such is the fact with many cases of melancholia. The invasion of this form of insanity is usually slow—the subject of it gradually and almost imperceptibly loses his relish for existence, takes less interest in his business and his family, is abstracted in thought, peevish and fretful in disposition, is easily irritated, has strange likes and dislikes, is suspicious and distrustful of those in whom he formerly had the utmost confidence. He seeks solitude, and in the words of Dryden:

“He makes his heart a prey to black despair;
He eats not, drinks not, sleeps not, has no care
Of anything but thought, or, if he talks
'Tis of himself.”

Some are moody, silent and taciturn; every lineament of their countenance indicates despair. Others will talk continually about themselves—will blame themselves for having done some great wrong for which they are to be punished.

The particular thing or things upon which the melancholic dwells are as various as the persons afflicted. In some, it will be simply an exaggeration of some actual fact; others will dwell upon things entirely imaginary.

I had a patient with an abundance of means, who was unwilling to eat because she was unable to compensate for the food, and had it not been for fear of the stomach pump, she would have died of starvation.

I have a patient, a lady of the highest respectability, fifty-seven years of age, who, until two years ago, was most genial and happy in all her relations. She is now exceedingly miserable, claiming that some time in early life she did something wrong and for which she can never be forgiven. She is punishing herself by refusing to eat certain kinds of food and fruits she was formerly very fond of.

I had a patient, a young gentleman, a graduate of college, of refined and cultivated manners, who appeared all right except in one particular, and that was, that God had made him without first consulting him, and he was determined to be even with his Maker by taking his own life.

Nearly all melancholics are suicidal and require the closest watching.

The general practitioner, when called upon to visit one of these cases, will very likely be told by the friends that the patient is bilious; that he has a poor appetite; that he sleeps badly; that he has the blues, and worries about nothing. They will be very careful to conceal his delusions, his jealousies, his hatreds and his outbursts of passion without any apparent reason. They conceal these things for fear of the fancied disgrace publicity would bring upon the family.

The result is, that a case drifts on from bad to worse and a patient becomes a confirmed lunatic; and on some bright morning the family are thrown into the deepest distress and the whole community shocked by a case of cut throat, drowning, pistol shot, poisoning or strangulation. Consult almost any daily paper, and you will find accounts of from one to five suicides each day.

There are cases of insanity without delusions, illusions or hallucinations, in which the moral or affective faculties of the mind are alone involved, the intellect being clear and unaffected. I well know that in such cases very frequently it is with difficulty that we can discriminate between viciousness, wickedness, depravity and actual lunacy. It is by comparing such persons

with themselves. A person who has always been amiable, truthful, moral and upright in all his relations in life, becomes completely changed in his moral sentiments—such a person, I maintain, is morally insane.

To illustrate: I had a patient, a young lady, married, highly educated, a great favorite in the social circles in which she moved, and was much esteemed by the church in which she was an active member. Without any apparent cause she became exceedingly untruthful and disregarded all moral obligations. Her cunning and duplicity were remarkable; still, she had no delusions and her intellect was clear. After a few months' treatment she was herself again.

At the present time I have a patient, a married lady, of cultivated manners, good education and refinement. Two years ago she was confined and had a poor recovery from her confinement; soon after that she took to her bed and was confined to it until brought to me. She was very tenderly nursed, her every wish was gratified, and she became exceedingly exacting, taxing her ingenuity to make trouble for her attendants and excuses to have her physician called to relieve some fancied suffering. She would have cataleptic fits, and no one but her physician could bring her out of them. When brought to me, for a day or two she continued to have these fits, but not liking my method of relief, she said she would not have any more, and has kept her word. While she appears to be very pleasant, and professes to be perfectly satisfied with what is done for her, she writes to her friends the most scandalous and untruthful letters, claiming that she is abused and cruelly treated. Her whole purpose seems to be to excite their sympathy and to make them unhappy.

Notwithstanding these unnatural mental manifestations which are so common in this class of patients and so foreign to their natural disposition and previous history, their friends are very apt to be unwilling to admit of their insanity.

Here is a middle-aged man; he has borne an irreproachable character, honest and upright in all his dealings. He begins to show some eccentricities, is irritable and easily excited. He is detected in some immoral practices—commits forgery, perhaps; is arrested and punished as a criminal, to the astonishment and chagrin of all his friends. A careful examination of this man by an expert alienist would discover a tremulous tongue, impaired articulation, contracted pupil, and a hitch in his gait; the unmistakable incipient signs of general paresis.

I had a patient, a millionaire, suffering from this disease. He would steal and conceal the most trifling articles, especially if there was something bright and sparkling about them. He stole a lady's diamond ring and concealed it for several months, sometimes about his clothing, at other times in his mouth.

The treatment of the insane, all must admit, is of the gravest importance. The insane have rights, and first and foremost among these rights is the best and most effectual modes of treatment for their restoration to health; and all obstacles thrown in their way to prevent them from securing such treatment is an outrage upon humanity.

A person is found injured and insensible in one of our large cities; he is at once taken to the nearest hospital and given the best surgical care and treatment possible, and no obstacles are thrown in his way.

A person is taken insane; no one doubts the fact, but, before he can be taken to an asylum, he must be subjected to some form of trial.

In some States, Illinois for instance, a trial by jury is required—a trial by a class of men who know no more about insanity than about the integral calculus or the inhabitants of the moon.

This difficulty of admission causes delay, and the excitement caused by the trial (whatever that may be), aggravates the disease and makes the case less amenable to treatment.

What greater absurdity can there be, than to take a person afflicted with small-pox before a jury to get a permit to put him in a pest-house, unless it would be to take a delicate, nervous, insane lady before a jury to render a verdict upon her mental condition and the proper place for her treatment?

In regard to the early treatment of the insane, I quote the following from Lord Shaftesbury, who is at the head of the lunacy commission in Great Britain. He says: "We must be very careful indeed how we hastily let loose upon the public persons whom we are not quite certain have been restored to the power of self-control. The tendency now is to let out everybody that is shut up, and henceforward to shut up nobody at all. Though there were in former times great instances of cruelty and abuse, my experience of the various asylums (private as well as public) is not only favorable to the highest order of intellect, but to the truest and deepest sentiments of humanity towards the poor creatures who are there confined. Therefore, I hope that nothing will be done which will throw unnecessary impediment in the way of early treatment by a mistaken delicacy in regard to the liberty of the subject."

There are three methods of treating the insane. First, home treatment; second, in private asylums, and third, in general insane asylums.

There are alienists who advocate home treatment, and no doubt many can be thus well cared for, especially such as are harmless or demented. But, as a general rule, the friends and relatives of the insane are poorly qualified to take care of them. They do not have the patience and charity of trained attendants.

As a matter of fact, the abuses perpetrated upon the insane have been vastly greater by friends at home than by those in charge of the insane in asylums.

There are many reasons why the insane should be removed from home and friends. A wife becomes insane. The husband says he can never be separated from her.

She is unable to manage her household affairs; a house-keeper is engaged, and the wife at once perceives that she is supplanted and her authority denied, and the natural result is hatred towards the husband and house-keeper, and increased mental excitement.

A few who have the means can be the best cared for in the family home, or private asylum, provided they are in charge of competent physicians and well-trained and intelligent attendants. Such a place should be made as home-like as possible, with none of the paraphernalia of restraint or constraint usual in an insane asylum. The attendants should be the companions of the patients, their equals in manners, culture and refinement.

An insane patient from the cultivated, refined and educated class has the feeling of disgrace and degradation when subjected to the care and control of uncultivated and ignorant attendants.

There is a large number of persons suffering from more or less mental disturbance who would willingly and gladly go to an institution for the treatment of mental diseases were it not for the stigma of commitment and deprivation of personal liberty. Many such are unable to avail themselves of the advantages afforded by family homes and private asylums on account of the great expense. For such there should be endowed institutions where voluntary patients could go without any constraint or the feeling of imprisonment inseparable from confinement in an insane asylum. In such an institution cases could be treated in the earlier stages of the disease before the curative period was passed. I know from personal experience and observation that many patients have voluntarily gone to private establishments for treatment who were as insane as many committed to insane asylums. The feeling of non-restraint and personal freedom added greatly to the success of the medical treatment.

The great mass of the insane must be cared for in the general insane asylums. I have no sympathy for those who complain of asylum treatment; as I have before

stated, there are greater abuses and greater cruelties inflicted upon the insane in private families and poor-houses than anywhere else.

Instances like the following, which I clip from the New York Tribune, are by no means uncommon:

"TROY, NEW YORK, Jan. 13.

"Mrs. Abigail Jones, a wealthy widow, age eighty, the victim of insane delusions, was found frozen to death on the floor of her room to-day. She was scantily clothed, and there had been no fire in the stove for several days. Death is believed to have resulted from exposure."

Or the following from a letter of Dr. J. B. Chapin in the New York Medical Record:

"On December 20th, inst., a man was admitted into the Willard Asylum, who had been a patient in the Hudson River Hospital, and afterwards removed to a county poor-house, perhaps for the reason that he could be maintained there cheaper than at the hospital. In the county house this man wore iron handcuffs, shackles of iron about his legs, and a chain connecting the shackles with the floor. All this, too, in the State of New York!"

The cages I have seen in private families and poor-houses would not be tolerated for a moment in any asylum for the insane. The improvement in asylum construction and management during the last fifty years has been very great.

There are obstacles in asylum management that should be removed, obstacles for which those in charge are in no way responsible.

The medical staff is much too small for the number of patients. They are over-worked and unable to give the attention to individual cases that is desirable. Superintendents are obliged to take all sent to them without regard to classification. As Governor Butler in his inaugural message put it: "All classes of the afflicted with mental disease have been sent to and received in the same hospital, whether incurable or chronic, the violent with acute mania, the demented or imbecile. Those

with a mania for crime, those insane only from religious fervor, the pauper and degraded, men and women all herded together, separated only by necessities of restraint and safety."

Of course it is not true that "men and women are herded together, separated only by necessities of restraint and safety;" still proper provision has not been made for the different social position of the patients. The educated and refined are associated with the ignorant and degraded, classified according to the form of disease without regard to their former social position in life. Under no consideration should the criminal class be associated with the harmless. Separate provision should be made for them and for those afflicted with epileptic mania.

Folie a deux—Its Forensic Aspects.

By JAS. G. KIERNAN, M. D., Chicago, Ill.,

Formerly of the New York City Asylum for the Insane.

FOLIE a deux has received but very little attention from American alienists. It is of interest from sociological, anthropological and diagnostic standpoints. It certainly has important forensic relations, although I am unaware that any case involving these has been the subject of investigation other than the one cited in my paper on Katatonia,* the Freeman case† and the Lay case, which occurred at Sandwich, Illinois. Before proceeding to pass in review these cases, I propose to examine the literature relative to the general subject.

Falret, Régis and Lasége,‡ after an extended study of the subject, have arrived at the following conclusions: First, that in ordinary conditions mental contagion does not proceed from an insane person either to a sane or another insane individual; second, that contagion is only possible in exceptional instances; third, that these are divisible into two great classes: (a.) In *folie a deux* one of the patients is an active agent, the other a passive recipient. The active agent creates the delusions and imposes them on the other, who receives them and submits easily to his influence; but in time the delusions as accepted by the passive patient react on the other, and are, in a modified condition, accepted and proclaimed by both as true. (b.) For the same intellectual delusions to occur in two individuals they must have lived a long time together and have been subject to the same influences. This condition is more common among women than men. The patients may be related, but more frequently are

*ALIENIST AND NEUROLOGIST, October, 1882.

†Boston Medical and Surgical Journal, March, 1880.

‡Annales Médico-Psychologiques, Tome xvii.

not. The chief point in treatment is the separation of the active agent from the other. The passive individual usually recovers first. Delusions may be communicated from a second to a third, and so on, but this is somewhat exceptional.

Morandon de Montezel* claims that *folie a deux* includes three perfectly distinct orders of cases. First: Folie imposée, in which an insane person imposes his insane conceptions upon another intellectually feebler than himself. Second: Folie simultanée, in which two hereditarily predisposed individuals contract the same form of insanity under the same circumstances. Third: Folie communiquée, in which an insane person communicates his hallucinations and delusions to another person hereditarily predisposed to insanity. This only occurs under the following circumstances: When the passive recipient is hereditarily predisposed to insanity; when an intimate association exists between the two persons who share the insanity and there is an incessant action of the insane party on the sane to make the latter accept the former's delusions. He further says that in a medico-legal point of view the passive individual in *folie imposée* is more or less defective mentally, but even when he coöperates in the insane acts of the active party need not be considered necessarily insane. Both victims of *folie simultanée* and *folie communiquée* are insane. In *folie imposée* the appearance of insanity is a relative matter. Folie simultanée and folie communiquée are instances of the influence of surroundings on the forms taken by mental alienation.

These conclusions of De Montezel are much too positive. There is very little relation between the *folie simultanée* and the other two forms. *Folie simultanée* is well illustrated by cases reported by Seguin,† Savage‡ and Gill.|| Seguin's cases were two sisters attacked by the same form of insanity, according to him from the same exciting

*Annales Medico-Psychologiques, January, 1881.

†Archives of Medicine, 1879.

‡Journal of Mental Science, January, 1883.

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cause. There was no inter-communication of insane ideas. Savage and Gill's cases were twins attacked by similar forms of insanity.

Reverchon* and Pages* have reported cases analagous to this condition occurring at Andouille, France, in which a father, mother and four grown-up children were sequestered in an asylum who became insane in consequence of a dose of some solanaceous plant administered to them by a quack. They all had the delusion that they were bewitched, which delusion had originated in the statements of this quack. The delusions and hallucinations were of the same character. This is of course not a perfectly pure instance. Savage† and Needham‡ have reported cases where true inter-communication of delusions have occurred. In Savage's cases the delusions extended from a father to his son and latterly to the son's wife, who was sane but stupid. Needham's cases were two brothers, of whom the recipient was the weakest mentally.

I have elsewhere reported|| the majority of the following cases: Case I. was a Presbyterian clergyman who had strong hereditary tendency to insanity. He presented the episodial variety of primary monomania. He was admitted to the Asylum and discharged at intervals from 1872 to 1875, during periods of pseudo-lucidity. The contrast between which and his periods of mental excitement was extreme. In the pseudo-lucid period he was polite, unassuming, unobtrusive, a perfect gentleman, and a pleasant companion. In the other condition he was egotistically obtrusive, claimed delusions of inspiration, was given to very loud talking and had marked insanity of manner. His letters would then display the unnecessary capitalization, italicization, emphasis and punctuation common to the insane, together with marked superabundance of adjectives, and attempts at frequent aliteration. In 1874 he came to the asylum filled with delusive conceptions of

**Annales Medico-Psychologiques*, July, 1882.

†*Journal of Mental Science*, January, 1881.

‡ " " " April, 1881.

||*Journal of Mental and Nervous Disease*, 1880.

ameliorating the condition of the insane and improving their intellectual capacity by a lecture on the "Holy Land." At this time the evidences of mental excitement were marked. But the chief interest lay in the insane companions by whom he was surrounded; all of whom were permeated with delusive ideas similar to those of the minister based on the improvement of the insane and the conversion of them into useful members of society. One was a wandering progressive parietic, one of those cases which come to the front when any popular uprising happens. This individual had been in Cuba and claimed to be a Colonel in the Cuban republican army. Somewhere he had met the minister, who had obtained a complete ascendancy over him. He attempted to improve the condition of the insane by distributing among them five dollars' worth of red and blue lead pencils. The next member of the group was a case of chronic mania with imbecility, markedly religious and full of the delusive ideas already described. The fourth case was a hebephreniac, who mingled in his conversation, religion, regrets of his onanism and the delusive ideas already mentioned. The fifth and sixth members of the group were a slightly demented primary monomaniac and an epileptic lunatic. The minister when a patient displayed great power in collecting similar groups and imposing his ideas upon them.

A primary monomaniac succeeded in imposing his delusion that he was the Deity on a hebephreniac in the same ward, and created also the delusion that the latter was an angel, which the hebephreniac accepted. An imbecile who worked near these two imbibed their ideas, and, having overcome the primary monomaniac in a fight, called himself the great god who had overcome the little god.

The next instance of this condition was found in two cases of primary monomania, one of whom claimed to be God the Father and accepted the delusion of the other that he was the Holy Ghost, the latter accepting

his delusion. Another instance of the condition was to be found in the case of a brother and sister who interchanged delusions. Finally, a primary monomaniac possessed of very vivid consecutive hallucinations, succeeded in imposing these upon a hebephreniac whom he thereafter brought forward as a witness of the truth of these. An analogous condition is, as was stated by Dr. A. E. Macdonald*, who based this opinion upon researches made by myself, to be found in the tendency of paretics to accept each other's delusions. This arises, as Spitzka† has pointed out, from the parietic's loss of his proper self-consciousness.

It will be obvious from these cases that insane men can impose their delusions upon each other or can imbibe delusions from each other, or can impose delusions even upon sane people. I have already cited one of these cases from Savage. According to C. F. Folsom‡ the delusion of Freeman was accepted by his wife, who was acutely insane, and by several of the sane Second Adventists. The delusion of the Lay woman was accepted not only by her son, who is a clear case of primary monomania, but by her sane husband. All three believed that she was about to give birth to the Saviour and that she must fast forty days. In consequence of this she was allowed to starve to death. Another lunatic in Michigan has succeeded in imposing her delusion that she is the Saviour born in a female form, upon a large band of devoted followers. John of Leyden, Muggleton and numerous other cases of lunatics imposing delusions on sane people might be cited as instances of this kind.

What is the forensic bearing of all these facts? It is often stated that lunatics never fail to recognize each other's delusions or insanity, which is why combinations do not occur among them. This is stated with such positiveness that it might readily be accepted as a rule to which exceptions do not exist. The cases and

*Medical Record, January, 1879.

†Journal of Nervous and Mental Disease, April, 1877.

‡Boston Medical and Surgical Journal, March, 1880.

authorities which I have cited show that the insane can im-bibe delusions from each other and may compel the acceptance of their delusions by sane people or by the other insane. In case of simple reception of a delusion, the same is not very likely to sway the sane man or lunatic accepting it. But when the delusion is imposed on the the sane man or lunatic it becomes a different matter. John of Leyden controlled large cities and committed murder by wholesale. Freeman sacrificed his child, assisted by his wife, and his deed was acquiesced in by his associates. Lay and his son allowed Mrs. Lay to starve to death. A lunatic in California regarded himself as a king and was supported by his family in not paying taxes, they compelling the tax-collector to do homage to him. Suppose that my minister had deemed it necessary to purify the United States and prevent imperialism by killing Grant, he would certainly have been assisted by his co-lunatics. There would have been marked evidences of design, also evidences of conspiracy. It is very probable that these lunatics would have been executed. The minister would certainly made, as he often did, a claim of being inspired, similar to that of Guiteau, which would have added to the evidence against him. Suppose that Myers the prophet arrived in Washington for the purpose of killing Hayes, had encountered a lunatic whom he could have persuaded into being the Angel Gabriel. We would have had a trial similar to that of Guiteau in its denouement, and the co-delusions of two lunatics would have been evidence of conspiracy and of sanity. These are only suppositions, but when lunatics and sane men support markedly insane delusions to the violation of the law, as was done in the Freeman, Lay and California cases, it behooves forensic alienists to take into account, when called on to judge of the sanity of a number of seeming conspirators the possibility of *folie a deux*.

Reflections on the Development, Movements and Transmission of Mind.

By CECILIA DEAN, M. D., Baltimore.

NATURE continually presents of every specialized form of organic life, representations of the highest form peculiar to that type of development, and is constantly striving to bring the order up to this expression of excellence. Any considerable variation reverts back to a point in development, where it joins with, and again follows, the advance line of progression.

Between these two points oscillate the individuals of any order. When the oscillations are greater in any other direction than the forward line, it conflicts with parallel or diverging lines, and is absorbed. For, in the onward sweep of creation a weakly resisting force is neutralized by a superior force in operation.

Mind, an expression of the human organism, as a whole, depends for the perfectness of its development upon the complete development of the parts of which it is composed. Mind is made up of the intellectual, the emotional and the physical, including the perceptive powers and will. That these systems may arrive at the highest possible degree of excellence peculiar to them, they must pursue the course established in the evolution of the organism. The order of progression is, from the physical to the intellectual, and when fully developed these systems present in their relation, one to the other, a just proportion and exquisite balance, in the exercise of their functions. It is this harmonious unity and co-ordinate play of functional activity that gives to the function of the organism, as a whole, that perfect symmetry which characterizes a superior grade of mental development. A disproportionate development disturbs or destroys the

nice adjustment between the parts and interferes or interrupts the harmony of co-ordinate action and introduces an element of antagonism that manifests itself in disordered functional activity. The physical system marks the differentiation point or inferior boundary-line of the organism. The emotional system, standing midway between the perceptive faculties—the lower and more physical powers—and the reflective or higher mental powers, is the sensitive machinery of the mental organism, moved by and moving the intellect. It may be likened to the digestive system in that it receives, pleasantly or painfully, what is brought to it by the perceptions or reflections, or to an engine in a vessel, which, nicely adjusted, propels the vessel forward without disturbance; illy adjusted, it both moves and shatters. It receives from within and without the stimulus of its movements. It feeds the intellect and is fed by it, though the latter manufactures movements at the behest of the former. Emotional disintegration implicates the intellectual in resultant activity which may go on to destruction or result in the arrest or balancing of emotional activity, according to the nicety of adjustment of these essentials of mind. The intellectual system is the great manufacturing establishment of the mind; here disintegration and recombination occur and appear as emanations of a grand generating force which converts the two inferior systems into operative agents, enlarging their capacity for reception of stimuli and widening the sphere of their activity—multiplying, as a whole, the relation of the organism to its environments in which the ever-increasing breadth of mind forms circles that widen and widen into infinity. But the mightiest revolution of the wheel can not cut a circle that does not include within the circumference of the larger, all the smaller ones. The stages that characterize the relative period of development for each part, in the development of the organism as a whole, are variable, the superior requiring a longer time than is necessary to complete the period for the inferior one.

The physical and emotional systems are verging into maturity of power at a time when the intellectual is passing through the period of pubescence. At this stage they maintain an existence of functional activity nearly independent of the intellectual system, the intellectual not having reached a stage of development that enables it to accept the combined activity of the inferior systems as the necessary stimuli to action, which the full exercise of function continually demands.

The organism may become permanently retarded at any point of delay in its passage to maturity of development, and that which was intended as a means to increase power in a superior part, is retained and presented as a local exhibition of strength.

The grade of development, possible to the organism, is predetermined in quality of structure. The power of persistence and resistance — a latent force aroused in response to stimuli, which, operating within the sphere of consciousness, is termed will power — is a powerful factor in development, whether in the direction of progress or in opposition to it. Physically it may be defined as molecular movement, actively set in a definite direction. In the combining power which determines the degree of intimate association, or ready dissociation, of aggregate elements, reside the strength or weakness of the will power of the organic structure of mind, as characteristically apparent in disordered as in regularly performed functions. The nutritive stimulus, supplied by the physical and emotional contains many an inflammable product if retained and disposed of by these systems, but which, transferred to the refining fire of the intellect, are transformed into divining rods "which serve to reveal Nature to herself." Absorbing propensities, double-edged weapons of destruction, become the keen instruments of research to open up new fields of beauty that supply fresh excitation to emotional and physical systems and furnish an increased stimuli to hasten the wheels of the intellectual machinery. An analogue of the organism is

the fruit-bearing tree, the physical system the roots, the emotional system the trunk, and the intellectual the spreading branches, and the function of the organism the leaf, flower and fruit; by means of which the two become a sensitized apparatus, reacting to delicately graded influences wholly inoperative when directed towards one of its individual parts. The earth-worm, crawling through the roots, sees no connecting link between these dark objects clinging to the soil and the fruit suspended from the overhanging branches. Heredity and an artificial mode of development interfere with the symmetrical development of parts, and when nature's beautiful law of proportion is divorced from growth, a retrogressive element appears which, perpetuated, removes further and further the artificial from the original type, until at last it hangs, an excrescence, upon the parent tree. Constant suppression of functional activity during the period of growth dwarfs organic elements and establishes deformity. Persistent stimulation not only cripples another part by withdrawing nutrition from it, but it ultimately results in the exhaustion of that part. As the regularity of the function of the organism depends upon the perfect adaptations of its units, *mind* becomes the mirror that reflects the want of adjustment between its members, and varies from the normal just in proportion to inco-ordination of parts. But, unless there is complete loss of balance, struggles to conceal that which it is incapable of restoring, the emotional system, occupying a more exposed position in the organism than the others, in consequence of the double relation it sustains to the physical and intellectual systems, is more frequently the sufferer in the variations from normal than either of these systems. Disproportionately developed, it breaks away from the control of the intellect and interrupts largely the communication between the intellectual and physical, substituting its commands for those of the former. It not only deprives the intellect of its normal stimulus, but precipitates into its laboratory a multitude of false impressions. It

drives the physical system along at a furious rate, and consumes, with reckless extravagance, its own nutritious material. It becomes the destructive agent to which the mind more readily yields, than to any other.

It is of grave importance that the organism be developed in accordance with laws established in evolution, for mind is conscious of the joys and sorrows of its individual elements; conscious of plethora, occasioned from an over-supply of unappropriated stimuli, to the intellectual as to the physical system; as restless, under the cry of starved emotions, as when besieged by the wants of the physical, and the tormenting wail of the intellect when deprived of the nourishment it craves, rings through its halls of pleasure, and plants thorns in the couch of ease. Conscious of the suffering of the physical system, when under the whip and spur of the emotional, or when worn and drooping, it executes the extortionate demands of an ambitious intellect. It languishes with the emotions confined within the narrow walls of a prison to which a tyrannical intellect has condemned it, and utters groans of agony when the intellect succumbs in a conflict with the emotions.

A mind warped by inheritance, or suffering from a neglected or false system of education, is preyed upon by the alternate sway of regular and irregular activity of its parts, and at last yields. The function of the organism is abolished, since it is no longer a whole made up of parts, but a whole resolved into its parts. Where a single system, permanently disordered, has succeeded in overthrowing the function, as a whole, the other systems make pitiful attempts to resume their wonted functions. The efforts growing feebler and feebler, ceases at last. The king has been dethroned by one subject, but all are now battling, furiously, for possession of the crown. In the natural decline of mind the method observed in its development is preserved; susceptibility to reception of impressions is gradually lessened, more impressions are being constantly received to carry on the machinery of

mere existence. This wave of decline at last involves the organism, and the mind, receiving no new stimulus, is sustained by the capital stored up during its period of greatest activity.

Reproduction is the reappearance of absorbed stimuli, either stored in growth or received as a deposit, is simple or complex, according to the number and kind of elements concerned in reproducing. Re-presented stimuli may change its expression, but the character always remains the same. Reproduction is therefore an endowment of every system; constitutes habit in the physical, imitation in the emotional, and memory in the intellectual, and generative reproduction in the organism, as a whole.

That which the organism transmits is a definite amount of force, predetermined as to its progressive or retrogressive tendency. It is the superior force stored up either in process of operation or ready to burst forth and overwhelm the organism. An explosion of force may suddenly flood the organism, and go pulsating down the line for a generation or more. Great functional activity is maintained by a corresponding expenditure of force, and thus an apparently vigorous organism may be suffering from exhaustion at time of reproduction, thus giving the ascendancy to latent forces ordinarily held in abeyance. Nothing can be added to increase the force originally transmitted. Care may be observed in preserving an economy as to outlay; this may delay, but it cannot arrest, the retrogressive movement, which will be the most actively operating one until a point of intersection with the law of progressive action is reached, when it is again swept into line.

Nature never repaired a structure nor constructed one by building from the top down. When man makes the effort, she at once sets the seal of duration upon his work. She admits of assistance in enriching the soil, pruning the vine, and preserving the fruit, for the organism was intended to advance the great progressive

movement. Who can say that mind, the highest product of growth, is not destined to play as important a role in the evolution of a superior organism, as the physical system performs in the construction of the human organism. For the *Idea* in process of execution by operation of natural law, is subtly interwoven into the constitution of mind, and photographs itself in the formation of laws, for its improvement and protection. For what end is it preserved? Mind is an elaborately designed instrument where many converging lines meet. Undulations from the Great Heart of Creation tremble through the lines and register upon its surface; and the more perfect the instrument, the truer are the recordings.

CORRECTION.

EDITOR ALIENIST AND NEUROLOGIST:

Dear Sir: In No. 4 (Oct. 1882) of the ALIENIST AND NEUROLOGIST is a very interesting article by Dr. H. A. Hutchinson, relating his "Personal Experience with Hyoscyamine as a Hypnotic."

As one of his "medical friends who were present," I beg to correct a statement of the Doctor's.

Calling upon him by the merest chance, we found him in the condition described, viz., "in a deep sleep or coma," from which we would not arouse him; but we knew what was the matter. At least, from the symptoms, we were quite certain he was under the influence of either belladonna, stramonium, hyoscyamus, or duboisia, and aware of the fact that he had that day been handling a fresh supply of *Merck's hyoscyamine*, we naturally inferred that this drug was responsible, and did not once think he was in an ordinary "apoplectic coma."

We were reasonably alarmed at his condition for a short time; and were about to resort to a physiological antagonist, hypodermically, when some amelioration in the symptoms induced us to wait.

Nevertheless, the *moral* pointed out by the Doctor is a good one, as his experience forcibly demonstrated *to us*.

Pittsburgh, Pa., Feb. 6, 1883.

SAMUEL AYRES.

SELECTIONS.

CLINICAL PSYCHIATRY.

MORAL INSANITY—WHAT IS IT?*(By J. Workman, M. D., Toronto, late Superintendent of Toronto Asylum for Insane, etc.)—The insane do not always rave, nor do those who rave, always do so; the insane sometimes reason, occasionally indeed, a little too sharply, as I have often known, from those who address them as if taking them for mindless bipeds; and I apprehend it is within the knowledge of most of us, that the morality of the insane is not always of unexceptionable purity.

Every man must, from his own consciousness, feel convinced that the human mind, or if I may without offence use the term, the human soul, embraces, in its domain, something more than mere intellect. We all *feel* as well as *think*, and our judgment is often influenced by our feelings; in too many instances, indeed, the latter obscure or warp, or even completely subjugate the former. It is a great error to cut the mind up into distinct and independent principalities, any one of which may pass into a state of rebellion or anarchy, without disturbing the peace or even endangering the normal integrity of others. Those who have had sufficient opportunities of observing the primary manifestations of mental disease, must be able to testify, that in very many instances, long before any disorder or impairment of the intellect has been noticed or detected, some unaccountable change has been exhibited in the feelings, the moral sentiments, or the conduct and social demeanor of its destined victims.

* Abstracted from a paper read at a meeting of the Toronto Medical Society, Dec. 14th, 1882, and published in the Jan. and Feb. Nos. of the CANADIAN PRACTITIONER.

We should be glad to give the whole of this valuable paper, as it is a candid and competent presentation of the clinical features of the subject from one who, while controverting the theory of total exemption of the intellect and the propriety of employing the term moral insanity, especially in court, nevertheless clearly concedes the clinical features of the disease as recognized by Pinel, Esquirol and Pritchard and confirmed by so many subsequent observers. It matters little what becomes of the name, though we think it a good one as descriptive of the characteristic features of some forms of effective insanity, so long as nomenclature is based on the prominent symptomatology rather than upon the distinctive pathological features of insanity.

The temper which, erewhile, was mild, equable and cheerful, has become irritable, changeable, morose or perhaps extravagantly joyous. The loving husband has become harsh and tyrannous, the tender parent has become capriciously cruel to the children once the objects of his intense love, the happy home has been transformed into a den of perpetual misery, strife, recrimination, and, but too frequently, acts of dangerous violence. It is needless to amplify the picture. Materials for the filling up may be found in many an unhappy household. Within the last two years a case came to my knowledge strikingly illustrative of the fact which I here desire to accentuate. The subject of it was, till within a few months past, an intelligent, industrious, good-living man. In consequence of falling off in business, he became gloomy, taciturn and utterly despondent. He continued in this state for some weeks, but under the kind and judicious care of a devoted and sensible wife, improvement gradually took place, and his former mental composure returned. Meeting with a chance of embarking in a line of business suited to his capacity, and very restorative to his exhausted purse, he became very energetic, and as fertile in speech as he before had been reticent. He resided not far from me, and I watched him with solicitude. I feared that he would bear his prosperity no better than he had done his adversity. My fears have been too fully justified. He has recently embarked in a very problematic business enterprise, despite the advice of his wife and all his best friends; his temper has become very irritable and at times ominously violent. His wife and the children have been forced to leave him. Their religious pastor has approved of the precaution, and after hearing full details, I have advised her not to venture back until a promising change is apparent.

Now, what is the present mental condition of this poor man? So far as his intellect is concerned, no outsider coming to do business, or to converse with him, detects any flaw or impairment, and I believe it would be impossible for any three medical practitioners undertaking examination of his mental state to find in his conversation, or his deportment towards them, adequate facts to enable them to fill up the first question required to be answered in the statutory certificate of lunacy, which is indispensable to the commitment of a person to asylum custody. Should he commit some capital offence, every judge, jury, or

crown prosecutor, that I have yet encountered, would pooh pooh the idea of his insanity. And yet, gentlemen, this man's case is exactly one of that class which Pritchard, Ray, and other illustrious writers have ventured to call *moral insanity*; but woe and abiding ridicule betide the medical witness who might, when pushed by an ardent prosecutor, to mention the *class* of insanity in which he would place the case, be so indiscreet as to utter this term!

In a very valuable work on the subject of moral insanity, published in 1878, by Dr. Bonfigli, of Ferrara, a concise review of the declared opinions of 46 eminent alienistic writers on this subject, is presented. These authorities may be divided as follows:—

7, terminating with the epoch of Pritchard, uphold the doctrine of absolute, or pure and distinct, moral insanity; of these 3 were French, 3 German, and 1 English.

17 admit the term conditionally; that is to say, they recognize moral insanity as a conventional or convenient, but not as a distinct or pure form of mental disease. They hold that it is always associated with some degree of intellectual infirmity, or that it is the forerunner of insanity of the intellect. Of these 17, 7 are French, 6 German, 3 Italian, and 1 English.

22 absolutely, or impliedly, reject the doctrine *in toto*. Of these 9 are German, 7 are French, 5 are Italian, and 1 is American.

Had Dr. Bonfigli been more versed in the literature of English and American alienism, he could have much augmented the numbers assigned to the latter two countries; and, undoubtedly, the classes of conditional advocates and of utter repudiators would have had almost exclusive admission to his catalogue. He, however, introduces into his book a report of a discussion on moral insanity, which took place at the Annual Convention of Medical Superintendents of Asylums in New York, in the year 1863. I had the pleasure of being present and taking part in this discussion, which was conducted in the most courteous and frank manner. Dr. McFarland gave it as his conviction that, "in all the cases of the so-called moral insanity, a real intellectual disorder was present." He was followed by the other members in rotation, including the distinguished and very long experienced Dr. Kirkbride, the President of the Association, and the veritable Nestor of the fraternity,—numbering in all present some 40 representatives of the United States and Canadian Asylums. Of all this assemblage only two or three

declared their belief in the actuality of moral insanity, and even these declined to define it as a distinct and independent form of the disease. Dr. Gray, Superintendent of the New York State Asylum at Utica, said that in 5,000 cases of lunacy which had passed under his observance, he had not met with one of pure and distinct moral insanity. Dr. Chipley said he had not found one in 1,800 watched by him, and I made a similar statement as to 2,000 observed by myself. It is not, however, to be overlooked, that asylum physicians generally become first acquainted with the insane only after their malady has assumed a fully developed character. Very probably, had they more frequent opportunities of observing the disease in its incubative stage, they might feel inclined to recognize in it a *quasi* moral (or immoral) monopoly. Some 16 years ago, I encountered a case of ticketed moral insanity, sent to the Toronto Asylum by three respectable and intelligent physicians. The subject was a girl of barely 15 years. She was presented by her mother, who gave me a terrorizing history of the daughter's misdeeds, much of which I thought savoured more of moral delinquency than of mental infirmity. However, she was sent to me as a lunatic, and I determined to treat her accordingly, regardless of all I had been told of her naughtiness. We began, as we ended, with uniform kindness. At the end of 4 1-2 months, I wrote to her mother that she was either completely cured, or she never had been insane. The mother was rejoiced to learn of the happy change, and she came promptly and took her daughter home; but on the second day after, she returned with her, and presented to me a large bag full of various articles of dress, on which Kate had been practising dissections. I looked over them considerably, and on closing my inspection. I said to the mother: "There is too much 'method in this madness' to convince me of its genuineness. We have had the girl here over four months, during which she has never spoken one word indicative of insanity, nor has she done one act pointing in that direction. I cannot re-admit her, for I believe she is not insane." Then I had a scene, which for long afterwards I did not understand, and, of course, could not justly appreciate. The distracted woman exclaimed, "Oh! what will become of her? She will go to the streets!" I then said, "Well, I will do this; I will give you the necessary blank forms of certificates of lunacy, and if you can get three physicians to sign them, I will take your daughter in again." So, back came my good girl, Kate, and I gave her the benefit of a thirteen months' further proba-

tion, during all which she was just as good, as gentle, obedient and obliging, as she had been throughout her former residence. I now talked to her in a very serious and paternal manner, showing her the impropriety and irrationality of her conduct at home, and pressing on her the consideration of her own best interests, which must be ruined by her continuance in a lunatic asylum. She listened to all I said with much deference, but finally told me she would like to leave the asylum, but not to go home to live with her mother. Now, her mother was neither harsh nor capricious, but, on the contrary, she had been both kind and forbearing; and her father and brothers had been equally so. I must say that this ultimate enunciation of my gentle patient let in a little light; for I well knew that the likings and dislikings of the insane are almost always unaccountable, and that both fall upon objects or persons apparently the most foreign to the rational incidence of either. I wrote to the mother, giving a faithful detail of the facts, and advising the removal of her daughter from the asylum, but not her replacement in the family. She made suitable arrangements for the girl's residence at a distance in the country, and we had the pleasure of seeing her depart in excellent health, and in perfect mental composure. Three years afterwards she paid us a visit, and I learned from her companion that she had shown no more symptoms of insanity, either moral or intellectual.

Now, suppose I had regarded and treated this young person, not as the subject of mental disease, but as a clear-minded, moral delinquent; in other words, that I had, *quoad* her *exceptional* case, converted her asylum residence into prison correction; what would have been the probable result? It is my belief that I should then have transformed her into a real and a hardened criminal; or if there was, as I now verily believe there was, a constitutional strain of insanity in her frame, I should have been taking the shortest and surest course to perpetuate its unmistakable development. Was it not worth while even to be deceived and imposed upon for the sake of this girl's rescue from a future of vice and misery? Hear me further before reading your verdict.

Three or four years after parting with my grateful patient, a sister was brought to the asylum. There could be no question as to the reality of *her* lunacy. She was a sad wreck, both mentally and bodily. Some years before, she had left her home and disappeared. No trace of her was had, until at last she was accidentally discovered as a demented inmate of a large pauper asylum in the United States. Her parents

brought her home, and were soon obliged to bring her to me. When the mother now presented herself, and gave me the sorrowful history of the daughter's career, the echo of her distressful exclamation, when I had refused to re-admit her younger daughter, came back on my ears with thrilling accusation. But for the happy mental plasticity of the three medical gentlemen who certified to the moral insanity of my first patient, and thus secured her re-admission into the asylum, might not *she also* haven fallen into a life of abandonment?

It is now my belief that my first patient was truly insane, call her insanity by what name soever you may choose.

"Not long ago," says Dr. Clouston, "a lady, by a series of the most extraordinary misrepresentations and cleverly carried out impostures, raised large sums of money on no security whatever, and spent them as recklessly; imposed on jewellers, so that they trusted her with goods worth hundreds of pounds; furnished grand houses at the expense of trusting upholsterers; introduced herself by sheer impudence to one great nobleman after another, and then introduced her dupes, who, on the faith of these distinguished social connections, at once disgorged more money. To one person she was a great literary character; to another, of royal descent; to another, she had immense expectations; to another, she was a stern religionist."

This lady was, of course, finally brought to book. She was an impostor, a huge liar, a cheat; she very well knew right from wrong, and transacted her business with great ability and skill. Not one of all these she duped and cheated—intelligent, prudent, and clear-headed Scotchmen as they were—ever questioned her mental soundness.

"At last, all this lying, cheating, scheming and imposture, developed into marked insanity and brain disease, of which she soon died; and it was seen that all these people had been the dupes of a lunatic, whose very boldness, cunning and mendacity, had been the direct result of her insanity."*

*Dr. Benj. Rush, in 1812 (*Obs. on Dis. of the Mind*) described a form of Insanity as the "lying disease," "which differs from exculpativè, fraudulent and malicious lying in being influenced by none of the motives of any of them," and he inferred it to be a corporal disease "from its sometimes appearing in mad people who are remarkable for veracity in the healthy states of their minds," several instances of which he knew in the Pennsylvania Hospital. In the course of his life also he had been consulted in three cases of perversion of the moral faculties. The wickedness of one had no intervals when she was awake, except when she was kept busy in some steady and difficult employment. He thought that "in all these cases of innate preternatural moral depravity there is probably an original defective organization in those parts of the body which are occupied by the moral faculties of the mind." Subsequent observation has only been confirmatory of such facts whatever theories observers may hold respecting general mental involvement.—EDITOR.

Had this poor woman's insanity not culminated speedily, but progressed slowly and insidiously, as it does in thousands of cases, she would, beyond all question, have been consigned to a penal prison; and had Dr. Clouston, or any other physician, ventured to express the opinion that she was insane when she committed the offences charged against her, the judge would have frowned, the jury would have been astounded, and the press would have applauded their verdict of *guilty*.

Her ends were insane ends, and she *might*, dominated by a quickly-killing brain disease, have essayed their attainment by violent insane means. Poor thing! the only refuge to her, in escape from the barbarism of law, and the blindness of justice, was the *madhouse!* How many a wretched victim of legal and judicial ignorance might, in a few years, or months, have found a similar refuge, had not the gallows anticipated the fiat of Nature?

Dr. W. now briefly related the interesting details of two other cases of the so-called moral insanity, which came under his treatment in later years, both of which he regarded as genuine, though, as he frankly admitted, he had always failed to detect in either, whether in language or demeanor, anything so clearly indicative of intellectual defect, as might suffice to enable medical examiners to sign the certificate of lunacy requisite for their admission into an asylum. The statements, however, made by the friends of those patients, on which he had every reason implicitly to rely, were of such a character as to convince him of the presence of actual insanity in both. It is, fortunately for asylum officers, a fact to them well known, that many of their patients behave, while residents in asylums, very differently from their conduct and language at home, and all that is necessary to develop their mental obliquity is to restore them to their former surroundings; many a family has had awful experience of this fact.

VICARATION OF NERVE FUNCTION.—As a contribution to the question raised in the January number of the *ALIENIST AND NEUROLOGIST* (and previously in May, 1875, by Dr. Hughes), respecting vicaration of nerve function, Dr. Kiernan communicates the following two cases; the autopsies in which were made by Dr. Spitzka. *Somatic Aetiology of Insanity*.—The first case was a negro paretic who had been under observation for about three weeks, and who to within forty-eight hours of his death manifested no other trouble with his speech

than slowness and the usual hesitancy. At the period mentioned he had forgotten the tools of his trade (carpenter) and did not know his name, but could signify his meaning very well by symbols. He was not hemiplegic and was right-handed. On autopsy there was found general bloody suffusion of the pia-mater, most marked over the convexity of the *left* hemisphere. There was a submeningeal extravasation of blood which had forced itself between the gyri, lifting the pia from the cortex and extending in between the operculum and temporal lobe. The blood was firmly coagulated, and the maroon-colored clot covered altogether a circular area involving the first frontal part of the second frontal (Wernicke-Meynert nomenclature), lower third of the præ-central, the whole of the gyrus angularis and all of the first temporal except its anterior end. There was a second hæmorrhage in the caput of the corpus striatum extending into the internal articulus of the lenticular nucleus as well as part of the anterior portion of the internal capsule. This clot was firm and laminated, some of the lamina being discolored; on its outside the blood had the appearance of a more recent clot, and this portion was continuous with the submeningeal extravasation, through a break in the cortical substance of the anterior gyrus operatus of the island. Broca's convolution as well as the contiguous portions of the island were compressed, and their medullary fasciculi were destroyed by the extravasation. This case, the aphasic symptoms of which were really minimal, shows that no matter how *extensive* a unilateral lesion may be, if its production is gradual (in this case a slow hæmorrhage), it will give the opposite hemisphere time to accommodate itself to its vicarious duties and the increased requirements thus thrown upon it.

The second case is somewhat of an antithesis to this. The patient was a primary monomaniac who had been for several years an inmate of the New York City Asylum for the Insane. There were no convulsions or paralysis present. The patient about three months before death manifested symptoms of pachymeningitis. He had sharp localized cephalalgia, occasionally became stupid and there were morning rises and evening remissions of temperature. He then exhibited twitching of the facial muscles of both sides, and seven weeks after the initial symptoms had manifested themselves, he had general literal convulsions of an epileptiform character without

complete loss of consciousness. In the last of these attacks, of which there were seven, he died. From the time of the first convulsive seizure he became gradually progressively aphasic; aphasia being of the ataxic variety. At first he used wrong words or spoke in broken sentences. Finally he could not speak at all, and remained speechless till his death. On autopsy the dura-mater, everywhere else perfectly healthy, was found thickened and adherent to the skull on the one hand and fused with the leptomeninges on the other, over the right frontal lobe. Dense pseudo-membranes were intercolated between the pia-cortex and the sulci were filled with the same material. The whole right frontal lobe as far back as the præ-central gyrus, and down to the lowest frontal gyrus, was softened and necrotic. There was nearly the same cerebral area involved on the right side as in the first case on the left. The lesion was also of slow production, yet the complete aphasia showed that vicaration did not occur. The reason was that the left cerebral hemisphere was teratologically atrophic. The optic tracts, pyramids and cerebellum shared in this atrophy. The left hemisphere did not vicarate for the right because of its congenital deficiency.

NON-PARETIC FORMS OF SYPHILITIC INSANITY.—Dr. C. H. Hughes contributes to the *St. Louis Weekly Medical Review* the two following cases: CASE I. *Syphilitic Mania*. From the records of the Missouri State Lunatic Asylum. Mr. — is American born, age 30 years, unmarried, a lawyer by profession, and possessed of a good English education and ordinarily endowed intellect.

When rational he was of studious and temperate habits, and professed the Methodist religion. His natural disposition was cheerful and social, and he has had no previous attacks of insanity and no hereditary tendency. His father's health is good, and mother died at an advanced age. He came under hospital treatment in the fall of 1869, about ten days after his insane symptoms became first apparent. His parents were in no way regarded as eccentric; they were not blood relatives, and he has no insane relatives. His general health was impaired and feeble, with syphilitic periostitis of tibia and nares.

The record of his case attributes to constitutional syphilis the predisposing, and to loss of sleep and excessive study the exciting causes, but the brain strain was only ordinary work in the line of his profession. He was con-

stipated, sleepless and turbulent on admission, threatening God's vengeance on those whom he disliked, proclaimed himself called upon to preach the gospel, talked religiously and blasphemously, alternately. His appetite was ravenous, and he was filthy and indifferent in regard to his person, destroying clothing and bedding, soiling the floor, and walls of his apartment.

At the end of seven months, under specific treatment, no vestige of his mental disorder remained, and he was discharged as recovered, with instructions to continue iodide of potassium for two years. His treatment consisted of a short mercurial course, followed by drachm doses of kalium iodidum *ter in die*, with quinine and iron, opium and hyoscyamus.

The true cause of cases like the above is easily recognized. We might also cite a number of them, as well as the more typical general paralysis. But cases like the following are more difficult to recognize in their true nature, and we feel assured that we have ourself often mistaken their real character. This record will probably, therefore, prove more instructive to the physician in general practice, than that of the preceding.

CASE II. Mr. S. J. L. came under treatment December 8th, 1879, complaining of "fever, disordered liver, sleeplessness, constipation," and various other morbid feelings too numerous and too unreal to need mention.

The fever, insomnia, hepatic and intestinal torpidity were real enough to require medical aid, as well as the constant cephalic pain of which he complained.

He had taken a strong antipathy to an excellent medical gentleman who had previously treated him, and believed he had poisoned him. His manner was suspicious, and he was extremely cautious, inquisitive and fearful about all medication. His eyes were suffused, pulse full, head hot, and his cerebral circulation over active. The galvanic battery was his horror, and he withdrew from it as if from a viper on our first attempting to employ it.

By methods easier to practise than to impart, we gained his confidence sufficiently to induce him to take the necessary treatment, and to impart to us the information after inquiry, that he had years ago had a chancre, which healed spontaneously, giving him no trouble. A course of mercury and iodide of potassium, based on this information, combined with bromides, chloral and galvanism, effected such a change for the better that the gentleman

was enabled to resume his business of traveler for a mercantile house by the end of January. He has, however, been kept on kalium iodidum to the present time, the dose having been diminished from one drachm, *ter in die*, to ten grains *mane et vesper*.

In syphilitic hypochondriasis, if a specific therapeutic impression can be speedily induced, and in the meantime the patient can be kept from home and self-harm, he need not be sent to an asylum. He remarks further that "every form of mental implication may result from this cause (syphilis), and no part even of the spinal cord is exempt from the ravages of syphilis. It is as much of a disease of the cerebro-spinal axis as of the skin or mucous membrane.

STENGER ON CEREBRAL AFFECTIONS OF SIGHT IN GENERAL PARALYSIS.—Stenger (*Archiv. f. Psych.*) reports five cases illustrative of a peculiar affection of sight which Furstner, several years ago, described as occurring in the course of general paralysis of the insane. The symptoms are generally observed after the epileptiform seizures that occur in this disease. Patient can see objects and follows them with his eyes, but they do not recall associations. For example, he shows no fear if a burning stick is thrust before his face. Though he sees an obstacle in his path, he will continue in his course till he stumbles over it. If a glass of wine is held before him, it does not seem to occur to him that it is for drinking; it is only after it has been pressed against his lips that he drinks it. Patient sees, but does not understand; just as a man cerebrally deaf hears, but does not understand. This condition lasts for a variable time. In the first case it lasted about ten days, and then rapidly disappeared, and sight was normal for three or four weeks, when another attack came on, which was in turn recovered from. After a series of such attacks and recoveries, during which the dementia and paralysis gradually increased, the patient died. In two cases there was absolute blindness for several days, which was succeeded by the condition of mental blindness described above. It will thus be seen that there are two distinct conditions, one of absolute blindness or cerebral amaurosis, or, as it is called by Munk, cortical blindness, *Rindenblindheit*; the other of partial blindness, physical or mental blindness, the *Scelenblindheit* of Munk. The cases that Stenger has observed differ in some respects from those described by Furstner. In Furstner's cases, only one eye was affected; in Stenger's, with one exception, both eyes were involved.

Stenger always found paralysis and dilatation of the pupils; while Furstner states that the contractility of the pupils is retained. Post-mortem showed that the symptoms were due to disease of the cortex cerebri; but the lesions were too diffuse to allow of any conclusion as to the localization of the sense of sight. Stenger reports several cases of general paralysis in which he has observed hemianopsia, without the peculiar symptoms of impaired vision just described. A man had an apoplectic seizure, and lost power over his left face and extremities. Three days afterwards, by which time he had regained consciousness and intelligence, there was found left hemianopsia and hemianesthesia. The hemianopsia continued for about a fortnight, and then gradually disappeared, but returned in a few months after a fresh paralytic attack. In another case, left hemianopsia appeared after a paralytic attack affecting the left side. Three months afterwards, right hemianopsia developed, and was followed by convulsions of the right arm and face. Patient was now quite blind, and remained so till death, four weeks afterwards. During the early part of this period he was able to converse rationally, and the other special senses were normal. On two occasions he had hallucinations of sight. On post-mortem, in addition to other lesions, the occipital lobes were found to be much atrophied, and the pia-mater injected and firmly adherent to the softened cortex.—[*Brain*, Jan.

GOUT AND INSANITY.—Berthier (*Annales Medico-Psychologiques*, 1869,) claimed that: First—If gout has a marked action on the mind and a special predilection for the nerves, it may in predisposed cases originate every kind of neurosis, especially the optic neuroses. (2) The psychoneuroses dependent on the gouty diathesis are frequently metastatic and alternating, but sometimes predispose to a latent or larval vesania. (3) Gouty insanity is often associated with anomalous gout. (4) Sometimes the gouty symptoms become lost in the insanity which then become incurable. (5) Gouty insanity has an established place along side of darrous, syphilitic and rheumatic insanity. Dickson, Bucknill and Tuke, and Blandford express similar opinions. At the January meeting of Chicago Medical Society, Dr. Kiernan reported a case which tended to confirm these opinions. The patient was a descendant of fox-hunting Irish squireens. He was a markedly good humored, as a rule, and had at irregular intervals attacks of gout. The occasion on which he was first seen by Dr. K., he was wildly excited and was dashing around the room, smashing articles

of furniture and seeking to escape from enemies. He had been in his usual health up to within three weeks previous to his visit, when he was attacked by gout. While suffering from this, and with his foot encased in a shoe open as far as the toes were concerned, he incautiously went out in a rain storm. On his return home the swelling of the joint had disappeared, but he was irritable, peevish and loudly complained of the noisy streets and his unquiet children, one of whom he beat severely, contrary to his usual custom. From the description given by his wife he soon developed casual hallucinations and then passed into the condition in which Dr. Kiernan saw him. Under the application of warm fomentations to the lower extremities and the internal use of colchicum, conium and potassium iodide, the excitement disappeared and the patient regained his usual good humor.

TEMPERATURE IN INSANITY.—Extended contributions to this subject have recently been made by Bechterew (*Archiv fuer Psychiatrie*, Band xiii.) and Hebold (*Ibid.*) Bechterew has taken the temperature of the rectum with all the precautions suggested by Liebermeister. He finds that in the first stage of melancholia the temperature usually remains about normal, or may even rise above it. It has been observed as high as 104° F. By melancholia Bechterew evidently means all cases with delusions of persecution and with depression. In melancholia with marked depression and with stupor, the temperature may sink far below normal. In the convalescent period the temperature is usually normal. Sometimes the temperature is extremely variable at the onset of this period, and this usually denotes a sudden improvement in the patient's condition. In the excited or stuperose period an inverted typhoid fever curve is often noticeable. The fall of temperature is referable to the altered metamorphosis in the tissues to circulatory and hæmic changes. In the first stage of mania the temperature is lowest. In the period of excitation the temperature is normal or above normal, and there are frequently marked fluctuations. Low temperature is often noticeable on the disappearance of the excited period. An inverted typhoid fever curve is often noticeable here. The peripheral temperature varies in different places. Dementia curves are most irregular, and subnormal temperature very frequent. Hebold's results, which deal specially with low temperature, tend in a general way to confirm these results.

RESTRAINT.—Dr. R. W. D. Cameron (*Journal of Mental Science*, January, 1883), comes to the following conclusion on the subject of restraint: First:—Restraint of some kind will always be necessary while insanity exists, as it is at present. Second:—It should be limited in its application so far as is compatible with the welfare of the patient and the interests of the public. Third:—Direct control, moral and physical, by good attendants under the guidance of the higher asylum officials is the best means of attaining to this end. Fifth:—Restraint other than this is not necessary. Sixth:—Exceptional restraint is sometimes, and then seclusion is to be preferred to mechanical appliances and drugs. Mechanical restraint is only indicated for surgical reasons or in cases of emergency as a temporary measure until other means of restraint can be applied.

MORAL INSANITY.—Dr. Savage (*Journal of Mental Science*, 1881-82) said that many so called sound children are nothing more nor less than children who are morally of unsound mind. After expressing his concurrence in this doctrine, Dr. J. Manley (*Journal of Mental Science*, January 1883), reports two cases of children, four and a half and six years old, intellectually bright, yet given to wild malicious mischief, despite good home surroundings and careful bringing up.

CHRONIC IODOFORM PSYCHOSES.—Schmidt (*Centralblatt fuer Nervenheilkunde*) December, 1882, reports the case of a woman of 67 in whom there was no hereditary taint, in whom a chronic form of insanity, beginning with (like all toxic psychoses) aural, visual, and sensibility hallucinations, passing later on into a condition of dementia, attended by amnesia of past events, agitation, loss of personal identity, and persistent hallucinations. The interest of the case lays in its chronicity.

INSANITY IN A CHILD.—A six years, ten months old child is reported by Berner (*Norsk Magazin for Lægevidenskaben*, Bund XII, Hefte 3) to have been attacked by melancholia. The patient was desirous of solitude, very restless and unquiet in slumber and had hallucinations of sight and hearing. There were at times paroxysms of markedly painful depression. Hereditary history was uncertain, and the patient recovered in a month.

PUERPERAL INSANITY.—Dr. J. de Burgh Griffin (*Australian Medical Journal*, June 15, 1882) has had his

attention called to several cases of puerperal insanity which usually assumed the acute mania type. He claims that a premonitory stage exists and that the disease may be abated. Melancholia may occur, but is most frequent during lactation in his experience. He finds tonics and stimulants of great value.

CLINICAL NEUROLOGY.

NOTE ON THE ACTION OF CONTINUED CURRENTS, STUDIED FROM A PHYSIOLOGICAL AND FROM A PATHOLOGICAL STAND-POINT*, by A. Estore, interne at Montpellier.—I. Whilst studying the physiological action of continued currents, we were struck with the considerable variations which were presented in the amount of resistance it encountered whilst traversing certain tissues. These existed not only in different subjects, but in the same one electrized at different times. This fact, we found, had been already noted by Dr. Vigouroux (*Gazette Medicale*, 1879). Our chief, Prof. Grasset, under whose supervision we made our researches, requested us to examine these variations more closely and analyze the results with care. Through the courtesy of Dr. Regimbeau, who kindly loaned his apparatus and tendered his advice, it was an easy task to gather a number of interesting facts.

The following method was pursued: The positive pole was placed over the sternum and the negative over some parts, but always the same, of the forearm. A current sufficiently feeble to be borne for a long time (say ten elements) was then passed through. The precise time of closing the circuit was noted and the exact number of divisions traversed by the galvanometer needle, in a minute, was observed, until it remained permanently at rest; the maximum of intensity had been reached and the examination was concluded.

Numerous experiments were made by this method and it was observed that in two individuals subjected to the action of the same current, the resistance may vary in two manners: sometimes, and this is the case ordinarily, the maximum of deviation is different; high for one, it is less so for another, no matter how long the current is applied. At other times, this being less frequently the case, the needle arrives at the same maximum, but in different periods of time; being rapidly displaced in the one case and less so in the other.

*From the *Archives de Neurologie*, Vol. iv., No. 11.

These conditions, the galvanometric deviations on the one hand and the time on the other, have aided in producing curves by means of which the results of different examinations may be easily compared.

2. This being admitted in physiology, it seemed not only interesting but imperative to study these variations in resistance from a pathological stand point. M. Charcot had just observed (*Societe de Biologie*, 1882) that Dr. Romain Vigouroux had proven long since that, in hysterical patients affected with hemianesthesia, there is less power of conduction on the affected than on the sound side. We commenced our experiments by verifying this. It was at the Salpêtrière, under the very eyes of M. Charcot and of Dr. R. Vigouroux, that these new researches were conducted.

It was no longer a question of comparing different individuals: the two sides of a patient were to be the subject of comparison. The first condition to fill was to isolate the current, to localize it to that half of the body which was experimented upon. Its influence was not to be felt on the opposite side, where the resistance, without this, would have been diminished before it had been electrized in turn. To obtain this result we slightly modified our method; instead of placing the positive pole over the sternum as before, it was placed under the axilla; the negative pole was fixed upon the corresponding forearm by a circular band.

The same electrodes were employed on the right and on the left, over points exactly symmetrical. They presented a plane surface of small extent, so that the contact with the skin might be at its best; the greatest precautions were taken that the pressure should be equal on both sides.

Five hysterical or hystero-epileptic subjects, all having hemianesthesia, were successively examined. The sound side was first electrized and then the affected one; the first side was then gone over and then the other and this continued until the maximum was reached with certainty and rapidity. The diagrams will aid to a clear understanding of this and show the results obtained. Subjoined are a few explanatory notes on the patients examined.

The heavy lines in the figures represent the more sensitive side and the dotted lines the side that is less sensitive.

Kahn (Eva), examined March 6, 1882.—Complete left hemianesthesia. A current of twelve elements, applied once, gives on the right side a maximum of 25° in one minute; on the left, a maximum of 18° in three minutes. In the

figure the lines are separated by somewhat of an interval. A second application brings them together; the maximum is the same, but is immediate on the sound side, in four minutes on the affected side; in a third trial the lines are the same, the resistance being equal on both sides.

Georges (Louise), examined the same day, presents analogous results, but four successive electrizations are necessary to obtain them. Moreover, the anesthesia being upon the right side, the resistance here was greater than at the beginning.

The curves of Blanch — and of Gall — are still more interesting,

Blanch — is examined March 1, 1882.—Complete left hemianesthesia. There is obtained for maximum at first: 50° in twelve minutes on the right (sound) side, 40° in nine minutes on the left (affected) side. A second trial gives the same maximum of 55° on both sides; immediate on the right, in two minutes on the left. The most perfect equality exists in the two curves in the last experiment. A second examination is made March 7.—A transfer has occurred since the preceding day; sensibility has completely returned on the left in the arm and face, slightly in the lower limbs; on the opposite side anesthesia or simply diminution of sensibility at symmetrical points. The results furnished by electricity are inverse to the preceding ones. Maximum: 50° in twelve minutes in the left side, 40° in eleven minutes in the right. The succeeding applications of the current modify the rapidity of the galvanometric needle, but not the extreme limits of deviation; the two lines arrive at the maximum almost immediately, but never coalesce; the heavy line is always at 50° and the dotted at 40° .

These two examinations verify each other. They clearly show that, in this case, the resistance is greater on the side affected with hemianesthesia.

Gall — is completely insensible on the left side, when electrized for the first time, March 1, 1882. Sixteen elements produce on each side a deviation of 65° in six minutes on the right, in eight on the left. This maximum is immediately attained on both sides, on applying the current a second time. *New examination, eight days later.* The anesthesia has departed to give place to a marked hyperesthesia; the current produces an acute pain on the left side, and which can hardly be borne; the right side has remained normal. Maximum: 70° on both sides; in four minutes on the left (hyperesthesia), in nine on the right

(normal); the difference in these two lines diminishes notably after the second and completely after the third electrization. In this case the resistance was greater in the left side with anesthesia; it becomes less, in the same side when hyperesthesia is present.

There is nothing contradictory in these two facts, which are to be considered rather as reciprocal of each other.

Our last patient, Julie de la Mothe, never presented any appreciable difference in her two sides. Studied on several occasions, electrical conduction has always shown itself the same on both sides, although varying in intensity. It is true that there only existed a slight diminution of sensibility in the left side, without visual trouble. In fact, we did not have a true hemianesthesia to deal with.

To recapitulate.—Our two first hysterical patients could only be examined once; they confirm fully the opinion of Dr. Vigouroux. The third one was observed twice from the fact of the occurrence of a transfer; the hemianesthesia, primarily on the left, passed to the right. And the increase of resistance also changed sides. In the fourth, an active hyperesthesia having succeeded a complete anesthesia, we saw, on the same side, the resistance at first greater and subsequently less than that of the other side. Finally, the same conductivity was observed in both sides of the last patient, whose sensibility was hardly less on the left side.

Such are the results of our researches; although briefly stated, they seem to us sufficient to demonstrate the importance to be attached to the determination of electric conductions in all subjects. The element indispensable by electro-therapy and electro-diagnosis will take a part in the future of the semeiology of many diseases and especially of those of the nervous system.

CASES OF ARSENICAL PARALYSIS*—By Charles K. Mills, M. D., Neurologist to the Philadelphia Hospital; Professor of Diseases of the Mind and nervous system in the Philadelphia Polyclinic and College for Graduates in Medicine.—On Nov. 2, 1882, at Norristown, Pa., occurred a series of cases of arsenical poisoning almost without parallel. The poisoning was caused by pumpkin-pie, which contained a large amount of arsenious acid. Dr. Mills saw one of these cases at Norristown with Dr. E. M. Corson, and subsequently with Dr. S. Weir Mitchell, under whose care the

*Abstract of a paper read before the College of Physicians of Philadelphia, February 7, 1883.

patient was at the Phil. Orth. Hosp. and Infirmary for Nervous Diseases.

The patient, a lawyer, aet. 24, and healthy previously, was taken sick immediately after having eaten freely of the poisoned pie, vomiting a few minutes only. During the night and until Saturday morning the vomiting was almost continuous, ceasing entirely Monday afternoon, except that at 2 o'clock Tuesday morning he vomited a dark grumous mass. Just before vomiting this mass he had constriction in the muscles of the chest and throat, and the facial muscles were much contorted. His bowels did not move from November 2d until November 8th. He had but little pain during the vomiting, scarcely more than would be accounted for by the retching and vomiting. Prostration was very great from the first. Tuesday night, November 7th, attempting to get out of bed, he fainted, and remained for some time in a semi-unconscious state, and began to have marked fever.

Six days after taking the poison, the patient first felt aching and numbness chiefly about the knees. The latter in a few days extended towards his feet. He had fair use of his legs, although they were extremely weak. Three days after this appearance of the numbness the same sensations began in the fingers of both hands, and soon extended to the wrists, beyond which it never passed.

His legs below the knees were now almost completely paralyzed, and there was some loss of power below the elbows.

His face was considerably puffed and swollen.

On December 1st, he began to have great pain, beginning in the knees, and speedily invading the legs and the feet, progressing in the same course as the numbness had previously taken. Aching was always present, but frequently the pains were boring, tearing, or lancinating. They were accompanied by a sensation like that produced by a strong faradic current. Two days after the coming on of the pain in the legs the fingers and hands also became the seat of aching. In one week the pains began slowly to abate; but throughout December, and, indeed, up to the present time, he has had more or less pain, varying much in character. By the middle of December, the numbness and aching, which had previously been below the knees, had extended above them a distance of several inches. His lower extremities felt as if encased in a cylinder as high as the limits of the numbness. The symptoms in his upper extrem-

ities did not change noticeably. The loss of power in the thighs increased with the spreading upwards of the sensory perversion.

The patient was first examined by Dr. Mills December 24, 1882, but the notes here given are from examinations made between January 10th and January 17th.

He presented no brain symptoms, and no disturbances of the special senses of sight, hearing, taste, or smell. He slept fairly well until midnight; after that time he was usually restless and uncomfortable.

Wasting of the limbs and emaciation were extreme. Circumference of the right thigh, 11 inches; of left, 10 3-4 inches; of right calf, 8 1-4 inches; of left, 8 1-4 inches; of right arm, 7 inches; of left, 7 inches; of right forearm, 6 1-2 inches; of left, 6 1-4 inches.

Paralysis below the elbows was marked, but not complete. The extensors and supinators were most decidedly affected. The fingers could only be flexed about one-half. Movements of the thumbs and the small movements of the fingers were impaired. The loss of power was slightly greater in the right limb than the left. The dynamometer registered for right and left hand, 35.

At both elbows were marked contractures at about right angles. The angles could be reduced to about 160° , but any attempt to carry the straightening further caused pain in the flexor tendons.

The legs, toes and feet were paralyzed completely below the knees.

The legs in their entirety showed a tendency to rotate outwards, the feet, however, assuming the equino-varus position. Contractures were not present at the knees, but at times the limbs would assume a semiflexed position, these acts of flexure being accompanied by cramp-pains in the flexor muscles of the thighs, legs and arms not infrequently.

The bowels required cathartics. Some dribbling of the urine occurred for a few days, also some pain, which he referred to the lower part of the urethra, just as the discharge of urine was completed. At the time of examination, January 17th, the urine was passed slowly, but without pain. The urine showed an excess of phosphates, but neither albumen nor sugar.

Farado-contractility was abolished in all muscles below the knees. Above the knees, faradic reaction was found to be greatly diminished, but not wholly absent.

The muscles below the knees to currents of medium

strength responded, but not normally. The reactions were those of degeneration. The actions expressed in the German formula were: AnSZ"; KaSZ; AnOZ; KaOz.

In both upper extremities farado-contractility was decreased, but not lost; diminution much greater below than above elbows. Below the elbows excitability was rapidly exhausted.

To the galvanic current the reactions of degeneration were present, but not so decidedly as in the legs. Anodal closing gave stronger reaction than cathodal. With moderately strong currents tetany was produced at the anode.

Both patellar reflexes were abolished.

The cremaster-reflex presented some interesting points:

Gentle irritation of the skin of the inner aspect of right thigh and leg, as far down as the malleolus, caused very vigorous retraction of the right testicle. Sometimes, but not usually, both testicles were retracted. Similar irritation of the left thigh and leg led to movement of the left testicle, which was marked, but not as vigorous as that exhibited by the right from irritation of the right limb. Now and then, in making this test, the unilateral movement of the left testicle, from irritation of the left thigh and leg, was followed a moment later by an imperfect retraction of the testicle of the opposite side.

On admission the surface temperature of each calf was 95° F. He usually complained of his legs feeling to him unduly warm.

Late in November transverse white bands were observed across the finger nails about two lines from their posterior limits. The nails were not furrowed, but simply showed white markings. As the nails have slowly grown these lines have remained.

The fingers and forearms were hyperæsthetic, but at the same time the patient could not determine with any accuracy as to one or two points on testing him with the æstheseometer. A similar condition, but more marked, was present in the feet, legs, and as high as the middle of the thighs. The muscles were very sensitive.

Applications of hot and cold water were discriminated readily.

For two weeks from January 9th to 23d, the pulse ranged between 107 and 148, and was nearly always more rapid in the morning than in the evening. The respirations ranged between 20 and 24, standing usually at about 24. The

temperature ranged between 97.8° F. and 99.8° F., but commonly was not much either way from the normal.

The following treatment was instituted by Dr. Weir Mitchell: Applications of ice and hot water alternately three times daily for ten minutes at a time to his arms and legs from the elbows and knees downward. Surface massage with coconut oil once daily. Ice-bags to spine for one to two hours twice daily. One grain of the extract of ergot (new United States Pharmacopœia) every two hours, and increased to thirty grains daily. After a week the ergot disordered the patient's stomach, and tincture of belladonna in doses of five drops every three hours was substituted. Fifteen grains of chloral were administered occasionally, and sulphate of morphia, at first 1-25th grain, eventually increased to 1-16th grain, was ordered, to relieve pain when necessary.

He was placed on full diet, with milk three times, and beef-tea twice, daily.

He improved steadily, regained almost entirely the use of the muscles above knees; has also much better use of his forearms and hands, particularly the latter, being now able to pick up small objects. The "wrist-drop" has improved greatly. He has much less pain, aching and numbness below knees; the legs below the knees, however, still remain paralyzed, but are not so completely helpless. He has every appearance of progressing steadily to recovery.

Six others altogether, besides this patient, were poisoned. One of these was a little boy, 4 years old, I. S., to whom a piece of the fatal pie was given. He died within ten hours, and I have no knowledge of observations as to paralysis or other manifestations of involvement of the nervous system. Probably his death occurred too soon to allow any such observation to be made.

M. S., a sister of the little boy, ate a very little of the pie, and suffered to some extent, but not seriously.

C. H. G., the father of this patient, died November 8th, six days after the ingestion of the arsenic. Besides severe gastro-intestinal symptoms, he suffered with pain in his head, back and limbs, was delirious for some hours, and was almost completely paralyzed.

Mrs. G., mother of the patient, ate a little of the pie November 3d, and had an attack of vomiting. On the 4th she ate a piece of custard, which was also found to contain arsenic, and was attacked with vomiting. A few days later weakness of the legs, with aching and numbness, came on,

and the right foot and leg became swollen and inflamed. She gradually recovered.

Mrs. V. ate a mouthful or two of the pie and custard containing the arsenic, and suffered with vomiting, etc., for three days. She has since had paresis and paræsthesia of the legs.

Mrs. F., who ate freely of the poisoned food, suffered severely from gastro intestinal symptoms. She is now under the professional care of Dr. H. N. Umstead, of Yerkes P. O., Montgomery Co., Pa. Dr. Umstead states that Mrs. F. has been paralyzed from the elbows to the ends of her fingers and from the knees to the toes. She complained of numbness and coldness in the limbs, and a feeling as if a cord was tied tightly around the waist. She had extreme pain in the paralyzed extremities. She had greatly improved, is riding out daily, can stand without aid, and can even walk a little with assistance. She still has some pain in the hands and in the soles of the feet, but they are not tender to the touch. She has some anæsthesia of the hands and feet, especially of the latter. She begins to enjoy her food, for which at first she had great loathing. Her bowels are moved once, and she urinates twice daily, but has not quite the natural sensation when the bowels or bladder is evacuated.

Dr. Mills concludes "that in well-marked arsenical paralysis we have to deal with a diffused myelitis, decided motor, trophic and sensory bilateral phenomena being present."

HEREDITARY TRANSMISSION OF ARTIFICIALLY PRODUCED LESIONS.—Dr. Brown-Séquard *Comptes Rendus*, tome xcvi., s. 627, many years ago drew attention to the hereditary transmission of epilepsy in guinea-pigs, rendered epileptic by section of the sciatic nerve or cord, of alterations in the eye and ear after section of the cervical sympathetic, of ecchymosis and dry gangrene after destruction of the corpus restiforme, of exophthalmos after section of the spinal cord, and of loss of phalanges or digits after section of the sciatic nerve. He now adds a fresh series of changes in the eye, after section of the corpus restiforme, which causes in the parent, atrophy of the globe, and in the descendants various opacities of the cornea, aqueous, lens or vitreous humor with atrophy of the globe in one case; also muscular atrophy after section of the sciatic. With the exception of the epileptic attacks, the changes in the descendants were often bilateral when they were unilateral in the parent, or *vice versa*, or the same side was not affected. Females transmitted the changes more readily than males. One generation often escaped. He has seen

an abnormality transmitted to the sixth generation. — *Medical Gazette*.

REFLEX PALMAR EMESES.—Dr. W. G. Moore, of St. Louis, in *St. Louis Courier of Medicine* for March reports the unique case of a fourteen months old boy, who would vomit whenever the rubber nipple of his nursing bottle came in contact with the palm of his hand. This singular phenomenon was noticed in the child at the early age of six months. A maternal aunt of this boy could never wear velvet goods on account of the disagreeable sensations from his touching it, and his father was an extremely nervous person.

CEREBRO PHYSIOLOGY.

RETREATING FOREHEADS AND INTELLECT.—The *Athenæum* very pertinently says concerning, this, that: "It is usually supposed that men of great intellectual powers have large and massive heads; but this theory, which Dr. Gilbert, physician to Queen Elizabeth, was the first to suggest, is not borne out by facts. An examination of busts, pictures, medallions, intaglios, etc., of the world's famous celebrities almost tends the other way. In the earlier paintings, it is true, men are distinguished by their large heads, but this is attributable to the painters, who agreed with the general opinion and wished to flatter their sitters. A receding forehead is mostly condemned. Nevertheless this feature is found in Alexander the Great, and, to a lesser degree, in Julius Cæsar. The head of Frederick the Great receded dreadfully. Other great men have positively small heads. Lord Byron's was 'remarkably small,' as were those of Lord Bacon and Cosmo di Medici. Men of genius of ancient times have only what may be called an ordinary or every-day forehead, and Herodotus, Alcibiades, Plato, Aristotle, and Epicurus, among many others, are mentioned as instances. Some are even low-browed, as Burton, the author of 'The Anatomy of Melancholy;' Sir Thomas Browne, and Albert Dürer. The average forehead of the Greek sculptures in the frieze from the Parthenon is, we are told, 'lower, if anything, than what is seen in modern foreheads.' The gods themselves are represented with 'ordinary, if not low, brows.' Thus it appears that the popular notion on the matter is erroneous, and that there may be great men without big heads. Recent anatomical and physiological researches

tend to at least lend strength to this view. Spitzka states (*Journal of Nervous and Mental Disease*, p. 483, 1879), that the development of the intellect in its highest sense depends upon a good projection system. This in turn depends upon a well-developed cranial base.—*Gaillard's Medical Journal*.

THE POSTERIOR LOBES OF THE BRAIN AND THE SEAT OF INTELLECTUALITY.—Dr. Crochley Clapham (*Journal of Mental Science*, 1881-2,) claims that there is no proof that the frontal lobes are the seat of intelligence, and gives the following reasons for rather crediting the occipital lobes with that function: (1) The occipital lobes occur only in the primates, being absent in the lowest of monkeys. The frontal lobes are present in all the mammalia. (2) The occipital lobes are the latest developed, whereas convolutions first make their appearance in the human brain in the frontal lobes. (3) The occipital lobes are not occupied, as are the frontal lobes, by extensive motor areas; indeed, they have no motor cells whatever in their cortical substance. (4) The occipital lobes are small and ill-developed in idiots (a straight back to the head being a common feature to idiocy), while the frontal lobes are unusually large, relatively speaking. (5) Wasting of the occipital lobes is always accompanied by dementia; not so wasting of the frontal lobes. Campaigne (*Traité de la Manie Raisonante*) and others have shown that in primary monomania the occipital region not the frontal is deficient. It may therefore be safely assumed that popular and even medical notions on this subject are erroneous.—*Gaillard's Medical Journal*, Feb. 17th.

[Charlton Bastion in his lectures before the class of University College Hospital, London, in 1874 strongly insisted that "the posterior lobes of the brain had more to do with intellection than the anterior," and the fact is in conformity with the preponderance of clinical and pathological evidence.—ED.]

SUAVITOR IN MODO, ETC.—"The Merry Mulheron of the Michigan Marshes" pays his compliments to "the dauntless dermatologist of the blue-grass region."

When friendly fraters editorial fall into frenzied feeling they furiously fight in finely-formulated phrascology.

EDITORIAL.

The Reign of the "Ines" in Therapy.—We have fallen upon strange times. No sooner does a medicinal agent acquire fame than some enterprising druggist makes a penult or antepenult of the famous name, attach it to the terminal *ine* which expresses the laboratory hocus pocus of the combination, and a drug is formed with a ten-fold virtue over its ingredients, the latter of which may be obtained on prescription of any reputable pharmacist. And medical men readily come forward to write up the new *ine* as though it were a new discovery in therapeutics, and the weaklings in the profession straightway proceed to take instructions in therapy from mercantile houses in lieu of the authorities in medicine.

We have no objection to the use of these combinations by the profession, but the evil connected with them is their fulsome laudation beyond their actual merits and the potency of the drugs they represent, by medical men whose endorsement is weighty because they are regarded as honest men in the profession.

We should pause and consider when pressed to commend these enterprising combinations, whether what we say is the exact truth and nothing but the truth.

No doubt a business house is gratified at the reception of a testimonial of a thousand bottles of a new combination just on the market, prescribed by one physician in the small place of one year, but either the statement or the prescription is reckless.

Horsford's acid phosphate has already passed from the hand of the profession to the public and the daily press heralds its virtues as a cooling drink in summer, an invigorating tonic to fight off cold in winter, a cure for innumerable nervous conditions which without other aid it can not reach, and all through the help of medical certificates thoughtlessly given in the beginning and recklessly in the end. The big fish take their baits piece-meal, but finally the little ones gulp them whole, and to the public one medical certificate is about as weighty as another, if a few weighty men are in the crowd.

The Style of Men who Read the "Alienist and Neurologist."—First, the medical heads of most of the hospitals for the insane; next, a portion of the associate staff of these hospitals; next, the superintendents of the institutions for the feeble-minded and idiotic—not all of them, but most of them; next, the chiefs of the medical staffs of a number of the general hospitals, and the professors and lecturers on psychological and neurological medicine in some of the best medical schools of the country, also, some of the professors of surgery and general medicine, etc.; next, the heads of inebriate homes, and nearly all the superintendents of the private homes and corporate hospitals for the insane and nervous.

Last, but not least in number and respectability, that growing class of advanced and advancing, thoughtful, observant, investigating general practitioners whose medical education did not cease when their college curriculum ended. You will find a few of them in nearly every community. They are the physicians and surgeons whom their brethren rely on for wisdom in medical emergencies, whom the public regard as the capable men in our ranks when something besides routine fever problems, etc., are to be solved. They are the men whom the lawyers consult for valid medico-legal advice, and whom the clergy recognize as the most enlightened men in the discussions of life problems intelligently.

We might have named another class, among the most advanced lawyers and jurists who are regular subscribers and readers of the ALIENIST AND NEUROLOGIST. The A. AND N. numbers among its patrons not a few judges who still think that the true province of the judiciary is to learn from Medicine what constitutes pathological law, especially in psychiatry, not to *make* it themselves by judicial fiat evolved from the inner consciousness of the Bench. These jurists read the ALIENIST AND NEUROLOGIST and kindred literature.

Journalistic.—We note the change of the *New York Medical Journal*, to a weekly issue; and that of the *American Journal of Obstetrics*, without supplement, to a monthly. We note also an increase in size and pages of *Gaillard's American Weekly*, the *Louisville Medical News* (weekly), and the *New York Medical Record*. The *Michigan Medical News*, and the *Detroit Clinic*, have consolidated under the name of the *Medical Age*, edited by Dr. J. Mulheron. Dr. Bemiss has retired from the *New Orleans Medical and*

Surgical Journal, which is now edited by Drs. H. H. Watkins, John Godfrey and others. *The Annals of Anatomy and Surgery*, of Brooklyn, appears this year on an independent footing, under the management of Drs. L. S. Pilcher and Geo. R. Fowler, of Brooklyn, and others. *The Rocky Mountain Medical Times*, has become the *Denver Medical Times*. *The Monthly Review of Materia Medica and Pharmacy*, edited by Dr. Richard V. Mattison, of Philadelphia, appears this year under the name *Quinologist*. The *Chicago Medical Review*, will henceforth appear as a weekly simultaneously in Chicago and St. Louis, under the name of *Chambers' Weekly Medical Review*, Messrs. J. H. Chambers & Co., of St. Louis Mo., being the publishers and Drs. E. C. Dudley and D. C. Gamble being the chief editors, with DeWolf, Warrenton, Earle and Roswell Park (of Chicago), and Geo. Engelmann, H. H. Mudd and Wm. Porter of St. Louis as associates. The *Kansas Medical Index* and the *Missouri Valley Medical Monthly* are consolidated, Drs. Diekman and Boteler being the editors.

A Commendable Religious Journal.—The St. Louis *Evangelist* has made its appearance in our sanctum entirely free from the not unfamiliar attestations, in so many other journals of the kind, of the miraculous virtues of certain notorious nostrums. It is so refreshing and exceptional to see a religious periodical consistent in its advertising pages with its editorial columns, that we cannot refrain from commending this consistent conformity to the decalogue in one, at least, of our religious exchanges; accordingly, we cheerfully bear witness to the fact that the St. Louis *Evangelist* bears none of the customary false witness of the ubiquitous "eminent clergymen," to the physical salvation properties of certain potent potions whose impotency is well known to those who are competent to judge of them. Of all the panaceas certified to by the divines of a few decades past, not one has stood the test of time. Even the "sands" of the several consumption cures of a quarter of a century ago have run out and no more "retired clergymen" are saved by them.

The Plea of Insanity is Brought Into Disrepute and the insane deserving of clemency are sometimes hung because of such abuses of the plea as lately occurred in Milwaukee, Wisconsin, as well as where the insanity exists only in the hypothetical case. The case in point was

that of a bartender who became temporarily insane, largely from drink, and shot his step-mother because he did not approve of her marriage with her second husband. The jury set the murderer free, to commit a similar act probably in the not remote future, when he gets again unbalanced; whereas it should have sent him to a penitentiary and asylum for life or a long term, not only for the murder, but for getting murderously insane through vicious indulgence. If a man is indisputably responsible for his insanity, he should be held accountable to the extent of prolonged or perpetual restraint, at least for voluntarily and knowingly developing the disease and for its criminal consequences. Justice to the deserving insane demands discrimination in the punishment of conscious self-induced and avoidable insanity.

The Memory of Baron Münchhausen Revived.—The "Force Neurique(?)" which Dr. Barity claimed to have discovered in his choreic patients, seems to have received some verification in a recent *neurique* phenomenon in Michigan. Dr. Barity asserted that:

In man (probably also in animals) there is manifested a peculiar nerve force (force neurique, neuricite). It radiates outward through the eyes, fingers and breath, and is distributed in straight beams through the atmosphere; it can be reflected and refracted. It can also penetrate lifeless bodies; certain colors will allow its transmission (dianeuriques) others not (aneuriques). The rays of nerve force may penetrate to a distance of from a few centimeters to several meters. It travels through the air with a velocity of two meters per second.—[*Deutsche Med. Zeit.*]

This conjecture is by no means new. In a recent number of the *Michigan Medical News*, Dr. S. C. Woodman has made the following singular statement which is worthy of record along with Barity's. We accordingly give it space and append thereto Dr. Woodman's letter on the subject in reply to our inquiries:

"I have a singular phenomenon in the shape of a young man living here that I have studied with much interest, and I am satisfied that his peculiar power demonstrates that electricity is the nerve force beyond dispute. His name is Wm. Underwood, age 27 years, and his gift is that of generating fire through the medium of his breath, assisted by manipulations with his hands. He will take anybody's handkerchief and hold it to his mouth, rub it vigorously with his hands while breathing on it, and immediately it bursts into flames and burns until consumed. He will, strip and rinse out his mouth thoroughly, wash his hands, and submit to the most rigid examination to preclude the possibility of any humbug, and then by his breath blown upon any paper or cloth envelop it in flame. He will, when out gunning and without matches, desirous of a fire, lie down after collecting dry leaves, and by breathing on them, start the fire, and then coolly take off his

wet stockings and dry them. It is impossible to persuade him to do it more than twice a day, and the effort is attendant with the most extreme exhaustion. He will sink into a chair after doing it, and on one occasion after he had a newspaper on fire as I narrated, I placed my hand on his head and discovered his scalp to be violently twitching, as if under intense excitement. He will do it at any time, no matter where he is, under any circumstances, and I have repeatedly known of his sitting back from the dinner table, taking a swallow of water, and by blowing on his napkin at once set it on fire. He is ignorant, and says that he first discovered his strange power by inhaling and exhaling on a perfumed handkerchief that suddenly burned while in his hands. It is certainly no humbug, but what is it?"

PAW PAW, MICH., Dec. 20, 1882.

DEAR SIR:—Yours in regard to Underwood at hand. The article referred to is no joke but *strictly true* as can be attested by any resident here as he has been in the habit and indeed now, will do it any time for a small fee. It is a very singular thing and in the light of it although I might not be willing to take as a Thesis that electricity is the nerve force. I would be glad to combat the negative. I am wholly unable to understand it unless as it now seems to me he generates from his lungs or stomach gas, and then after filling the handkerchief with it, sets the gas on fire by a spark of electricity and this burns the paper or the cloth. Either of the editors of our local papers the "*True Northerner*" or "*Free Press*" will substantiate all.

Very respectfully,

To C. H. HUGHES M. D.

S. C. WOODMAN

Letters of the Insane.—A gentleman discharged from the Barnwood Lunatic Asylum, Gloucester, Engl. (*British Medical Journal*, March 25, 1882), has complained that his letters written in the asylum and while insane were sent to his friends, and he has thus been permitted to make a fool of himself in public in a way calculated to injure him pecuniarily. The case illustrates one great difficulty with which insane asylum officials have to contend.—[*Chicago Medical Review*, April 15.]

Great injustice and injury irreparable may be done the insane by communicating their utterances, oral or written, without discrimination to their friends and the public. The indelicate, profane or vengeful expressions; the confessions of marital infidelity, of crime, of folly, the expressions of suspicion, and dread, unfounded in fact, but often made while the mind is under the dominion of disease founded illusion, hallucination or delusion, often make irreparable breaches in domestic and social relations, marring and blasting the happiness of once harmonious hearts and households. To the uninformed, the vulgar and indecorous utterances, which fall from the lips of the once pure and refined, suggest the adage "where there is so much smoke there must be some fire," unaware of the fact that in

states of mental disease, expressions which may have fallen upon the ear almost unawares, and unconscious or transient impressions and automatic mental movements, find expression in states of mental disease, as though they had been the real habitual voluntary life of the afflicted person; as though not only these automatic, semi-conscious mental impressions were the real chosen life of the insane, and the thousand thoughts resisted during sanity, had been part of the voluntary mental life.

If it be unjust to divulge professional secrets obtained from the insane, how much greater wrong is it to make no secret of the distorted communications of the insane, which, though they have the semblance of voluntary statements are often widely variant from the expressions of their normal mind and volition.

Laws framed to "protect(?)" the insane by transmission of all they write may thus become grossly violative of their rights, or those rights which they would maintain were they sane, to keep such of their correspondence as might do them harm, secret. Besides, the Physician's best clue to the state of his patient's mind is often formed in the latter's letters. Intelligent answers to friendly inquiries and prognosis as to recovery are often based on them.

As Others See Us—

THE JANUARY number of the *ALIENIST AND NEUROLOGIST*, edited by Dr. C. H. Hughes, of St. Louis, comes to us loaded with fine original papers, which are indeed contributions of permanent value to our literature. The contributors to this number are well known to the profession, and have long since won an authoritative position in psychological medicine. The one hundred and twenty-nine pages of original matter are furnished by both American and foreign writers. The whole gives evidence of energetic and tasteful editorial management, and the typography is excellent. This journal is more properly a special journal for the general practitioner than a journal for the specialist. Every physician interested in the progress of psychiatry and neurology will find this journal replete with instructive material. It is highly creditable to American energy and American science—*Louisville Med. News*, Feb. 3.

For good opinions from good sources we are grateful, but when a high estimate of our work comes from so exalted a source as the *Louisville Medical News*, we are greatly encouraged. The *Medical News* belongs to that class of progressive medical journals which duly recognizes the work of psychiatry and neurology, and their important bearing on general medicine. It speaks

well for itself in all departments of medicine, it has spoken specially well for ours. We consider ourselves equally fortunate with the *News* in having the encouragement of such eminent gentlemen as Yandell and McMurtry.

How the Jealous Public Protect the Insane.—

One would judge from the frequent public outcries against cruelty to patients in asylums and the jealous watchfulness and zealous interest *verbally* displayed in their behalf by the dear people in so many other respects, that when an opportunity is afforded of visiting just punishment upon the wretch who would needlessly maim an insane man placed in his care, they would mete out something like retributive justice and make such deterrents examples when opportunity is offered, as would teach those who take service in insane asylums that helpless lunatics are human and have rights to personal safety which attendants are bound to respect. But fifty-dollar penalties (fine and costs) for assault and battery on a defenseless lunatic, such as was lately adjudged against a brutal attendant of a State Asylum, will not greatly protect the insane in our asylums against the base cowards and inhuman fiends who are sometimes found in them. Such brutes should be sent to the penitentiary.

The Tri-State Medical Society, according to the *St. Louis Medical Journal*, will meet this year a long way from home. September is a good time to go to *Minneapolis* and the right royal reception given the American Medical Association in that vicinity last year, seems to have left an indelible impress on Dr. Rumbold, and he probably thinks all the Medical Societies of the country ought to meet either in or near St. Paul hereafter.

Or may be he meant *Indianapolis*, which, though a long ways in another direction, is likewise a good place for medical bodies to meet in and is where the next meeting of the Tri-State will actually take place, and a good time is promised and expected there.

The Association of American Medical Editors will be held in the city of Cleveland, Ohio, simultaneously with that of the American Medical Association, on June 5th and 6th, 1883. Addresses will be delivered by the President, Dr. N. S. Davis, of Chicago; Dr. Hy. O. Marcy, of Boston, and special papers will be read by Dr. J. A. Ochterlony, of Louisville, Ky., and Dr. Alexander J. Stone, of St. Paul, Minn. The subject of the President's address is "The Pres-

ent Status and Tendencies of the Medical Profession and Medical Journalism." Dr. Marcy's address will be upon the subject of "Journalism devoted to the Protection and Concentration of Medical and Surgical Science in Special Departments."

The Higher Education of Medical Men is a subject in which the medical profession and the public are alike deeply concerned and in which we should be earnestly interested. It cannot have escaped the notice of the observant and thoughtful that no country on the earth has medical men more superior and capable or a greater proportion of *medicores* and incapables in the medical profession than ours. A profusion of greatness, real and assumed, commingled in true democratic style on the same broad footing "of equality before the law," and in the estimation of a large number of the people, characterizes Medicine as a practical science and art in this great country of common schools, *very* common medical colleges in *some* localities and common privileges.

Kleptomania following suppression of epilepsy by the bromide treatment has lately presented itself in the cases of a little girl of a hæmiplegic clergyman, both under our medical care.

The child will take money or any other article she can get hold of, whether valuable or valueless to her, and give them away as readily as she takes them, to any one who will receive them. The stealing propensity is displayed by spells, much as the epileptic paroxysms were. This case is interesting to consider, in connection with Bannister's cases of insanity, recently reported, of a different character following epileptic abeyance due to the bromide treatment.

General Functional Neuratrophia.—What we mean by this term is a condition of mal-nutrition of the nervous system without *appreciable* structural lesion; not that there exists no microscopical departure from the normal condition of the nervous system. There is, however, no demonstrable complete and enduring solution of continuity in the nerve substance, and no such structural symptomatology as results from known destructive changes in the nervous mechanism. We diagnose this condition by exclusion. It is the foundation of nervousness, so-called non-organic insanity, hysterical paralysis, etc. So that while the symptomatic display may be marked enough, the real pathological fault is rather trophic than more morbidly structural.

Specialism in Medicine.—Dr. Hughlings Jackson's aphorism that "too much specialism in teaching tends to produce prigs rather than practitioners," is true enough when *too much* specialism is taught, but when or where is that the case? It is never too much of a subject to teach it thoroughly. As knowledge increases in medicine, the remedy is to provide ample methods of imparting it. There is room for vast improvement in the methods of medical teaching generally adopted. A good deal more specialism in psychiatry and neurology in our medical schools would save the profession from many blunders before the people and the courts.

The Term Imperative Conception expresses most admirably a state of mind often existing in insanity, in which the delusional features of the *tout ensemble* of the faculties do not reveal themselves in ordinarily recognized delusion, but in a state akin to it, in which conceptions, as they arise, are immediately associated with a morbid feeling of the necessity of immediate action; whatever is *thought* must be *done*. The sober second thought comes with unusual tardiness, if it comes at all, but the morbid mind generally does not question the propriety of putting the concept into action. Such are many suicidal and homicidal imperative conceptions.

The Hammond Prize OF THE AMERICAN NEUROLOGICAL ASSOCIATION.—The American Neurological Association offers a prize of five hundred dollars, to be known as the "William A. Hammond Prize," and to be awarded at the meeting in June, 1884, to the author of the best essay on the *Functions of the Thalamus in Man*. The conditions under which this prize is to be awarded have appeared in most of the monthly and weekly medical journals, and may be learned on application to F. T. Miles, M. D., Baltimore; J. S. Jewell, M. D., Chicago; E. C. Seguin, M. D., New York.

Cotoin is recommended by Albertoni (*Gazette Medica Italia*) in the exhaustive diarrhœa of the insane, in chronic uncomplicated diarrhœa, in the diarrhœa of phthisis, melœna, etc., and in that of sucking and teething children.

The Center for the Salivary Secretion is placed by Rochefontaine (*Le Prog. Med.* Nov. 18, 1882) in the sigmoid gyrus, electrical excitation of this part of the brain causing excessive salivation, *i. e.* the point of origin of the

direct downward nerve impulse that induces the salivary flow in contradistinction from the reflex act which is transmitted afferently through the gustatory branch of the fifth cranial to the floor of the fourth ventricle and efferently along the chorda tympani branch of the facial.

IN MEMORIAM.

DR. GEO. M. BEARD.—In the death of Dr. Geo. M. Beard medical thought has lost a philosopher and the department of neurology and psychiatry an enthusiastic worker. He has died in the midst of his work, at the early age of forty-four years, having been born on the 18th of May, 1839. He died in New York, on the 23d of January, after a brief illness of pleuro-pneumonia. Our last letter from him was dated January 12th, and related to the article he had sent us and which appears in the present number of this journal. He was then in vigorous health and hopeful of the future fame which awaited him.

Dr. Beard made mistakes (who has not?) in his writings, but no man was more ready to correct his errors, and no writer bore adverse criticism with more manly equanimity. This quality ripens the judgment, enriches experience and makes final success inevitable to the persevering author who possesses it.

Dr. Beard's work on neurasthenia, though the symptomatology of his subject was overdrawn, because of a wider knowledge of neurology than of psychiatry, possessed by its author, is a valuable contribution to the symptomatology of certain nervous states, which are too obscurely recognized by the practitioner of general medicine.

Dr. Beard was earnestly seeking to unravel the mystery of trance and mind reading of late years, and those who have taken an interest in these phenomena will have cause to lament his untimely death. His joint work on Medical and Surgical Electricity (1875) with Dr. A. D. Rockwell, reveals his skill in Neuro-therapy by the aid of this agent, which he early regarded as a nerve tonic as well as nerve stimulant in 1866. His priority in the solution of many

phases of mind reading (so-called) based on the phenomena of muscular tension and relaxation coincident with the mental movements is conceded.

In 1866, Dr. Beard published "Our Home Physician," and in 1871 other popular treatises on "Eating and Drinking" and "Stimulants and Narcotics." He wrote on hay fever in 1876, and in 1877 a monograph on "The Scientific Basis of Delusions," proposing a new theory of trance and its bearings on testimony. His book on Nervous Exhaustion first appeared in 1880. He subsequently published a second edition. He proposed the bromide of potassium for sea-sickness in 1881, and wrote on the psychology of the Salem witchcraft and its application to events of our time, referring to and discussing the conduct of the Guiteau trial, maintaining the insanity of the president's assassin and denouncing the injustice of his execution. He wrote also on sexual neurasthema, writers' cramp, and many other neurological subjects. His papers may be found principally in the *Medical Record*, *North American Review*, *Popular Science Monthly*, *Journal of Nervous and Mental Diseases*, and in this JOURNAL. He was an industrious, agreeable and instructive writer, not always profound to the professional reader, but especially popular with laymen, and in the profession he kept the surface waters of neurology agitated. While he lived there would have been no stagnation wherever his thoughts might have been turned. He was a friend to the insane, a zealous member of the society for their protection, and we believe he would willingly have corrected any error he might have formed to their detriment. He seemed to us to be seeking after truth in regard to them, though he did not always find it. In a late letter to us he deplored the popular tendency to liberate the really insane from our asylums. In his death that society has lost a valuable member. He was an advocate of higher medical education. At the late meeting of the American Academy of Medicine he read an elaborate paper on medical education, comparing the general proficiency of German and French physicians with those of England and America, and insisted upon an academic education as the proper basis for the thoroughly educated physician. Dr. Beard left much unfinished work. He died too soon. But he lived and died a philosopher. Almost his last words expressed his regret, that he could not record the feelings of a dying man.

HOSPITAL NOTES.

EASTERN MICHIGAN ASYLUM, Dr. Henry M. Hurd Superintendent—The following summary of post-mortem appearances, furnished by Dr. J. D. Munson, will be found of interest:

In fourteen cases the brain was examined; in one the entire spinal cord; in fourteen the medulla and upper cervical region.

The scalp was found normal in nine cases; in three extremely thick and vascular; in one very loosely attached to the cranium, the vessels being congested; in one very firmly adherent to the cranium.

The cranium was found to be extremely thick and hard in two cases; thicker than usual in two cases; increased in thickness but less dense than normal in one; excessively thin in one; normal in seven cases. In two cases where death followed epileptic seizures the diploë presented bleeding points.

The membranes of the brain were found markedly changed in many cases. The dura-mater was thickened, lusterless, and adherent to the skull in two; in one, loosely attached to cranium and filled with yellowish points, probably in consequence of fatty degenerations. The arachnoid and pia presented deviations from a normal condition almost universally. These were cloudy, opaque, thickened, with deposits of whitish material along the vessels, particularly at their branching. When patients died from constitutional diseases the membranes were frequently œdematous with effusion beneath the pia. In a case of profound dementia hemorrhagic spots were found between the arachnoid and pia on the right side. In a case of senile insanity where extensive atheromatous degeneration of the vessels had occurred, several chalky concretions were found in the membranes of the convexity, also a small concretion accompanying a cyst near the lenticular nucleus of the left side and another attached to the falx and deeply indenting the internal face of the left hemisphere. Deposits of finely granular matter have been more common, particularly on the arachnoid at the base of the

brain. In paretics the meninges have been found adherent to the summits of the gyri on the anterior lobes, but not as a rule to the posterior lobes of the brain. In paresis the pia has been found thickened, opaque, and granular, and separable with difficulty from the underlying convolutions. Upon its removal the gray substance appeared worm-eaten. Adhesions between the brain and its coverings were occasionally found in all forms of chronic insanity. They were located near the longitudinal fissure, and posterior to the fissure of Rolando. They appeared to be of long standing and were always dense, white, granular, and fibrous. The adhesions found in chronic insanity were not as extensive as those of general paresis. In a phthisical case, tubercular deposits were found in the course of the smaller vessels at the base of the brain. In a case of general paresis extensive deposits of granular matter were found on the velum interpositum, also two small bodies of cartilaginous consistence. In a case of chorea, thick, granular masses were found in connection with the pneumogastric on each side of the medulla. This patient died suddenly in a congestive seizure, but it is not known what connection these deposits had with the attack.

The venous sinuses were normal; clots were sometimes found in the superior longitudinal and more rarely in the lateral sinuses, which to all appearance were of post-mortem origin.

The middle cerebral artery was occluded in two cases, and there was softening of those portions of the brain supplied by it. The left and right sylvian arteries were each found plugged once. In these cases extensive degeneration of the vessels of the brain existed. In one not a single artery, not even the smallest, was in a healthy condition, and the larger vessels were calcified. Fatty changes in both cases were very marked. Fatty deposits in the adventitia of vessels frequently gave them a bulged or aneurismal appearance. The calibre of the vessels at these points was generally lessened, and not unfrequently the vessels were occluded. In some instances the arteries were inelastic and brittle; occasionally cloudy and opaque. When death had occurred during convulsive seizures great venous engorgement was always found.

The ventricles were normal in most of the cases. In three instances they were distended with fluid, and in two paretics the ependyma was roughened and granular. The

aqueduct of Sylvius was occluded in the case of an epileptic imbecile.

The brain varied much in color, size, and consistency. It was small firm, and with shrunken convolutions in two cases; softer than normal and dirty grayish yellow in two cases of paresis; extensive softening of the posterior portion of third frontal convolutions, the island of Reil and lower portions of the ascending frontal and ascending parietal gyri in one case; minute points of softening in another, all doubtless from occlusion of the arteries. Sclerotic masses were found in one case of paralysis agitans with dementia; gray degeneration in the white substance of the brain in two, and complete destruction of the temporo-sphenoidal gyrus in one case. In those who suffered from constitutional disease the brain was unusually pale and anæmic, with gaping sulci, but no gross lesions were discoverable. In a paretic the remains of an old clot partially organized and firmly united to the vessels was found resting upon the posterior fibres of the crus cerebri. Owing to the extensive paralysis which had existed prior to death the exact significance of this lesion could not be ascertained. Upon section of the brain minute points of extravasation of blood were frequently found, especially in paresis and other forms of disease in which degenerations of the arterial coats existed.

Valvular lesions of the heart, fatty degeneration, hypertrophy or dilatation were comparatively common.

Extensive tubercular disease of the lungs was found in two cases; oedema in two; great hyperæmia in one, and pneumonia-hydro-thorax in another.

The pancreas was cancerous in one case; the mesenteric glands enlarged in two; the supra-renal capsules were degenerated in two.

Peritonitis had existed in two, in one caused by the rupture of a cystic and degenerated kidney, and in the other by trichinosis.

In two cases the ascending colon was greatly distended; in one the transverse colon was of unusual length and arranged in four parallel rows, each about six inches in length; a portion of the descending colon extending from the splenic to the sigmoid flexure was only one-half inch in diameter and seemed destitute of muscular fibres. In one instance the intestines had tubercular deposits. One patient had but twenty-two ribs. In one patient there was a complete transposition of all the viscera, the cardiac extremity

of the stomach being upon the right side, the liver upon the left, etc.

In one case a granular contracted kidney was found; in another interstitial nephritis; in another the right kidney was enormously enlarged and converted into a large cyst which was filled with a dirty, grayish fluid containing pus. The ureter was dilated enormously in consequence of the occlusion of its lower extremity by a calculus, and was bound to the ovary by strong adhesions. In another case both kidneys had undergone cystic degeneration and the right one had ruptured, producing suppurative peritonitis and death.

Microscopic Appearances.—In the brain of patients who suffered from chronic insanity the microscope revealed atrophy of circumscribed areas of gray matter, and wherever adhesions had existed between the cortex and the pia, profound pathological changes and even total destruction of the gray matter. Pigmentation and degeneration of nerve cells and their processes, patches of induration involving destruction of cells and fibres, minute points of softening, lymphoid infiltration, and amylaceous bodies have been noted. The arteries were often atheromatous, enlarged, contracted at one point and bulging in others, their coats thickened and nuclei increased, with fatty and lymphoid infiltration of the adventitia, deposits of pigment at their branchings and in the perivascular spaces. Aneurismatic dilatations of the capillaries and thromboses of the smallest vessels have been demonstrated.

In epileptic insanity the cortical cells have usually been found well preserved. The arteries have generally been found larger than normal, somewhat tortuous, and their coats hypertrophied, but without fatty changes or infiltration of their adventitia. The perivascular spaces have been found wide, but rarely containing leucocytes, hematoidin crystals or pigment granules. The induration of the cornu Ammonis described by Meynert has not been observed. In one case characterized by destruction of the temporo-sphenoidal convolution sections of the neighboring gyri showed sclerosis. In one specimen the vessels belonging to the olivary bodies and the pneumogastric nuclei were extremely varicose and twisted. Pigmentation of the cells of the pneumogastric and hypoglossal centres has been observed. The pathological changes found in epilepsy are probably secondary and the results of an intra-molecular disease which has thus far proven beyond the reach of microscopic examination.

In general paresis more pronounced pathological changes have been found. The arteries of the brain have been tortuous, their coats constricted at one point, dilated, thickened, and nodular at another, frequently studded with leucocytes and round bodies which stain deeply and equally with carmine, logwood or aniline blue-black. The perivascular spaces were large oftentimes, and contained pigment, hermatoidin crystals, leucocytes, and round bodies. Dilatations in the vessels have been noted, but no capillary aneurisms. The coats of the arteries have often been found separated and the spaces thus formed have been filled with white corpuscles. Fatty changes in the walls of the vessels were rare, although granular deposits upon them were common. Minute hemorrhages have often been found, especially where congestive seizures have been frequent. Patches of sclerosis, occurring more frequently in the inner layer of the gray matter, or just beneath it, have been quite common. They have, however, been met with in almost every region of the brain. Degenerations of the cortical gray matter have been most commonly found in the posterior portion of the frontal convolution, in the lower extremity of the ascending frontal and ascending parietal gyri, in the convolutions of the island of Reil and in the cornu Ammonia. In these regions the layers of gray matter have been found indistinct, and in the outer zone made up of granular matter and sclerosed tissue. The brain cells have been frequently found isolated by the increase in the pericellular spaces and their processes wasted or in an advanced state of pigmentary degeneration. The cells appeared shrunken, without sharpness of contour, and often deeply pigmented. The nuclei have often been absent and the cells filled instead with innumerable pigment granules. The gray matter in the floor of the fourth ventricle has presented a similar appearance, and the cells of the facial and hypoglossal nuclei have rarely been found normal.

Hyoscyamine.—The amorphous preparation of Merck is still administered with increasing confidence in its range of therapeutic utility. In addition to what has been written in a previous report, mention should be made of its beneficial effect when administered in relapsing cases. In one case of periodic mania characterized by a regular recurrence of maniacal excitement, preceded by great irritability and accompanied by homicidal impulses, a single dose of hyoscyamine on several different occasions was sufficient to cut short the attack. In this case it produced a genuine

intoxication. The patient sang, shouted, laughed, talked incoherently, wept, and finally fell into a profound sleep from which he awoke rational, quiet, appreciative of his condition, and without a trace of his former mental disturbance. By this means the periodicity of his disease was so far arrested as to permit of his discharge upon trial upwards of a year since. The patient himself recognized that his improvement dated from the administration of the remedy.

It is also of great service when properly administered in changing morbid mental action and in destroying delusions. In a case of maniacal excitement accompanied by extravagant delusions of wealth, one-twentieth of a grain administered by hypodermic injection was sufficient to destroy the delusions, and they never reappeared. In another case where there was persistent refusal of food and medicine owing to a delusion that they contained filth, the regular administration of one-twentieth of a grain hypodermically for a week was followed by a complete cure of this delusion. In epilepsy with strong homicidal impulses it has in several instances completely changed the characteristics of the patients to whom it was administered, and has transformed them into quiet, inoffensive men. There are certain patients with whom it does not agree. In one instance it produced choreiform movements and its administration required to be suspended on account of the great discomfort of the patient. In several instances it has interfered with the action of a feeble heart and has required to be discontinued. Its action upon the stomach is also peculiar. During the regular administration of the drug there is almost invariably an increase in appetite, but when it is discontinued nausea, vomiting and extreme prostration result and continue for twenty-four to thirty-six hours. It has never been customary to administer it in large doses or to continue its use in increasing doses. If a moderate dose is not followed by beneficial results there is no advantage from a wholesale administration of the remedy. In cases of chronic mania it is often extremely beneficial to administer it continuously in a moderate dose until the full constitutional effect of the drug is obtained. It is undoubtedly curative in its action.

Codeia.—Unlike the other alkaloids of opium codeia can sometimes be administered with benefit to allay maniacal excitement. It does not increase the cerebral circulation to the same extent as morphia or crude opium, and often acts beneficially by allaying irritation. It undoubtedly

equalizes the cerebral circulation and produces quiet when delusions of a painful character exist. It is most serviceable in melancholia, especially when there has been persistent refusal of food in consequence of delusions. Its combination with sulphuric ether is frequently advisable in the treatment of patients of this class.

Jaborandi.—The fluid extract of jaborandi (*pilocarpus pennatifolius*) has proven serviceable to those patients who suffer from melancholia and who pick the flesh of their faces, hands, and other exposed surfaces of the body. In these cases there exists an actual cutaneous anæsthesia, giving rise to an alteration of sensation which is described as "stiffness," or "numbness." Jaborandi administered in doses of three to five drops of the fluid extract has afforded marked relief in many of these cases. One patient who had the delusion that her flesh was filled with worms, and who was constantly endeavoring to pick them out, under the use of this remedy relinquished the delusion for several weeks.

The only disadvantage which has arisen from its prolonged administration has been its tendency to produce eventually a free flow of saliva. This has sometimes been so excessive as to require a suspension of the remedy.

Chloride of Barium.—This salt has been used with marked benefit in the secondary stages of general paresis when marked ataxia exists, and a loss of ability to co-ordinate muscular movements. Its action seems to be similar to that of other metallic tonics. It does not arrest the diseased process, but renders the nerve cells which have not undergone destructive changes more potent. It has been customary to administer it in doses of a single grain, and this quantity rarely interferes with the functions of digestion. Under its use marked improvement has been noticed in the ability to co-ordinate muscular movements. The general paretic articulates more distinctly and walks with greater precision. He also executes the more complicated muscular movements with greater ease. If administered in combination with hyoscyamine it frequently affords grateful relief to cases of paralysis agitans, and of senile trembling. In these cases the patient experiences much discomfort from the tendency to tremble, even when no muscular movement is attempted, and makes a determined effort of the will to avoid it, but to no purpose. These remedies produce quiet and give an opportunity to the affected muscles to rest.

Convallaria Majalis.—This remedy has been administered with marked benefit in cases of cardiac weakness. It acts as a synergist to the heart's action, and its prolonged use has not been followed by depression. It has proven rapidly beneficial in the congestive attacks which are developed in the course of general paresis.

Monobromate of Camphor.—This drug promises to be of lasting value in certain cases of insanity accompanied by mild excitement and perversions of the sexual instincts, also in hysteria and states of mental weakness characterized by emotional disturbance. Its range of therapeutical usefulness is not large. Within its proper sphere, however, it has frequently proven beneficial in a class of cases where other remedies failed. It is mildly hypnotic and anaphrodisiac in its action. In the majority of cases sleep only follows its use when it is given in full doses. In a single instance bromism followed its prolonged administration. The symptoms were not severe and the eruption of acne was confined to the cheeks and nose. The drug does not irritate the stomach nor interfere with nutrition. Its action upon the heart is sedative and it lessens the frequency of the pulse. It also lowers the bodily temperature and the number of respirations. It is free from the depressing and debilitating effects of bromide of potassium and no disorders of speech or motility follow its prolonged use.

In an erotic, hysterical patient with strong religious delusions and destructive tendencies, who was frequently noisy, emotional and sleepless, the continuous employment of the drug ameliorated her symptoms to a marked degree. In another case with strong erotic tendencies accompanied by great irritability and impulsiveness, it proved equally serviceable. She became less violent and improved in bodily health and mental condition. In still another case, one of dementia characterized by confirmed vicious habits, erotic delusions, loquacity, and general lack of propriety, it was beneficial. In an imbecile of the first grade who became excessively excited in consequence of habits of masturbation the severity of the period of excitement was readily modified by the regular administration of the drug.

It has not been administered in epilepsy. It seems to control the muscular tremors of degenerative brain diseases and the involuntary movements of chorea. Hence by analogy it would seem to promise some utility in epilepsy.

Tubercular Insanity.—In view of the statement of Dr. Clouston, of the Royal Edinburgh Asylum, in reference

to *tubercular insanity*, it may be interesting to know, that in the experience of this Institution, delusions of the character which he considers pathognomonic of tubercular insanity, accompany all constitutional diseases, such as tuberculosis, cancer, Addison's disease, or organic disease of the heart. These delusions seem to be due to the depressing effect of the constitutional disorder upon the general vitality of the individual, and cannot with propriety be considered pathognomonic of tubercular disease alone. It is undoubtedly true that cases of tubercular insanity are much more frequent than cases of insanity from other constitutional diseases. At the same time there seems no ground for distinguishing it in any way clinically from the insanity of cancer or of Addison's disease.

MISSOURI.—Fourteenth biennial report of the State Lunatic Asylum at Fulton :

Total number treated during the two years ending Nov. 27, 1882: Males 510, females 361; total, 871, of whom 371 were discharged, as follows: Recovered—Males 107, females 68. Much improved—Males 12, females 9. Stationary—Males 53, females 9. Died—Males 64, females 49.

Though Dr. Smith and his Board of Managers in their last report appealed most earnestly for relief and made plain the necessity for better accommodations for the insane of the Commonwealth, the Legislature evidently failed to provide the means requisite for the extension of the old institutions or the erection of a new one, and now two years later we have these gentlemen going over the same ground.

Dr. Smith, with evident feeling, refers to his life spent in efforts to relieve the sufferings of the insane, his frequent and urgent appeals for assistance without his being able to rouse the people to a proper sense of their responsibility in the matter, and concludes as follows: "This, in all probability, is the last biennial report I shall ever make, and if I can be at all instrumental in inducing our next General Assembly to realize this subject in all its magnitude and act accordingly, I would contemplate the new and brighter era about to dawn upon the insane with a degree of satisfaction and pleasure language could not well portray, the remaining days of my life and in life's closing hours." We hope that the doctor, if his health permits, will find it best to reconsider his determination and conclude not to quit the good work, and we trust that his apparently last appeal will receive the attention it deserves from the public, the good men and women too who place the legislators where

they are and who have the power to eventually make them do that which is equitable.

A RETIRED AMERICAN SUPERINTENDENT notes with approbation the following articles in the (January) *Journal of Mental Science*: Ireland on—Joan of Arc. Cameron on—Philosophy of Restraint, pg. 523, etc., with the practical conclusions. Wilks on—Environment, pg. 549. Colonial Retrospect, pg. 635. Dr. Manning's Report on Superintendents, etc., pg. 640.

REVIEWS, BOOK NOTICES, ETC.

PROCEEDINGS OF THE ASSOCIATION OF MEDICAL OFFICERS OF AMERICAN INSTITUTIONS FOR IDIOTIC AND FEEBLE-MINDED PERSONS. Sessions. Frankfort, Ky., May, 1881; Elwyn, Pa., October, 1882; pp. 102. J. B. Lippincott & Co., Philadelphia.

This pamphlet shows a commendable activity among those engaged in the institutional care and training of the feeble-minded, and a considerable growth of a comparatively new work. The reader is struck with the novelty and variety of thought which this subject commands, and which may be indicated by the titles of the eight papers of which the body of the Proceedings consists.

Dr. Tarbell, of the Massachusetts Institution presents a paper on "Height, Weight and Relative Growth of Normal and Feeble-Minded Children," with the following conclusions:

"First.—That idiotic and feeble-minded children in our schools throughout their period of growth are about two inches shorter, and nine pounds lighter than normal children of the same ages.

"Second:—That the relative rate of growth of the two sexes of idiotic children corresponds very nearly to that of the two sexes of normal children, and is subject to the same variations at the age of puberty; and

"Third:—That the period of puberty is about two years later in idiots than in normal children."

The veteran Dr. H. B. Wilbur of the New York Institution, discusses "Some of the Abnormal Characteristics of Idiocy and the Methods Adopted in Obviating them." This article is thoroughly metaphysical, until coming to the application of his reasoning in an interesting description of the initiatory means for the education of the feeble-minded child. Dr. I. N. Kerlin, of Pennsylvania, contributes a paper on, "The Epileptic Change—its Appearance Among Feeble-Minded Children," which appeared in the Oct. number of the *ALIENIST AND NEUROLOGIST*. His assistant, Dr. W. B. Fish, gives a practical article on the "Medical Treatment of Idiots and Imbeciles."

Mrs. T. W. Brown, of Barre, Mass., presents a pleasing resumé of a

visit made in 1881, to the four prominent institutions of England—that at Darenth, Kent, the great establishment at Earlswood, the Royal Albert at Lancaster, and the private establishment of Dr. J. Langdon Down, at Normansfield.

Dr. J. Q. A. Stewart, of Kentucky, discusses the industrial training of his wards, while Dr. C. T. Wilbur elaborates very thoroughly the classroom training of the Illinois children at Lincoln.

The new Institution of Kansas is represented in the Proceedings by Hon. H. M. Greene, who, in a graceful paper on the relation of the State to its charities, evolves the doctrine that "State Charity" is a misnomer, and that the helpless are just claimants on the fostering care of the Commonwealth; one of his illustrations is so striking, that we must repeat it here:

"Our wards are innocent of crime or fault. In the large majority of instances they are the feeble and deformed expressions of parental sins and sorrows. And these sad traits, in very many instances, are the reflection of woes which the State has directly or indirectly caused. In my own State there have been successive eras of Indian and rebel invasion, to say nothing of the occasional experiences of drouth and insect plague, which have left other traces than lonely graves and ruined homes, and memories of eternal sadness. Picture a delicate woman, cultured and refined, leaving a beautiful Eastern home, loving, life-long known kindred and friends, and in company with the man she has chosen, selecting a dwelling-place far out on the green sea of the plains, where neighbors were a day's journey away, and letters from home were weeks old before arrival. Lonely enough, when *he* was with her, but when he was gone, and she was alone, who can gauge her anxieties? And when, one awful morning, the troops brought him home, lifeless and mutilated, and she realized that life for her was done, you need not be told the effects upon her unborn child. Affrighted at every sound, in a perpetual panic, he reproduces, happily for him without her mental sensibility, the terrible ordeal through which his mother passed. This is not a fancy sketch. The horrors of the formative era of our State can never be told, especially as they fell upon our brave pioneer women. The duty of the State to her heroic dead, slain in her service and settlement, will be but half fulfilled when the dead are cared for. The unfortunate children, upon whom are impressed all the terrors of the time, are rightful claimants of her fostering care."—See p. 257.

Professor H. H. Smith, *Emeritus* Professor of Surgery of the University of Pennsylvania, in his reception address at Elwyn, in speaking of the scientific work expected from this class of institutions, says:

"An important step in elucidating the pathology of idiocy will be the acquisition of such anatomical data as can be furnished only by the *post-mortem* examination of idiotic brains; but as few superintendents are experienced microscopists, or familiar with brain histology, some one should be found capable of examining the specimens thus furnished. Let this general brain pathologist receive with each brain an accurate life history of the subject. Let each institution remunerate him for his skill and labor, and there can be no limit to the scientific work that will thus be done. . . .

The pamphlet reviewed contains further the Minutes of the Meetings at Frankfort and Elwyn, from which we are pleased to make the following extract :

Oct. 5th, 1881, Thursday, 8 P. M.

The Association met in Music Hall, and listened to highly instructive and entertaining lectures, by PROF. HAILES, of Albany, on "A Few Points in Embryology, Derived from the Study of the Development of the Chick," and by PROF. C. K. MILLS, of Philadelphia, on "Cerebral Localization, Chiefly with Reference to Idiocy." Both lectures were thoroughly illustrated on the screen by photo-micrographs.

After the lectures, DR. KERLIN called the attention of the Association to the importance of attaching to our work the services of a pathologist who should be so amply remunerated that his whole time could be given to our institution, and that he should be not only subject to call for post-mortems, but that he should become familiar with the life history and phenomena of cases in the various institutions of special scientific interest to the profession.

The subject was very fully discussed by DR. H. B. WILBUR, DR. G. A. DOREN, and PROF. HAILES, and a conclusion reached, that the appointment of a pathologist was a desirable step for our Association to take, and that the larger institutions should unite in the expenses such an appointment will entail."

We shall hope that this progressive step will at once be taken, from which most interesting results are so sure to follow.

THE TRANSACTIONS OF THE COLORADO STATE MEDICAL SOCIETY, (twelfth annual convention held at Pueblo, June, 1882) are highly creditable to the profession of that young state. The address of President H. A. Lemen is a masterly survey of the field of medical progress, presented in a scholarly manner, indicative of observant study and true medical, rather than mere business interest in *the great profession* of the present age; Dr. Charles Denison's paper on the Infectiousness of Phthisis, indicates no less observation and familiarity with its theme than the preceding address. The Report on Climatology, by Dr. Solly, the paper on Cerebral Localization by Dr. J. H. Kimball and that on the Fevers of Colorado, are worthy of the oldest societies in the country, and Dr. Elsner's Essay on Tracheotomy and Dr. Green's on Sympathetic Ophthalmia are papers of real practical value. In short, nothing in the proceedings appears worthy of adverse comment, except perhaps the unmerited space devoted to irregular medicine. The fools of the world must feed on folly and they are prone, the world over, to reject with scorn all gratuitous enlightenment as prompted by selfish motive. The excellent paper of Dr. P. R. Thombs, the genial and accomplished superintendent of the Hospital for the Insane at Pueblo, is judiciously and timely presented. He has done his share, as asylum medical officers ought to do everywhere when proper opportunity affords, in presenting to the profession of Colorado his conceptions of the relationship of psychiatry and neurology to general medicine, and in giving an epitomized view of the progress of these essential departments of medicine. The address of Dr. Thombs appears in full in our pages. Dr. Geo. M. Cox shows an intimate familiarity

with the subject of his essay, though with the characteristic modesty of most authors, he disclaims familiarity with it. We should say, after carefully reading what the doctor has so well said, that the theme is peculiarly adapted to Cox. A singular instance of mental and moral perversion, worthy of study by alienists is the following, which we transcribe in the language of the essayist:

"It now only remains for me to describe an individual who seems to deserve special mention and special study, inasmuch as he not only stands alone in his peculiarities, but is absolutely unrivaled and unimitated in the role he assumes in the world of prostitution, and therefore does not belong to any of the classes already alluded to.

"This man has a wife and several beautiful children, and within the sanctity of his home, where he is always to be found during the evening, his precept and example are so noble and pure and good that his influence is felt and praised by all of his many friends and admirers. But at stated periods away from home, he is a holy terror to the biblical standard of those who have the promise of seeing God, an angel of mercy to the fast women whom he patronizes and an insoluble enigma to all mankind.

"He has never been known to cohabit with a lewd woman, nor to speak an immodest word; but he is a regular visitor, and, in his peculiar way, a liberal customer at certain houses of ill repute. His custom is to go early in the afternoon, select two or three of the largest girls in the house and repair to a private room and lock the door. Here he divests himself of every stitch of clothing from the waist upwards, but never removes his pants or boots. Then, lying prostrate upon the floor, with his hands lightly crossed over the abdomen and his eyes tightly closed, he commands his companions to walk over his naked chest, neck and face, taking care to stop at each step to grind his flesh with the heels of their boots. After this process has continued for some time he begins to buy the wine for the girls to drink, but religiously abstains from taking a drop himself.

"About the only noticeable interest he takes in the proceeding is an occasional demand for a heavier girl, or for some means by which they can increase the severity of the punishment. The tramping process goes on uninterrupted for two or three hours, at the end of which time he will have ordered a dozen or more bottles of wine, besides paying the fair trampers handsomely for their time and trouble.

"One of his diversions is to make one of the girls stand on his chest with her entire weight on one boot-heel, and have the others spin her around until his flesh is torn and bleeding. He will also frequently direct a girl to place one foot across his eyes with the boot-heel resting in one orbit, and the other foot across his throat. He will keep her in this position for five or ten minutes—thus sustaining a weight of one hundred and fifty pounds or more. It would be impossible to mention all the means of torture that this man has invented and submitted to, but I merely mention these few facts as being fair samples of dozens which I have heard of.

"At the conclusion of one of these matinees our hero puts himself through a course of rubbing his injured spots with his naked hands; and a very strange part of the story is the fact that by this simple process he

bruises, scars and ecchymoses will almost entirely disappear within a very few minutes.

"Having thus rubbed himself back to the state of presentability, he resumes his clothing, pays his bill and takes himself off to the marts of trade, but only to return and repeat the strange entertainment in about a week."

THE HIGHER EDUCATION OF MEDICAL MEN AND ITS INFLUENCE ON THE PROFESSION AND THE PUBLIC. Address delivered before the American Academy of Medicine, at its fifth annual meeting, held at Providence, R. I., September 28, 1880, by F. D. Lente, A. M., M. D., President of the Academy.—The author thinks that "it may be justly charged that our standard of medical education has retrograded from its earliest foundation in this country, to the present time." Referring to the usages in the beginning of our history, "a far longer period of study and a more mature age were considered necessary to master the science than now; and, above all, a far higher grade of preliminary training and acquirement. The remedy in a nutshell is preliminary education. The area of study has been more than doubled. What additional time has been added to the regular courses of our colleges to meet this additional requirement of study? Within a very recent period several colleges have adopted an additional session, and some have added one, two and three months to the session; but the large majority have made little or no addition which is obligatory."

"As our colleges are mostly private institutions, to keep them going without too great a pecuniary sacrifice, students must be had at all hazards and hence follows a rivalry or competition, not for turning out good physicians, but a good number. The great defect is the admitted antagonism which exists between the duty and the interests of the corporations."

The author does not wish to be misunderstood, or quoted as depreciating the condition of *medical science* in the United States. This by no means corresponds with the *status* of the *medical profession*, paradoxical as the statement may appear. In spite of the obstacles just referred to, and others yet to be noticed, we are certainly not behind any country in the world as regards our achievements in practical medicine and surgery.

A profession will be judged, not by a few shining lights, but by the condition of the body. "Every ignorant man," says Dr. Geo. E. Paget, "has an injurious influence on the estimation in which the entire body is held. His demerits have a tendency to lower us throughout the circle in which he is known. The want of confidence in him, and the want of respect for him, beget distrust and disrespect for the profession in general."

In answer to the question, how are we to limit the number of physicians, he says, "to make our system of instruction correspond, in some manner, to that which prevails in all other parts of the civilized world. We are all aware that nowhere is the door so widely open to entrance into the medical profession as here. Not only are the requirements for entrance into the medical colleges, and for the diploma, far higher in the old and principal governments of Europe, but in such countries as Australia, Chili, Venezuela and Cuba. By such a course, we would diminish the quantity and improve the quality."

The true remedy for the great evil in this country of inadequate med-

ical knowledge and training among the majority of medical practitioners, is neither in state examining boards nor in preliminary literary degrees. The real remedy lies in an *esprit du corps* in the profession and in the moral *vis à tergo* of an enlightened people. These are surely coming as we grow older, and telegraphs and the press and railroads bring the best work of the best educational centers before the whole people.

We want logically trained and observant medical men as well as thoroughly taught students to solve the problems of disease.

Let the profession search for and encourage those schools which have established high standards of proficiency and who exact high qualification and long enough terms of study, to insure trained medical minds and let physicians discourage young men of small calibre and great expectations from choosing medicine as a calling. Medicine, to be mastered, is a calling demanding ample time, some means and a reserve force of persevering industry, in its proper pursuit.

The necessity of looking out for the loaves and fishes from the start, aborts many an otherwise honest man in our ranks, turns him into disreputable chaffnels and fates him for failure. It is better to have still births than living monstrosities. A little less fecundity and fewer premature births would be more creditable to many medical Alma Maters. Let us have a little longer gestation for our medical fœtuses, a little longer lactation for our medical babes and tewe of them, and a little more and better pap for the growing young doctor.

THE CRIME OF SUICIDE AND HOW TO PREVENT ITS INCREASE BY LEGISLATION OR OTHERWISE is the subject of a recent essay read at the last session of the New York Medico-Legal Society, by Clark Bell Esq., President of the Society, in which the statistics of O'Dea, the researches of Briere de Boismont, Foville, Gray and others are discussed, and the conclusion is reached, after introducing the propositions which Dr. Jaennell sought to have incorporated into the penal code of France, that Dr. Jaennel "met the objections" raised to his proposed law "by powerful arguments," and the conclusion is also arrived at by the author that legislation is needed to exert: First, a force upon the moral sense of the community to render the crime of suicide more generally odious and detestable. Second, to arrest the hand of weak persons who now really encounter no resistance to their suicidal ideas, by legislation or public sentiments.

The author notes in brief the views of Blackstone, the maxims of Montague, the views of the Cynics, Epicureans and the tenets of the old Roman, French and English laws. The author has drawn very largely on the work of Dr. O'Dea, to whom he acknowledges his indebtedness.

The life of a suicidally disposed individual having no legal dependencies is, so far as the State is concerned, his own. He can do what he may please with it, unless the State can establish a claim on that life.

But the State does not give it, cannot prevent its coming into being and cannot prevent its going out of existence except to the extent of its lawful claim.

The State may decree the suicide of a married man or a minor, criminal or one owing service to the State by reason of enlistment or having

accepted office (but office holders hardly ever feel inclined to suicide) or punish the unsuccessful attempt by a degree of servitude under surveillance, providing him labor and placing the products of his labor to the credit of his dependents, after deducting actual cost of maintenance, if he be sane; if insane, then it is the duty of the State to provide asylum security.

The State might also require a term of military service for all citizens and make it criminal to attempt suicide while that service is due.

It is the presumption of insanity that justifies interference with the suicide. Who should take from a sane man, if he should seek to kill but himself, the liberty of disposing of his life in a summary manner, in such a way as might please him. If self-destruction be his pursuit of happiness, the spirit of the law guarantees this, as it permits the citizen to pursue a gradual course that may lead to destruction, if he deems it the best road for happiness to him.

THE SYMPATHETIC DISEASES OF THE EYE,* always of deep interest to the ophthalmologist and the ophthalmic surgeon, possess also a special interest to the neurologist, for the pathological lessons they teach confirmatory of the neural relationship of different and distant parts of the organism.

The phenomena detailed in the interesting book before us by Ludwig Manthner are no less interesting than the anæsthesia transfers and alternate or coincident morbid implications or symmetrical or corresponding parts of the nervous mechanism elsewhere in the system.

The book before us will be equally interesting to the general practitioner for the real light it will give him on the sympathetic affections of the eye, enabling him to treat or advise concerning them more judiciously than before its perusal. The anatomy, etiology, pathology, pathogeny and therapeutics of the subjects which properly come under the titles, are forcibly and cleverly presented in such a manner as to be readable without weariness.

The book is instructive without verbosity and clear without prolixity; enabling the general practitioner and the student in ophthalmology to gain an insight into what should be the practical treatment of the more important diseases of the eye, with the least possible amount of that needlessly voluminous detail of cases with which some other works abound.

The work of the translators and publishers is well done—Wm. Wood & Co., of New York, are the latter. Our much esteemed friend, Dr. Webster, has our thanks for the book and his compliments are cordially reciprocated.

THE RIGHTS OF THE INSANE AND THEIR ENFORCEMENT. By Clark Bell, Esq., President of the Medico-Legal Society of New York.—The tone and tenor of this address is not such as to win for it the utmost confidence of the thoughtful and observant. The author betrays a lack of that practical familiarity with his subject which justifies confident speech, yet he speaks

*By Ludwig Manthner, M. D. Translated from the German by Warren Webster, M. D., Surgeon U. S. A., and James A. Spalding, M. D., Member of the Am. Ophth. Soc.; Ophth. Surgeon to the Maine General Hospital.

with assured confidence and in some places he is vigorously sensational, as when he speaks of the "clang of the asylum door having a sound more awful than the dull fall of the elods upon the coffin of the dead" and gives as the most important of all reasons for a Lunacy Commission, "the necessity of supervision and control over asylum superintendents for the welfare of the inmates, and the proper administration of remedial agents"

He thinks the harmless insane should be free, whereas it is only the incurable and harmless who might be thus left to take care of themselves and not all of them.

There are some good things in this address, but its author is apparently better posted in matters legal than medical.

Psychiatry is evidently not his sphere any more than it is Ben Butler's, whom the author quotes as an authority on insanity. We believe in agitating the rights of the insane, in efficient State surveillance, in freedom from all needless restraint and in all needful restraint.

Judicious inspection of state, corporate and private and religious asylums would right many wrongs and reveal many evils toward the insane, but we should weigh well our words in their behalf, lest we wrong them with good but unwise intention.

THE TRUTH AND REMOVAL, by Charles Guiteau is a fool's unconscious monument to his and the government's folly.

One cannot read this book through, if he be at all skillful in analyzing the inconsistencies of mental imbecility and aberration, without reaching the conviction that its author was neither sound nor sane-minded, whatever conviction one might hold as to the public policy of Guiteau's execution or of his responsibility, entire or limited, for Garfield's death.

The key to this unfortunately born and surrounded character is shown in the subjects he preferred to be considered pre-eminent upon, and in the standard of comparison they afford with his subsequent erratic and insane career.

"The Truth" he says, "is my contribution to the civilization of the race," and he asks for it "careful attention to the end, that many souls may find the Saviour. A new line of thought runs through it and if it does not demonstrate the existence of Heaven or Hell," he submits that "their existence can not be proved." He was "on theology two or three years and this book is the result." It was "written as I had light during the period," he says, and so he saw that Christ came A. D. 70 and so he shot Garfield.

WHAT SHALL WE DO FOR THE DRUNKARD? A rational view of the use of brain stimulants, by Orpheus Everts, M. D., Supt. Cin. Sanitarium, late Supt. of the Indiana Hospital for the Insane. This a rational view in fact of this perplexing subject. Intemperance is viewed by the author both as a vice and as a disease, and adequate legal restraint and appropriate medication are conjointly recommended.

The vicious element as well as the morbid element in inebriety are to be reached. Hospitals for the inebriate, provided or countenanced by the State, with places of industry attached are recommended, to which every man and woman, who by the force of morbid habit, is incapable of refrain-

ing from the causes of drunkenness, should be committed by well guarded laws, and become for all needful time the wards of the state.

THE AMERICAN JOURNAL OF NEUROLOGY AND PSYCHIATRY, edited by Drs. T. A. McBride, Landon Carter Gray and Edward C. Spitzka, all well-known writers on psychological and neurological subjects, is just received, that is, the four numbers for 1882 are. We regret that we had not sooner seen this very creditably gotten up and ably conducted quarterly. The multiplication of psychiatric and neurological journals is a hopeful sign of present and coming progress in medical science. The most interesting and valuable feature of this journal is: "THE SOMATIC ETIOLOGY OF INSANITY," being the W. & S. Tuke prize essay, which is being published as a supplement by its author, Dr. Edward C. Spitzka.

HERBERT SPENCER ON AMERICAN NERVOUSNESS. A Scientific Coincidence, by Geo. M. Beard, is a small brochure from the publishing house of G. P. Putnam's Sons, in which the late Dr. Geo. M. Beard has placed in juxtaposition with his own views in his work on American Nervousness and other writings, numerous extracts from the speech Mr. Spencer made lately while in this country, entitled the Gospel of Relaxation, and which appeared in the *Popular Science Monthly* for January. The coincidences of thought and speech as shown in this little book are interesting reading and would prove of value to any one wishing to be doubly impressed with certain observations on this subject.

LECTURE ON ARTISTIC ANATOMY and the Sciences Useful to the Artist. The first of the regular series of lectures upon these subjects, delivered January 30, 1883. By S. V. Clevenger, A. M., M. D. Reprinted from the *Chicago Medical Journal and Examiner*, for February, 1883. The author handles his theme artistically, while at the same time adhering to truth with anatomical accuracy, if the simile may be permitted. This is a chaste, classical and accurately scientific contribution to a theme as yet not over-wrought. We thank the talented author for the pleasure derived from its perusal.

SCROFULA AND ITS GLAND DISEASES. An introduction to the general Pathology of Scrofula, with an account of the histology, diagnosis and treatment of its glandular affections. By Frederick Treves, F. R. C. S. Eng., Assistant Surgeon to and Senior Demonstrator of Anatomy at the London Hospital; Late Wilson Professor of Pathology at the Royal College of Surgeons. This is one of Henry C. Lea's Son & Co's ten-cent books and it would be valuable at a much higher price.

NASO-ANTRAL CATARRH AND ITS TREATMENT. By W. H. Daly, M. D., Pittsburgh, Pa., Fellow of the American Laryngological Association; Physician for Diseases of the Throat and Lungs to the Pittsburgh Free Dispensary, Pittsburgh, Pa., Senior Physician to the Western Pennsylvania Hospital, Pittsburgh, Pa., ex-President of the Alleghany County Medical Society, etc., etc., etc. Reprinted from the *Archives of Laryngology*, Vol. iii. No. 4, Oct, 1882.

THE CHARACTER AND HALLUCINATIONS OF JOAN OF ARC. By William W.

Ireland, M. D. Read to the branch meeting of the Medico-Psychological Association of Edinburgh, November 1st, 1882.—This is an interesting account of the life and history of this remarkable character which is to be followed by a psychical analysis.

MEDICO-LEGAL RELATIONS OF INSANITY. By Ira Russell, M. D., Winchendon, Mass. Reprinted from the *Boston Medical and Surgical Journal* of December 14, 1882.—This is an instructive address.

Extract from Third Biennial Report of Board of Trustees of the State Charitable Institutions of the State of Kansas, relating to the management of the State Asylum for the Insane, at Oswatomic, Kas., for the Biennial Period ending June 30, 1882.

Report of the Permanent Commission of the Medico-Legal Society, in answer to the Senate Resolutions of January 4, 1882. In reply to the letter of the Attorney-General and State Commissioner in Lunacy of the State of New York.

The Percentage of College-Bred Men in the Medical Profession. A paper read before the American Academy of Medicine, Oct. 27th, 1882, by Charles McIntire, Jr., M. D., of Easton, Pa.

Annual Address delivered before the American Academy of Medicine, at Philadelphia, October 26th, 1882, by Traill Green, A. M., M. D., President of the Academy.

Address of President H. A. Lemen, of Denver, delivered before the State Medical Society at its Twelfth Annual Convention, at Pueblo, June, 1882.

Official Report of the State Hospital for the Insane, for the South-Eastern District of Pennsylvania, at Norristown, Pa., to September 30, 1882.

Biennial Report of the Minnesota Hospital for Insane, organized 1866, located at St. Peter, and Second Minnesota Hospital for Insane.

Thirtieth Annual Report of the Pennsylvania Training School for Feeble-Minded Children, Elwyn, Delaware County, Pa.

The 112th Annual Report of the State of the New York Hospital and Bloomingdale Asylum, for the year 1882.

Annual Report of the Wisconsin State Hospital for the Insane, for the Year Ending September 30, 1882.

Seventh Annual Report of the President of the John Hopkins University, Baltimore, Md., 1882.

The Management of Chronic Inebriates and Insane Drunkards. By Albert N. Blodgett, M. D.

Report of the Superintendent of the Insane Asylum of the State of California, 1882.

Report of the Illinois Eastern Hospital for the Insane. at Kankakee, October 1. 1882.

Annual Report of the State Asylum for the Insane, at Morristown, N. J., 1882.

Report of the Eastern Michigan Asylum at Pontiac, for the year 1882.

Report of State Charitable Institutions of the State of Kansas, for 1882.

Report of the Illinois Southern Hospital for the Insane. at Anna.

Biennial Report of the State Lunatic Asylum at Fulton, Mo.

Annual Report of the Willard Asylum for the Insane, 1882.

Report of the State Hospital for the Insane, at Danville, Pa.

Annual Report of the Cleveland Asylum for the Insane.

Reports of the Butler Hospital for the Insane. 1883.

Annual Report of the Cincinnati Sanitarium, 1882.

ADDENDUM.

The Thirty-Seventh Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane will be held at the "Ocean House," in the City of Newport, R. I., on Tuesday, June 19, 1883, commencing at 10 A. M.

Resolved, "That the Secretary, when giving notice of the time and place of the next meeting, be requested to urge on members the importance of prompt attendance at the organization, and, of remaining with the Association till the close of the sessions."

The Trustees of the several Institutions for the insane are cordially invited to attend the meetings of the Association. When an Assistant Physician represents an Institution that fact should be certified to the Secretary.

The following committees will report on the subjects respectively assigned to them:

On the Annual Necrology of the Association: Drs. Grisom, of N. C., Wallace, of Ontario, and Stearns, of Connecticut.

On Cerebro-Spinal Physiology: Drs. Gundry, of Maryland, Chapin, of New York, and Kilbourne, of Illinois.

On Cerebro-Spinal Pathology: Drs. Clark, of Ontario, Kempster, of Wisconsin, and Mitchell, of Mississippi.

On Therapeutics of Insanity and New Remedies: Drs. Rogers, of Indiana, Strong, of Ohio, and Gale, of Kentucky.

On Bibliography of Insanity: Drs. Hughes, of Missouri, Godding, of District of Columbia, and Graham, of Texas.

On Relation of Eccentric Diseases to Insanity: Drs. E. A. Macdonald, of New York, Goldsmith, of Massachusetts, and Powell, of Georgia.

On Asylum Location, Construction and Sanitation: Drs. Reed, of Pennsylvania, Dewey, of Illinois, and Wilkins, of California.

On Criminal Responsibility of the Insane: Drs. Everts, of Ohio, Andrews, of New York, and Fisher, of Massachusetts.

Dr. Godding will read a paper on "The Rights of the Insane in Hospitals."

Dr. W. Channing will also read a paper on "Public Provision for Epileptics."

JOHN CURWEN, *Secretary*.

March 28, 1883.

357

THE ALIENIST & NEUROLOGIST.

Vol. IV.

JULY, 1883.

No. 3.

ORIGINAL CONTRIBUTIONS AND PREFERRED TRANSLATIONS.

The Simulation of Insanity by the Insane,

By C. H. HUGHES, M. D., St. Louis.

Late Superintendent and Physician of the Missouri State Lunatic Asylum.

“Not less interesting to the student of morbid psychology than the well-defined, well-recognized forms of insanity, are those obscure, anomalous conditions of mind which occasionally appear, but in regard to which he fails to obtain any light from the standard books. Though more numerous, probably, than they are generally supposed to be, yet they are comparatively so rare, and so imperfectly understood, that, for the most part, after exciting a little temporary curiosity, they pass from attention, and are forgotten. And yet they must ever constitute a very important class of mental disorders, for the reason that their existence, however infrequent, must necessarily modify the conclusions that might be drawn from the more common forms of mental disease. In fact, no physician needs to be told that many important steps in the progress of his science have been made by the careful and persistent observation of what, at first, seemed to be anomalous and exceptional cases.”—*Dr. I. Ray, Remarks Introductory to Case of Bernard Cangly: American Journal of Insanity, July, 1865.*

THE literature of insanity feigned by the sane mind is extensive, and dates back to the earliest period of recorded history. The feigning of Ulysses in profane, and of David in sacred story, are familiar to all, as is likewise the history of Lucius Junius Brutus, who saved his life by successfully assuming imbecility, and Shakspeare's two oft-quoted examples in the characters of Edgar and Hamlet

NOTE BY THE AUTHOR.—Requests for its reproduction and other considerations have prompted the author to reproduce this essay, which was read before the International Medical Congress, held at Philadelphia, in 1876.

No changes have been made in the context of the original paper, except a slight rearrangement of the first page, the omission of a clinical record, the inclusion of Dr Isaac Ray's remarks on this interesting subject which were called out by the paper, and an ampler reference to the precedent and subsequent literature. The essay may be regarded, however, as a fair résumé of the subject, to the present date.

—the latter, I think, blending some actual mental disease with simulation; but upon the subject of the present paper, the simulation of insanity by the insane, not much has been written, though enough is known to make it a proper subject of inquiry.

The meagre record of cases of simulation by the insane, to be found in the literature of psychiatry, may be due partly to the fact that the necessity of searching these cases out, has not been so imperative as the detection of feigning by the actually sane, who so often simulate insanity, to defeat the ends of justice, and for other sinister purposes; partly to the fact that proof of simulation, in the case of persons already adjudged to be insane, possesses no real, practical value; but mainly to the fact, which I think observation has established and will continue to prove, that the insane do not, in general, assume either different degrees or forms of insanity from those with which they are actually afflicted.

We might here paraphrase a familiar quotation, and say *in mania veritas*, for the lunatic is generally true to the promptings of, and mainly dominated by, his acquired, morbid nature. To the practised eye, a tinge of insanity colors nearly all that a general lunatic says or does, and it is doubtful if, in the acute stage of profound and constant general mania, the actually insane do ever simulate. The general insurrection and rebellion of all the ideational and emotional centers which seem to characterize this form of mental alienation, the universal tumult into which all the faculties of the mind are at this time thrown, would seem to leave no room for the planning and contrivance essential to simulation, though it be never so imperfectly done. The assuming of a character different from the dominant and all absorbing morbid impulses of the individual, would be contrary to all observation in acute, general mania, and is to my mind impossible, notwithstanding the existence, in this form of mental disease, of considerable method and shrewdness in planning and executing in the direction of morbid fancies and inclinations.

To attempt simulation would only seem possible, if possible at all in this form of mania, after the violence and excitement had passed away and the disturbed faculties had become comparatively calm, with the return of some degree of rational appreciation of acts committed and of penalties incurred, and to be avoided, and with an obliviousness, on the part of the individual, of the fact of his insanity. Here the question would present itself as to the actual existence of insanity at the time of feigning, while its pre-existence might be readily conceded.

Feigning has the nature and quality of rationality, and is rarely, if ever, practised without a motive. It proceeds *prima facie* from a rational mind, just as motiveless acts proceed *prima facie* from a mind deranged; yet we know that all acts without motives are not the offspring of insanity, as we know that acts prompted by rational motive do not proceed from the sound mind only. We sometimes see, however, a kind of unconscious imitation, in some exceptional, morbid, mental states, psychopathic and neuropathic conditions seen in others, and occasionally a kind of simulation lacking the conscious element in real insanity—a mere freak of disease—which, however, is scarcely worthy to be called true simulation. The insane appear at times, when they have an object to accomplish, more crazy than, and different from, what they really are; this is the sense in which we use the term simulation, and this condition is akin to that of feigning by the sane.

Of course we do not expect to find feigning in advanced, general dementia; but we may not search for it in vain in the intervals and remissions of recurrent or periodical mania; after the mania transitoria; possibly in certain stages and forms of what is called chronic, general mania; in the hysterical and partial forms, the so-called monomanias; and in the moral or affectional forms of insanity—the “*manie sans délire*” of Pinel. Let me, however repeat, to be plain, that in that profound, general involvement of the mind in disordered action, which depends probably upon more or less implication of the whole brain

and which we term acute, general mania, feigning would seem an impossibility. The psychical conditions essential on the one hand to simulation, and on the other to the truthful acting out of acute, general, mental disease, seem incompatible; the real victim of such a malady would not be sane enough to simulate, except during a so-called lucid interval, and comparative or entire freedom from disease.

Simulation, while it presupposes a degree of sanity, does not require that the patient should be wholly sound in mind, and might be attempted by a convalescent patient, not thoroughly recovered, for the purpose of remaining longer in the hospital or for some other reason. Supposed feigning, in what appears to be a case of acute, general mania, should lead us to suspect the correctness of our diagnosis, and to review the steps by which we have reached the conclusion that the person is actually insane. I am not prepared to say this much of other forms of mental disease, except dementia. We may admit the possibility of subsequent feigning after the subsidence of a paroxysm of acute, general mania, and still hold to its general improbability, simulation being, as has been said, an attribute of sanity, just as is the existence of a reasonable motive, though both do often actuate the mind deranged. We should fall into a grave error, however, should we deny the possibility of other forms of insanity than those which I have excepted, being accompanied with either acts of feigning, or motives; an error which facts of daily observation among the insane fully prove.

The government of insane-asylum households, as every physician knows, is conducted upon the idea that the insane, like the sane though in a degree more or less modified by disease, are actuated by ordinary motives, and can be kept within certain rational limits of conduct and expression by the conditional rewards and inducements to correct behavior there employed. The rude and indecorous often act with propriety when such a course is made the condition upon which they are permitted to take part in the amusements and religious exercises of the asylum, or to have

other rational indulgences allowed them. Proper letters are written, and delusions suppressed by the writers thereof, in some instances, after the patients have learned that very insane letters are discountenanced by the superintendent, and returned to the writers for improvement in regard to their rational tenor. The love of absent wife, husband, father, son, or daughter, as the case may be, and the natural desire to communicate with them, sometimes leads to compliance with the superintendent's somewhat compulsory request, and to the expunging of all evidences of insanity from their letters, by the patients themselves; and at this point the re-establishment of the rational exercise of volition, in restraining and refraining from the expression of morbid fancies, sometimes commences, and the patient's convalescence begins.

The fact, therefore, that the insane are more or less influenced by rational restraints and motives, like the sane, though in an impaired and lessened degree, would seem to need no further illustration. All who have much observed them, know that they are constantly induced to do the above and other acts which may result in benefit to themselves. They not unfrequently pretend to have abandoned cherished delusions, and to have entirely recovered their reason, with the view of securing a premature discharge from the asylum; and even good judges of insanity among medical superintendents have sometimes been deceived by the plausible pretences of such patients, who, failing to convince the asylum medical-officers, have sometimes succeeded in getting the hearing of courts, and have been released on writs of habeas corpus, only to convince every one, after a time, of their perfect fitness for perpetual restraint.

The co-existence of insanity with the power of devising the most plausible explanations of erratic and insane conduct, is sometimes seen before courts of justice, as in the case of Col. M., District Attorney in one of the Southwestern States, under President Jackson, as detailed by Dr. Ray.*

* *Medical Jurisprudence of Insanity*, 4th ed., p. 196.

Mr. M. entertained the delusion that he was cousin to the Duke of Wellington, and to Napoleon; he cut off his own nose, and, after the rhinoplastic operation had been performed, cut out the cicatrix on his forehead whence the nasal flap had been taken. "He was a passionate, dangerous lunatic," according to Dr. Bell, and yet so plausible in explanation and extenuation of his conduct, and in defence of his personal and legal rights, that no asylum could hold, and no tribunal seriously punish him.

The celebrated suit of Wood *vs.* Dr. Monroe, in England for false imprisonment, as cited by Bucknill and other writers, also illustrates how a really insane person may succeed in concealing his mental weakness for a time from the most astute observers. The severest examination failed to detect Wood's mental infirmity until he was asked what had become of the Princess with whom he corresponded in cherry-juice, which immediately caused him to reveal his insanity, and he lost his case. Discovering the cause of his failure, he renewed the suit in London, and then all the ingenuity of the bar, and the authority of the court, could not elicit an exposure of his delusions, though he still entertained them.

The simulation of insanity would seem no more difficult than the assumption of sanity by the insane. If they can conceal, or explain away so as to deceive the best judges, mental defects which they actually possess, why may they not assume abnormal traits which they do not possess? In the corridors of an insane asylum we sometimes see one lunatic contemptuously or in sport caricaturing the whims and vagaries of another, all the while fancying himself the sanest of men, while he regards his brother lunatic as the simplest of simpletons, or the most knavish of knaves. "Amidst our criminal population, too, are hundreds who can hardly be said to be sane and responsible, but who, in the lower ranks of life, commit a succession of crimes of no great magnitude, which render them the almost perpetual inhabitants of jails. Some of them are so violent, outrageous, and destructive—so silly in their motiveless fury,

and so childish in mind—that we may call them imbecile, or insane, and have good grounds for our opinion.”* These are the illy fed and clothed, badly raised and housed, inhabitants of the densely populated portions of our large cities, or the neglected children of drunken, epileptic, or otherwise mentally maimed parents, whose blood has been poisoned with alcohol, opium, nicotine, and the noxious vapors usually abounding where these cerebro-mental abortions come forth and grow up into dwarfed and diseased maturity. At the maternal fount they drink in disease, and are never afterwards entirely well—never perfectly sound in mind, and never able to act out a natural life. When these human abnormalities grow up to manhood and womanhood, having led a life of deceit, we might reasonably expect to find them simulating insanity, as they sometimes do, when detected in, and incarcerated for, criminal acts, being all the while unconscious that they are already really victims of disease. This class should receive more careful examination, with a view to the discovery of simulation among its members. That many cases are not recorded, may be due to the fact that sufficient search for them has not been made, simulation by the actually insane not having, until a comparatively recent period, been conceded by writers. I can recall the names of no authorities more remote than Griesinger and Baillarger, who have admitted the possible co-existence of simulation with real insanity.

Armand Laurent,† as lately as 1866, gave several illustrative cases, specially in connection with imbecility. A case was reported in the *American Journal of Insanity* for 1863, but the most recent and unequivocal recognition of the fact of simulation conjoined with actual disease, by high authority, is to be found in the report of the case of Michael Trimbur, in the number of the same journal for October, 1874.

It would be interesting to know what might have been the modification of Dr. Parchappe's view of the mental

* Blandford's Lectures, 1871 p. 390.

† Etude Médico-Légale sur la Simulation. Par le docteur Armand Laurent, Paris, 1866.

condition of Lambert, whose case is reproduced by Dr. Ray,* had the physician of the asylum at Rouen had in view the possibility of blended simulation with some remaining insanity. It will be remembered that Dr. Parchappe pronounced the case one of simulation of unconsciousness, after the prisoner had come to himself, in order the better to escape responsibility for his acts, he having, in a paroxysm, induced either by the virus or by the fear of hydrophobia, murdered his mistress and another woman without provocation, and giving as a justification for the homicidal act, in regard to the former of his victim, the insane reason that he desired to bestow her money in charity, which, he said she would never have done had she lived. On the day of the murder, Lambert admitted killing his mistress, and repeatedly exclaimed, "Jesus my God, my fortune is made," and begged his captors to release him because, he said, he "had eight more murders to commit." On the following day he denied having killed his mistress, but said "if I did, I do not remember it." Four days after the murder he recognized the hatchet with which he had done the deed, but denied all knowledge of the murder. I do not offer this as certainly a case of simulation conjoined with insanity. It may or may not have been such, and, as my purpose is rather to elicit discussion than to advance positive opinions, I have deemed an illusion to it not out of place. Dr. Ray, in summing up this case, concludes that it was one of feigned insanity, while Dr. Parchappe, as we have seen, thought that it was an example of simulation after recovery. May not the simulation have begun before recovery had been completed, after a realization, upon the part of Lambert, that he had committed heinous crimes from the penalty of which there appeared to him no escape, except in assuming unconsciousness of his acts?

Cases like that of the criminal in the prison at St. Ange, as related by Prof. Monteggia and translated by Marc and Ray, and like that of Samuel S. Rich,† which occurred in this country, come to mind, in this connection, as having

* *Op. cit.*, p. 415. † *American Journal of Insanity*, April, 1860.

shown phases of simulation, which might have been revealed had the possibility of simulation co-existing with insanity been entertained by the profession in those times. There was no history of epilepsy in the case related by Prof. Monteggia, and though no such rigid search could have then been made for epileptiform complication as would be made now, there is not the slightest suggestion of anything of this character in the history of the case as it has come down to us.

It may not be transcending the limits of scientific propriety, to suggest simulation in connection with real insanity as a possible explanation of some of the features of the famous case of Joseph Waltz,* still fresh in the minds of all. There was undoubtedly simulation, and it was most bunglingly done; Waltz pretended to be suffering from dementia, which was certainly not the case. His "don't know" answers, made so often to interrogatories concerning facts which he clearly knew (such as the names of his mother and father, and his own age), and the post-mortem examination, clearly prove this point.

Just here the thought occurs, that when equally honest and experienced experts view a case, which they have had equal opportunities of observing, on the one hand as one of insanity, and on the other as wholly one of feigning, it may be reasonable to look for co-existence simulation and real disease, to explain the discrepancy of opinion. The case of Waltz also suggests another possibility, viz., that in some cases, the eagerness of counsel to make out a case of insanity from a meagre data, aided unintentionally by the suggestive questionings of the physicians who visit the prisoner at the counsel's request, may sometimes lead a prisoner, not in the beginning so disposed, to attempt feigning; and that if the sane may thus obtain an idea that simulation can be successfully practised, we need not be surprised to see the same thing undertaken by some real though not pronounced, lunatics.

In a letter from Dr. Bucknill, referring to the case of

* *Ibid.*, July, 1874.

Jesse Pomeroy, whom Dr. B. had visited with Dr. Edward Clarke in the jail at Boston, in April, 1875, the writer says: "Some physicians had suggested concealed epilepsy . . . as the cause of this boy's blood-thirsty propensities, and had questioned him as to the existence of an *aura*. Whether this boy had got the idea into his head or not, I know not, but he told Dr. Clarke and myself that he often had the feeling that a light feather was drawn across his forehead from one temple to the other. Now, as Dr. Clarke remarked to me at the time, this is not the accurate description of an *aura*, which follows the course of nerves."

"Generally, after the acute stage has passed off, a maniac has no difficulty in remembering his friends and acquaintances, the places he has been accustomed to frequent, names, dates, and events, and the occurrences of his life. The ordinary relations of things are, with some exceptions, as easily and clearly perceived as ever, and his discrimination of character seems to be marked by his usual shrewdness."* His replies to questions may or may not indicate delusions or other extravagances of thought, while his whole demeanor and conversation may show that he has some appreciation of his previous mental condition, and a fair conception of his present surroundings. Under these circumstances, it is not difficult to suppose that a really insane person, finding himself arrested, and in the hands of the law, on the charge of murder or other crime, which he knows that he has been seen to commit, and from the penalty of which there seems to him no escape except through the plea of insanity, might conclude to simulate such a form of insanity as in his opinion would secure his exculpation. Such a person might not believe in the existence of his own real mental disease, and might fear that those who were to try him would be equally incredulous; the insane are not generally conscious of the extent and degree of their mental derangement. Admitting, then, the existence of a sufficient degree of rationality, in an insane person, to prompt to an effort at self-preservation

* Ray, *op. cit.*, p. 390.

through the act of feigning, would he probably assume a more exaggerated form of mental disorder, just as sane men usually do with the view of making a favorable impression, and with the customary result of over-acting and detection? We cannot reason out an answer to this question, and practical illustrations are too few to enable us to generalize on the subject.

An insane person, having once been an inmate of an asylum, would there have opportunity to become familiar with the ordinary characteristics of insanity, and would not, I think, be so likely to assume the tragic and exaggerated forms of madness, as one more ignorant. His capacity to successfully reproduce what he had observed in the asylum, would depend upon the degree of mental soundness existing in him at the time at which he had been an inmate, and remaining with him at the time of attempted feigning. Insanity is a crippled, rather than a destroyed, or obliterated, mentality.

From the nature of insanity, we see that feigning is possible oftener than it is shown by experience to occur in connection with the usual forms of the disease. Insanity is an impairment of one or more of the mental faculties, by reason of disease involving the brain; and as it may exist in every degree, observing the same pathological laws as any other disease, it is evident that acts which in themselves are rational in character, may be done by the insane. A sick man is seldom so sick, unless it be in the last and hopeless stage of his malady, that he can do none of the acts which he could perform when well. Among the acts, therefore, which the insane must be deemed capable of performing, we must include simulation. It is not uncommon for the healthy human mind to dissemble, especially in civilized life; and this natural trait does not always wholly forsake the mind diseased, though it must be confessed that the insane wear less of a mask than the mentally sound, and thus we come again to the general truth as applied to the insane, *in mania veritas*. Some exceptions to this rule have come to my notice, and further

observation may discover more ; but not enough to invalidate the rule as applied to insanity in general: *Exceptio probat regulum*. A mental phenomenon worthy of note here, but not germane to the subject, is the unconscious or semi-conscious *imitation*, rather than simulation, of insanity, which is displayed on certain occasions by those who largely inherit the insane neurosis. It consists in a sort of sympathetic taking-on of an evanescent form of insanity by other members of a family, under great excitement, as when one of their number has become profoundly afflicted with some marked form of mental disorder.* A father or mother, for instance, brings to the asylum a son or daughter, when, from the exaggerated and unnatural conduct of the parent, aside from the natural manifestation of grief to be looked for on such an occasion, but which is sometimes wanting, the superintendent finds it difficult to determine which for the time acts the most insanely, parent or child. The conduct of the parent appears anything but rational, yet a return to home, divested, in a measure, of anxiety and the weariness of watching, with a season of rest and sleep, and better appetite and digestion, suffice to restore the disturbed balance of the mental faculties, and the parent, by reason of regular life and habits, escapes the affliction of positive insanity, though possessing and transmitting a neuropathic diathesis but one remove from it,

Insanity, as Prichard observes, sometimes co-exists with an apparently unimpaired state of the intellectual faculties; though "the ideational portion of the faculties," as Blandford remarks, "is so intimately joined to the emotional," that the two are probably "sound or unsound together." Admitting the existence of so slight an intellectual aberration, in certain kinds of insanity, that the intellectual lesion is more theoretical than apparent, it is easy in such cases to concede the possibility of simulation on the part of the patient, to extenuate erratic and immoral conduct, the result of disease. The subjects of moral insanity sometimes simulate inebriety, as well as insanity, to palliate and

*See note at end of this article.

excuse what appears to them and to others, not expert in detecting mental aberration, inexcusable conduct. The case of Col. M., already alluded to, was one of this kind; many of his freaks were excused and explained away, when they could not be denied, upon the plea that he had drunk a little too much on that particular occasion.

It is not easy to perfectly imitate diseases involving the mind in disorder, notwithstanding that Zacchias has said that feigning is easy, and detection difficult. The unconscious "method that is in madness, the constant and consistent reference to the predominant idea, which the practical observer detects amidst the greatest irregularity of conduct and language,"* requires all the mental faculties in their fullest vigor, and unimpaired by disease, for successful personation, and is then rarely successfully feigned before the eye of the physician who is experienced in detecting the true features of morbid mentality. While, therefore, we may concede the possibility of occasional successful feigning by the mind in full possession of all its faculties, we should not expect the crippled mind of an insane person to deceive us, and the fact of simulation being detected should not preclude the possibility of co-existing insanity in any particular case.

Dr. Ray, in his report of the case of Trimbur,† says: "The criminal classes, to which most of these simulators belong, know as well as everybody else, that the plea of insanity is one of the dodges, whereby people now escape the punishment of their crimes, and they may not forget to act accordingly when they become insane themselves." This was the case with Trimbur, who, "being unconscious of his own real insanity, but with mind enough to understand his situation and to remember what he had heard about insanity in connection with crime, concluded to make a show of being crazy."

The following case, communicated to the writer by Dr. Joseph Workman, for many years the distinguished medical

* Ray, *op. cit.*, p. 388.

† *American Journal of Insanity*, October, 1874.

superintendent of the Toronto (Canada) Lunatic Asylum, seems equally illustrative of blended simulation and real disease, and, as it has never been published, I give it here in Dr. Workman's words:—

Some ten or twelve years ago, I met [says Dr. Workman] with a case of genuine simulation in a man who had murdered his wife. He had previously been a patient under my care, for about a year, when he undoubtedly was insane. Just as I was on the point of discharging him as recovered, he eloped. I did not use much exertion to recapture him. He went home to his farm, and got on well until his insanity returned, taking the form of jealousy of his wife, which, I need not say was utterly causeless. One day, in the sugaring season, in the bush, he killed her with a billet of firewood. He was apprehended—did not in fact try to escape—admitted his crime, and was tried at the next assizes. I was summoned as an expert witness, and had a long interview with him in the jail before the trial. I knew him at first glance, and asked him if he did not remember me? He said that he did not; that he did not think that he had ever seen me. "Why, John," I said "you must remember me well; you lived in the same house with me for over a year, and talked with me hundreds of times. You remember being in the asylum?" No! He had no such recollection, but people had told him that he had been there. "Well, you have not forgotten your old friend Mr. E., the steward?" He did not know him at all, and so on throughout all our colloquy. I had the most thorough conviction of this man's stupid mendacity and bootless simulation, and at the same time of his insanity at the time of committing the murder, and I stated both to the jury. He was acquitted on the ground of insanity, and was committed to the asylum for criminals, at Kingston, where he is still detained.

Two or three years after his trial, as I was passing through the asylum in company with the medical superintendent, a patient stepped up and held out his hand, addressing me very courteously, and inquiring after all my family. I did not recognize him until the medical superintendent told me that he was my old friend J. C. "Oh! John," said I "how is it that you know me so well to-day, but did not know me at all in Guelph jail?" His reply was, "I did not want to know you that time." This man had certainly a very powerful motive for simulation of mental frailty, but he played his part too unskillfully to impose on my credulity. Jealousy was not the *cause*, but the *form* of his insanity, and when he had forever got rid of the subject of his delusions, a sober after-thought assumed the government. He was, as I believed, still insane, yet possessing that degree of stupid cunning which not a few sane people evince. He knew that he would be hanged unless acquitted on the ground of insanity, for in Canada murderers generally have but little chance of escaping the death-penalty. Had he been thoroughly sane, he would have known that sufficient proof of his past insanity, both in the asylum and afterwards, could have been produced, and he would have abstained from his clumsy simulation, or he would have acted his part more cleverly. I could not say that he committed the common error of simulation—overdoing his work.

He did not rave, babble, or declaim, or indulge in foolish antics and grimaces.

In criminal cases, when an individual, in whom there exists undoubted evidence of mental disease, actually pretends to have a form of symptoms of mental disorder not in harmony with the kind of insanity which actually afflicts him, or not in the natural course of his disease, the presumption is reasonable that there also exists in him a sufficient degree of rational volition and appreciation of surroundings to modify the degree of his responsibility to law. The perplexing question then arises as to whether the individual's state of mind at the time of feigning be the same that it was at the time of violating the law; the presumption is in favor of a clearer mind at the time of the simulation than at the height of the insanity, and this appears to have been the case with Dr. Workman's patient. The mind disturbed by disease, varies in the intensity and degree of its disordered manifestations at different times, even as the healthy mind is known to vary on different occasions in the display of its natural peculiarities and powers.

Other questions are here presented, of a medico-legal character, relative to criminal responsibility and testamentary capacity in certain cases, which, in the present state of our knowledge of psychology, cannot be satisfactorily answered in general terms. Eminent alienists all admit, in the abstract, the existence of different and variable degrees of rational capacity and responsibility in mental disorder. There are, as Locke says, "degrees of madness as there are of folly," but to determine precisely what amount of impaired mind-power exists in particular cases, may often puzzle the most learned and experienced psychological experts. The law has attempted to cut the Gordian knot, to untie which has so long baffled the most thorough students of the mind diseased, by deciding that the capacity to distinguish right from wrong, should settle the question of responsibility to law in criminal cases; but practically we know that an individual may clearly know right from

wrong, and yet, under the overpowering influence of cerebral disease, be irresistibly impelled to do the wrong. The importunities of the insane to be restrained, when suggestions of violence, prompted by morbid states of the brain, arise in the mind, and when the patient's own recollection of his past experience teaches him that resistance to his insane impulses beyond a certain limit is impossible, are familiar to all accustomed to come much in contact with the insane in asylums. The physiological fact of unconscious cerebration is applicable to the mental operations in disease, as well as in health, and to many acts of the insane, especially of the epileptic class, but certainly not to all. The legal test therefore fails, and indeed it has been much qualified of late in the rulings of the courts. We must concede, however, that this test can be justly extended much further than at first blush would appear to be proper, for unconscious cerebration in a paroxysm of insane fury would save many a lunatic who, a short time before or after, would fully comprehend the nature and quality of his acts.

The facts admitted in this digression would tend to prove the possibility of simulation by the insane, even if it were not established by experience; knowing as many insane persons do, that they have unconscious states in which their irresponsibility is conceded by all, it would not be strange for an insane man to pretend to have been in such a state, when he really had not, to escape censure or punishment for some act which he knows that he ought not to have done, and the impulse to do which he knows that he could have resisted. I do not now allude to those acts of the insane which, from their history, we might expect them to commit, such for instance as suicide in the suicidal form of madness, homicide in the homicidal, burning in the pyromaniacal, stealing in the kleptomaniacal, etc.

There is one fact which might in some instances deter insane persons from feigning, even when the disposition and capacity existed, and that is the knowledge which they possess of the estimation in which they are held, as

irresponsible. Who, accustomed to live with the insane and thus made familiar with their true character, does not know how keenly conscious they are of the existence of this erroneous estimate of their real condition as regards responsibility, removed, as they are in the asylum, from those sources of irritation which have caused, or which tend to keep fresh opened, their mental wounds? A patient once told me that he would have his liberty, or kill me. I said, "Then you would be hanged." He answered, "They could not do that, I am insane." "But," said I, "you would not be insane on that subject. You know it would be wrong, and your insanity is not homicidal." He said, and said truly, "No jury would ever hang a lunatic for anything that he might do in an insane asylum." Not being able thus to intimidate him, I approached him ever afterwards with caution, and always dodged, when practicable, the discussion of the question of his personal liberty. This patient used the word lunatic sneeringly, for, though admitting that he was not always right in his mind, he did not consider himself seriously insane, though, at times, he was really very much so, his paroxysms of excitement lasting many days at a time. It is easy to conceive of circumstances under which such a patient might simulate, as well as rely upon his reputation for, insanity.

The fact of unconscious cerebration, before alluded to, as we see it manifested in cases of hysteria, mingled with conscious and partly volitional, mental activity, explains the simulation of real insanity which sometimes co-exists with this singular morbid state. In hysterical insanity, there seems to be a morbid desire to act out actually controllable vagaries, as well as those really insane promptings which are beyond the control of the will. The insane of hysterical tendencies often act in a seemingly controllable, but very insane, manner, apparently through a morbid craving for extraordinary sympathy and attention. Occasionally, however, their actions are apparently wholly motiveless, as with other and aggravated forms of insanity.

Though simulation is rarely practised without motive, it is possible for the motive to be sometimes a very foolish one, and, while it may be unaccompanied by delusion, yet scarcely explainable upon the hypothesis of perfect sanity. Such a case would lead to great preplexity in the mind of the physician.

The egoistic feeling so often uppermost in the mind diseased, causing the insane to seek in so many ways to attract attention, or excite wonder and commiseration, is only an exaggeration of a not uncommon, natural trait of rational minds. It may be doubted whether the case reported by Dr. Bell, an abstract of which may be found in Dr. Ray's* excellent work on the jurisprudence of insanity, was without real disease as well as blended simulation. Dr. Ray, in introducing the case, regards it as "somewhat curious, considering the youth of the subject, the apparent want of motive, and the severity of the symptoms."

The lad, thirteen years old, had fallen on his head two years previous to admission, and ever since that period had exhibited some anomalous symptoms of disease, which had been referred by his physicians to derangement of the digestive organs. For the last few months, the symptoms had been more severe and decided. He had refused food for long periods, had had spasms, had lain with his eyes fixed and his legs drawn up, would hold his breath and strike. On admission to the asylum, he presented the appearance of a sickly, emaciated boy, under puberty, unable to stand, exhausted by suffering, breathing quickly, and passing his evacuations in bed. Every few minutes he had a frightful spasm, commencing with a convulsive shaking of the head, pawing of the hands, and turning up of the eyes. Soon his hands would vibrate against his sides and chest, his countenance would be dreadfully distorted, and then would commence a horrid scream that might be heard over the whole premises. In this condition, with occasional remissions, and the addition, at one time, of diarrhoea, he remained for about a month. . . . Being watched through a hole in a blanket hung before his window, he was observed to jump up and stride about his room as actively as any body, but at the slightest noise resumed his old position, screaming and groaning.

Dr. Bell broke in upon him before he could regain his bed, chided him for his deceit, and bade him walk into the hall. "The spell is broken," says the record, "the

* *Op. cit.*, p. 405.

feeble knees are made strong, the convulsed and distorted visage is calm and smooth, and the young deceiver goes forth clothed and in his right mind." Dr. Chipley, commenting on this case,* says, "We can scarcely conceive that one would assume a character so painful to sustain, without some deliberate purpose, or an end to be accomplished;" and yet no motive such as might be supposed to actuate the rational mind, is at all apparent in this case. The fact of the boy's having refrained from his usual manifestations on the unexpected appearance of Dr. Bell, whom he doubtless held in no small degree of awe as the all-powerful head of the establishment, while it proves a power of control over the actions under great external influences, and is strongly presumptive of feigning, does not, to my mind, conclusively establish the fact of entire sanity. There is nothing absolutely incompatible with insanity in sudden cessation of its symptomatic manifestations. If this youth was willing to make such continued, great, and painful sacrifices of comfort and character for the ridiculous and unreasonable purpose of exciting wonder and commiseration, such a motive, coupled with the youth's history and all the attendant circumstances, is well calculated to excite our suspicions as to his entire mental soundness. There were at the time, doubtless, others in the hospital more insane than this boy, and perhaps others, regarded as undoubtedly insane, who were fully as rational as he. A good deal of sanity may still exist among those who are too insane to mingle with the rational world.

Visitors, passing through the corridors of a hospital for the insane, often remark this fact, and the asylum-officers are often asked why certain patients are restrained of their liberty, because of their presenting to the casual observer so little appearance of insanity. So proper are the manners and conversation of patients, at times, that an unfounded distrust of public hospitals for the insane has sometimes been engendered in the public mind from this source—the insane themselves behaving so well in the presence of

* *American Journal of Insanity*, July, 1865.

visitors, and at other times, under the present wise and scientific system of classification, medical and moral management, and restraint—the latter, in this country as in England, hardly exceeding non-restraint. (As ought to be the case in every well regulated hospital.)

It would unduly lengthen this paper to detail the many instances which might be gathered of insane persons, on certain great occasions which made profound impressions upon their minds, having behaved with unaccustomed propriety, and having suspended for the time-being all manifestations of insanity, or to mention instances of great and unexpected events having been the beginning of recovery. Every one accustomed to the care of large bodies of the insane, knows that grand and unusual occurrences, which would startle and profoundly impress the rational mind, sometimes favorably impress the insane, notwithstanding that, in the main, they are either regarded with indifference, or cause aggravation of existing excitement. Some instances in point might be mentioned in connection with the burning of asylums. No such event has ever happened in my own experience, but the burning of a large stable and barn on the asylum premises at Fulton, early one evening, in full view of a good portion of the patients, gave opportunity to witness, in some degree, the different conduct of different lunatics under such circumstances. A very few of the patients were more excited than usual; the majority were indifferent; and some gave us valuable aid in our efforts to suppress the flames and save the stock.

The coercive methods of treatment, recommended and practised by Celsus, demonstrated the power of self-restraint in some cases, under the influence of overmastering fear; and in our own day, threats and punishments, though for obvious reasons neither practised nor advised as curative agencies, are not without some influence in subduing some refractory and noisy patients into submissive silence, as may be learned by visiting some of the almshouses and jails to which many of these unfortunates are yet consigned

in the United States. It may be conceded that to be influenced by fear to such an extent as to suspend all display of insanity, is, in some cases, good evidence of feigning; but it must not be so regarded in all. Fodéré has been criticized by a writer from whom I have already quoted,* for having relied upon the test of fear in the case of a female, who acted her part, if she were only acting, so perfectly that the doctor was on the point of certifying the case. He returned to her door, however, and said with a stern voice, "To-morrow I will visit her again, and if she continue to howl, if she be not dressed, and her chamber not put in order, you must apply a red-hot iron between her shoulders." He found things in order the next morning, and on this proof alone, with strong evidence to the contrary, immediately decided that it was a case of simulation. "But was this decision justified," asks the writer, "by the simple fact that the patient changed her conduct under the terror by severe threats?" And he answers the question by referring to the self-control exercised by patients under the influence of fear, or the hope of reward. The potency of authority in suddenly suppressing through fear all appearance of mental derangement in those who are really insane, is, of course, exceptional; I can hardly conceive of such instrumentalities being successful in aggravated cases of general cerebro-mental disease, yet their occasional influence in controlling the less general forms of insanity, especially where simulation co-exists, is not to be doubted.

In hospitals for the insane, the power of one having authority is sometimes shown in the restraint which some patients put upon morbid and quasi-morbid displays, in the presence of the chief physician, and the arrest of paroxysms of hysteria by commands and threats, before the disease has reached the point of recognized insanity, is nothing new to the profession at large. This characteristic of partial control under ordinary circumstances, reaching the point of entire control under extraordinary circumstances, in cases of hysterical insanity, is too familiar

* Dr. Chipley, *American Journal of Insanity*, July, 1865.

to the profession to need further notice; it extends also, as I endeavored to show, to other cases.

The power of self-restraint implies the power of simulation. Hysterical patients are undoubtedly more prone than others to "put an antic disposition on," as Hamlet has it, and are more disposed to act insanely than to exercise aright what power they really possess of at least restraining within more rational bounds the ridiculous displays which they often make.

I turn now briefly to a class of cases regarded by many as more devilish than lunatic, viz., the morally insane; who know how they are considered, and why they are in the asylum, and who take advantage of their reputed insanity to do many things from which they might perhaps refrain if they chose, but to which disease really prompts them. They sometimes pretend to a degree of intellectual impairment not natural to them in their diseased condition.

These patients know where they are and why they are there, and to a certain extent are able to behave themselves with propriety when motives are powerful enough to induce them to do so, particularly under the absolute authority which they know that they have over them at the asylum—exercised, it is true, in the mildest and least irritating way, but usually with firmness and certainty. At home, with those whom they have been accustomed to manage, they are uncontrollable, and behave themselves like very devils, so that they get no sympathy. The world outside does not understand them, and cannot get along with them, and indeed those in charge of asylums wish that these patients could be cared for elsewhere.

With distorted views of men and things about them, just short of delusion; dissatisfied and suspicious, often without the shadow of a cause; sometimes devoid of affection and gratitude; sleeping and eating poorly; never in a state of mental composure, but always quarrelling with the cook, the laundress, the attendants, or some fellow-patient; with bowels often habitually constipated, circulation disturbed, and general appearance of ill health, if these patients are insane

—and I think that they are—they can also simulate to an aggravating degree, when it serves their purpose, abnormal mental states not actually existing in them.

The possibility of self-control under exceptional external influences coming to the aid of the will of persons reputed to be insane, does not preclude all possibility of the existence of real insanity. A more or less modified power of self-control exists in the incubative stage of most forms of insanity, even under ordinary circumstances, and persists oftentimes until the case has passed into the form of final and hopeless dementia. After recovery, our patients sometimes tell us how they resisted morbid promptings to extravagant words and conduct, before these found unwilling and resistless expression. Suicides and homicides by the insane are seldom without premonitory preparations, threatenings, and warnings, and much of the freedom of intercourse, coupled with safety, of asylum-life is due to this fact. Even in cases of well-advanced insanity, morbid impulses of various kinds are sometimes long and repeatedly resisted before their final consummation.

The power to restrain and suppress insane promptings, so frequently exhibited by the insane, implies the power to simulate the features of insanity. In all asylums for the insane, there are chronic cases in which the original delusion, though still persisting, ceases to dominate the patient as in the beginning—cases in which the aggravated demonstrations and exclamations of the patient are disproportionate to his delusion. The insane man's oft-repeated actions and expressions become a sort of second nature, as habit becomes with the sane. There is a kind of automatic simulation here; these patients act out a state of feeling which is not real to them. If once tormented with a painful delusion, they cease to suffer as acutely as in the beginning, if they suffer at all, and their attention is more easily diverted from self.

Our asylums afford many examples in which the patients, yielding more or less to their delusions, also more or less modify or suspend the expression of them. This

fact is illustrated and recognized in the moral treatment of the insane. Even sane persons are not free from dissimulation, and while insanity in the main reverses the character, it sometimes throws off the natural disguise put upon the conduct and conversation in health; thus we may find the natural disposition to dissemble, in not very profound forms of mental disease, displaying itself less guardedly than in health. Hysteria is an apt illustration of this fact, both before and after it becomes actual insanity.

The insane, like the sane, though on the whole more truthful than the latter, are not always and altogether what they seem in acting out their real psychic impulses. They are sometimes more crazy than they appear, and sometimes appear more insane than they really are. We have generally to scrutinize an insane character closely to fully comprehend it. Esquirol's estimate of the value of constant observation, in order to become familiar with the subject, expressed very nearly the truth: We must live with them to fully know them. Simulation of insanity may exist in connection with actual psychical defect, the result of disease of the brain, just as disease of the stomach, lungs, or other organ, may be accompanied with a greater or less degree of healthy function. Only death obliterates and destroys all function, while disease, short of death, modifies and perverts organic activity.

Physical disease, involving the so-called physical organs in contradistinction to the organ of the mind, is not always or usually entire physical destruction; and so disease involving the mind and its organ, is not always or usually entire mental overthrow or obliteration; rather is the latter the exception, than the rule. Do we not, therefore, err, if we seek to find in every case of apparent mental aberration all simulation, or all insanity? Is there anything in the nature of insanity, as we recognize its different forms, incompatible with simulation? I think not, except it be in profound and advanced general mania and dementia; and from this cursory survey of a field which grows wider as we view it, I conclude that it is not only not impossible

for the insane to simulate insanity, for a purpose, in any but its graver forms of profound general mental involvement, but that they do sometimes actually simulate acts and forms of insanity for which there exists no pathological warrant that can be discovered in the real disease by which they are affected.

After the reading of the preceding paper, Dr. Isaac Ray, of Philadelphia, said:—

Until the present century, insanity was seldom put forth as an excuse for crime. Its frequent occurrence in our day has made it a duty of physicians to make themselves acquainted with its phenomena far more accurately than was before required. It often becomes their duty to say, in a matter of life or death, whether a certain person is sane or apparently insane, and, if the latter, whether the apparent insanity is real or simulated. Most of the insane know as well as other people that insanity is an excuse for crime, and there is no reason why they may not strive to use it as such, when occasion calls, by feigning some manifestations of the disease over and above those belonging to their own particular form of the malady. To do this requires no more shrewdness and self-command than it does to conceal their delusions, as they sometimes do. The fact that they are already insane does not preclude the need of simulation, for the well-known reason that the insane generally do not recognize their own infirmity. To them, the need of the excuse seems just as strong and just as apparent as it would to others.

Dr. Hughes's mention of Dr. Bell's case calls to mind a form of mental disorder, not unfrequently met with in general practice, in which the real and the simulated are curiously mingled together. It occurs mostly in women, beginning usually in a morbid fondness for sympathy, and for the attentions bestowed on the sick and suffering, and originating either in some hysterical condition, or in a decidedly insane temperament. There is nothing which persons thus disposed will not endeavor or endure, and the aches and ails which they affect, from a simple cough to fits and dislocations, no man can number. We are all familiar with them, no doubt. I knew of one who, not content with keeping a couple of watchers up all night for months together, would, when at all displeased, dislocate her jaw; and another who would, under similar circumstances, dislocate her hip. In such cases there is, undoubtedly, much mental disease, and also much downright simulation. And it is not always easy to determine what is to be attributed to the one, and what to the other, while a mistake may lead to great wrong and suffering. I call to mind the case of a young girl of some culture and refinement who kept her bed more than a year, unable to move without assistance, and regarded by friends and physicians as extremely ill. At last some one, walking in the garden, observed her, through a window in her room, rise from the bed and jump about as lively as a cricket. Of course there was an end to this sort of performance, but there soon appeared a good deal of mental disorder, which finally made her so

troublesome that she was placed in our hospital.' There, for weeks together, she behaved with the utmost propriety, evincing neither in conduct nor in conversation the slightest sign of insanity. This condition would alternate with periods when she lay in bed, unconscious apparently of everything around her, her face highly flushed, and her pulse fast and full. She took food only through the tube, and passed her evacuations in bed. From us she passed into the charge of an Indian doctor, by whom, it was said, she was cured. Some light is thrown on the psychological history of this case by the fact that a brother and sister were spiritualists, and that her mother presented many indications of the insane temperament. Now, had this young woman committed a criminal act, I fear that the plea of insanity would have availed her little in view of this instance of detected simulation.

At the time this essay was written, the writer was unaware of some, and had overlooked others, of the few confirmatory cases reported by European writers. The essay was written also, as most of the author's work is done, at intervals, under pressure of many other engagements, whenever a little leisure could be obtained. It was not written in the author's library, nor with such deliberation as would have satisfied the author had he possessed the time for a more deliberate production. Nevertheless, the observations were deliberately made, and the convictions expressed are mature.

In the literature may be found, besides those referred to in this paper and antedating it, cases reported by Pelman,* Ingels, †Stark, ‡ Delasiave, || Lahr§ and Montezel.¶

"Dr. Nichols** has since reported a case in which a man committed murder under, as he believed, the command of the Virgin, who appeared to him in the flame of a candle. Two young lawyers were assigned as his counsel, under whose advice he feigned dementia. Drs. Nichols and Ranney detecting both the real and sham insanity, had him sent to an asylum where his mental condition became unmistakable." In marked contrast to the case of Dr. Nichols, that of Montezel was a chronic

* *Irrenfreund*, No. x, 1874.

† *Allgemeine Zeitschrift fuer Psychiatrie*, 1870.

‡ *Ibid*, 1871.

|| *Journal de Médecine Mentale*, 1868.

§ *Archiv fuer Psychiatrie*, Band 1.

¶ *L'Encephale*, January, 1882.

** Cited by Kiernan; *ALIENIST AND NEUROLOGIST*, April, 1882

lunatic who feigned an acute form of insanity to escape the consequences of an assassination. Dr. J. P. Gray* of Utica had under observation a man who, two or three days before admission to the Utica Asylum, was met in the woods saying that he was going to shoot his father. When admitted to the asylum, he claimed to have been out of his head. Dr. E. C. Spitzka* has since published the case of a criminal hereditary lunatic, who feigned a religious type of insanity. Dr. Kiernan† of Chicago, in the second systematic American paper on the subject, has reached conclusions similar to my own, which are supported by the following cases :

A forty-eight-year old patient had a brother and two uncles insane; he had been for a long time a pauper and had, at times, hallucinations of hearing; he complained continually about having tar and grease in his head, and said he was insane in consequence. He said but little on these subjects except to the doctor, and for a long time refused to work as being insane and having tar and grease in his head. He found that his statement drew attention of visitors towards him and led to his receiving tobacco, and was, therefore, markedly obtrusive with these statements when in the presence of visitors. His hallucinations could be drawn from him only after prolonged questioning.

The case was one of primary monomania and imbecility, slightly complicated by dementia.

A "hebephreniac," or primary dement, who displayed an extremely morbid egoism, found that a monomaniac attracted more attention than he, because the latter claimed to have written Shakespeare's tragedies; whereupon he claimed to have written "all of Byron, all of Shelley, and all of Milton." Cross-examination showed this claim to be feigned and was not infrequently so admitted by the patient to the physician, but he made this claim to visitors, although he refrained from so doing to the physicians.

* Utica Asylum Reports, 1876.

* Journal of Mental and Nervous Disease, Vol. 5.

† ALIENIST AND NEUROLOGIST, April, 1882.

A chronic secondary maniac found that by feigning dementia, he was able to secure tobacco and other little comforts, and therefore kept this up on occasion, relapsing into his usual condition when his end was attained.

Thus the insane as well as the sane may act fraudulently, for while insanity changes the display of character it does not necessary obliterate all natural characteristics or reverse them. It changes by intensification as well as by reversion or perversion and it sometimes also leaves certain natural traits unaffected.

The cases thus far recorded, and the many more to come under observation, if we search for them with unbiased minds, form material enough to constitute a picture of a feature of mental aberration, at once unique and significant; a phenomenon of mental aberration, in one of its exceptional but none the less interesting forms, which should neither be ignored nor misconstrued, since from its comparative infrequency it may become of extreme importance when mental disorder is considered from a medico-legal view. The fate of a life—none the less valuable, because possessed by one mentally maimed—may depend upon the manner in which we may decide the momentous question of the possibility of the insane to simulate features of insanity different from, or additional to, those with which they are actually afflicted.

NOTE REFERRED TO ON PAGE 366.—The subject of *folie a deux* is associated with the study of simulation, *folie a deux* being in fact a *morbid* imitation of insanity by those who possess the insane temperament. The reader will find in the April number of this JOURNAL, an excellent brief of this subject by Dr. James G. Kiernan, of Chicago, in which the views of Falret, Regis, Lasège, Montezel and Dr. Kiernan's own conclusions are succinctly presented. The simulation of *folie a deux* is a more unconscious, non-voluntary and generally *purposeless* imitation of a pattern form of mental aberration present to the simulator at the initial stage, at least, of his simulation, while the simulation we are now discussing conforms to some previous concept of mental derangement, based on former observation or experience of essential features of insanity, and now assumed by the simulator for some more or less rational purpose.

Continuation of the Study of the Minute Anatomy of the Central Organs of the Nervous System.

By PROF. GOLGI, of Pavia.

CHAPTER II.

THE problem as to the mode in which the nerves have origin from the central nervous organs, is one of those on which, in modern times, anatomists have been largely engaged, and it still remains one of the most controverted.

The gangliar-cells of the cerebrum and of the medulla spinalis have been, we know, generally regarded as the central elementary organs of the nervous fibres; but if, not contenting ourselves with categoric assertions, which can be no other than mere hypotheses, we would desire a more intimate knowledge of the subject, the fact must become apparent, that not only does the mode in which the separate nervous fibres are joined with the cells, continue to be a subject of controversy, but further, that in our own days it has been questioned, whether any rigorous demonstration has been given of the asserted continuity between the two forms of the constitutive elements of the central nervous texture.

Passing unheeded certain skeptical pretensions, such as that Hystil, who, appropriating an expression of *Volkmann*, recently ventured to say, that "*the mode of origin of the nervous fibres will forever remain unknown*," that I may take into account, in preference, the results of the most recent investigations, the truth is that the demonstration of the assigned derivation of the fibres, has, up to the present, been given only for a very circumscribed category of them, while, for the greatest part, their relations to the cells are still purely hypothetical. It will suffice

in this regard, to record that in one of the most notable works published in late years, on the real origin of the nerves, the author, *Laura*, after an accurate summation of the results of other observers, asserts that, "even as to the facts the most simple, for example, the connection of the anterior roots and of any cerebral nerve whatever, with their so-called nuclei of origin, we are very far from having reached any absolute certainty."

If we demand from anatomy the solution of some other interesting problems, more neighboring to physiology, as for example, whether in the respective centers of origin, the two sorts of nervous fibres (of sense and of motion) present differences in their mode of connection with the corresponding cellular groups; whether also there exist differential characters concerning the origins of the various categories of sensory fibres; or whether there are morphological or other characters, which may enable us to distinguish the supposed motor-cells from those which are supposed to be sensory; if, I say, we demand of anatomy the answer to these and other questions, we must confess that we soon fall upon a domain of discussion, where the most absolute obscurity reigns. It is, indeed, true that some observers have believed they were able to respond to all the questions mentioned, but it is evident that not one of the answers offered, resists the control of severe observation.

As in the preceding part we have had occasion to mention the principal doctrines which, as regards the special subject of the mode of connection of the nervous cells with the fibres, have been contended for, I shall here limit myself to the mentioning of that opinion which among modern anatomists, has had the unmerited fortune of having been almost generally accepted: I mean the opinion of *Gerlach*, according to which the gangliar cells would give origin to the nervous fibres in two essentially different modes, that is to say:

First. In a direct way, by means of a special prolongation differing from all the others in its physical and

chemical characters, and which, maintaining its simplicity, should pass on directly to form the cylinder-axis of a medullary nervous fibre.

Second. In an indirect way, by means of numerous protoplasmic prolongations, which, by subdividing indefinitely should form a fine network, to constitute which, there should, on the other part, contribute, by an identical subdivision of the respective cylinder-axis, many of the nervous fibres, which, originating in the medullary substance, enter into the strata of the gray substance.

In the first case, therefore, a special prolongation would be transformed into nervous fibre, simply by becoming covered with a medullary sheath; in the second case, on the other hand, the connection of the cells with the nervous fibres would be the intervention of a network resulting from the indefinite subdivision of the protoplasmic prolongations of the cells and of the cylinder-axis of the fibres.

As to the doctrine here stated, we have already said that, far from being based on well demonstrated anatomical data, it also, just as the others, which preceded it, is no more than a simple anatomical hypothesis.

But after having denied the opinion of Gerlach, and above all having declared unsustained his data relative to the past, which, in the formation of the nervous fibres, the protoplasmic prolongations would take, do we find ourselves in a position to furnish an explanation, free from hypothesis, of the manner in which, in the different strata of the gray substance, the nervous fibres are formed and have origin? Can we give a well-founded word as to the question, whether, in relation to the mode of origin, there exists, between the fibres of sense and those of motion, some difference corresponding to the functional difference?

I do not hesitate to assert that the histological particulars shown in the preceding chapter, in their *ensemble* represent an array of data, which may enable us to formulate, for the difficult problem confronting us, some laws

sufficiently precise and secure. It is certain that if we cannot declare, without reserve, the problem already solved, we can, however, say that for the completing of the work only a few particulars of secondary importance are wanted.

The recall of some parts which we have before made the subject of particular description, will furnish the proof of our assertion.

I record, first of all, that in the strata of the gray substance of the various provinces of the central nervous system, there exist cells whose nervous prolongation proceeds directly to unite itself with the fascies of nervous fibres, and becomes transformed into one of these elements, but not without having first given off a greater or less number of secondary fibrillæ, which, by subdividing take part in the formation of a diffuse interlacement of very complex origin.

In relation to this behavior of the nervous prolongation of some gangliar cells, it should in the second place, be remembered, that, in following the fascies of nervous fibres penetrating into the strata of the gray substance, we not infrequently discover some of them going to place themselves in relation with gangliar cells, and becoming transformed into the respective nervous prolongation, but not without having first, in their turn, given out a greater or less number of fibrillæ, which subdividing in like manner, go to take part in the formation of the diffuse interlacement.

This manner of behavior of the nervous prolongation of the gangliar cells, on the one part, and of the nervous fibres, on the other part, the demonstration of which is now at length one of the easiest things in histology, I have established by so extensive a category of elements pertaining to the various provinces of the nervous system (cells of the cortex of the convolution, cells of the so-called gray nuclei of the ventricles and the base, cells of Purkinge of the cerebellum, cells of the medulla oblongata and medulla spinalis), that I now regard as authorized the assertion, that

it represents one of the general laws which are valid for all the gray strata of the nervous centers.

Well, then, have I not a right to consider the behavior here described, as a mode of junction of the cells and the nervous fibres, and precisely as a mode of direct origin of the nervous fibres from the gangliar cells of the centers?

Evidently the reply can be only affirmative, and we may add, with security, that it excludes every, even most distant shade of hypothesis.

But there are to be noted other histomorphological particulars which are presented, of clear significance, from the point of view of our knowledge as to the mode of origin of the nervous fibres.

It may be remembered that we drew attention to the substance of a second type of cells, characterized by the fact that the respective nervous prolongation, by dividing complexly, completely loses its proper individuality, and passes *in toto* to take part in the formation of the diffuse network of nervous fibrillæ. It should likewise be remembered, that we verified the existence of a second category of nervous fibres, which have an identical behavior with that of the nervous prolongation of this second type of cells; that is to say, fibres whose cylinder-axis, dividing complexly, pass, in their turn, *in toto* into the described diffuse network.

In this other mode of behavior of the nervous prolongations of a certain series of cells on the one part, and of a second category of fibres, on the other part, ought we not to have the right of recognizing a second manner of connection between the nervous fibres and the gangliar cells, or a second mode of origin of the nerves? Here also, the affirmative reply includes, I think, absolutely nothing of hypothesis.

And again, as to this mode of origin of the nervous fibres, we have already been able to verify it, both in the cortex of the convolutions and the gray substance of the medulla spinalis. We believe that a fact which

seems deserving of particular consideration, in relation to this matter should be placed in relief: it is, that the two types of cells, far from being found separately in this or that other region of the central organs of the nervous system, are constantly found associated; at the most, in some zones there is observed a prevalence of one or the other type; this is, for example, observed in the medulla spinalis, where the cells, whose nervous prolongation, preserving its proper individuality, passes directly to form a fibre, prevail in the anterior cornua, whilst, on the contrary, in the posterior cornua, the cells whose nervous prolongation, subdividing complexly, loses its proper individuality, and passes *in toto* into the diffuse network, prevail. It is however known, that in the same zone of the central organs, some categories of gangliar cells belong to the first type, whilst others belong to the second. This is observed in the cerebellar convolutions, where the cells of Purkinge belong to the type of those whose nervous prolongation, although it gives off some fibrillæ, yet preserves its proper individuality, and passes on to form the cylinder-axis of a nervous fibre, whilst all the other cells of the same convolutions belong to the second type. The two cellular types are always, and in every mode, found associated.

Summarising then, we may now say that in the gray substance of the central nervous organs, we know of two different modes of origin of the nervous fibres, corresponding to the two cellular types there recognized by us,—types differentiated, as we have seen, by the different behavior of the nervous prolongation, viz :

First. An origin which we may call direct from the nervous cells of the first type, an origin which would be effected thus: the nervous prolongation of such cells, though it gives off some secondary threads, yet it preserves its proper individuality and passes directly to form the cylinder-axis of a medullary fibre.

Second. An origin which may be called indirect, inasmuch as the fibres do not go directly to place themselves

in relation with gangliar cells, but, complexly, subdividing, they are united in the network, in the formation of which these take part, in the first line, the gangliar cells of the second type, and in the second line, the fibrillæ given off by the nervous prolongation of the cells of the first type. Evidently in this case the nervous fibres coming from the periphery, do not conjoin, in a direct way, with either the one or the other type of gangliar cells; therefore we think this mode of origin should not be designated otherwise than as indirect.

With respect to the mode of origin of the nervous fibres in the gray substance of the nervous centers, we can also distinguish two types of gangliar cells, noting that this distinction is mixed with that already given by us in relation to the mode of behavior of the nervous prolongation, viz:

(a) gangliar cells which, by means of a nervous prolongation, that gives off scattering threads, are in direct relation with the nervous fibres.

(b) gangliar cells which, by means of a nervous prolongation that divides complexly, and passes in totality into the diffuse network, are only indirectly in relation with the medullate nervous fibres coming from the periphery.

Do we possess any criterion enabling us to assert that the two types of cells described by us, and the two different modes of origin of the nervous fibres, may be in relation with physiological differences? and, more precisely, have we any foundation for admitting that the two described modes of origin are respectively in correspondence with two functions, sense and motion, to each of which, according to what physiology teaches, there should be assigned a special category of nervous fibres?

It may be readily comprehended that we are not in a position to formulate a precise answer to such a question, yet it cannot be said that we are without some data for the expression of a founded supposition.

In order to throw light on this question, we should take special account of the results of the researches on the medulla spinalis, an organ of which we have sufficiently exact knowledge, as well as to its minute anatomical constitution, as to the functions allied to its principal constituent parts. And indeed, if we consider: *First*, That in the zone of this organ where the nervous fibres of sense arrive and are distributed, (the posterior cornua, and especially the gray substance of *Rolando*,) there are found in prevalence gangliar cells whose nervous prolongation, complexly dividing, loses its proper individuality (cells of the second type). *Second*, That the fibres of the posterior roots, (of sense,) in the great majority, perhaps in totality, subdividing finely, form in the whole zone of their distribution, a complicate interlacement, identical with that we see formed by the nervous prolongation of the cells of the second type, (the prevailing interlacement in the galatinous substance of *Rolando* and in the posterior cornua, properly called, but which may be said to be diffused in the whole gray substance of the medulla, not excluding the anterior cornua).

On the other hand, if we consider, *First*, That in the anterior cornua, (motor zone,) there prevail cells which, as regards the behavior of the nervous prolongation, correspond to those of the first type. *Second*, That the fibres of the anterior roots correspond, in the behavior of the nervous prolongation, to the cells of the first type, that is to say, they put themselves in direct relation with the gangliar cells of the same first type (situated in the anterior cornua, or also in the other zones of the gray substance, not excluding the posterior cornua). If, I say, we consider all the data here set forth, it seems to me that the supposition may be declared well-founded, that the gangliar cells, whose nervous prolongation, subdividing complexly, completely loses its individuality, passing *in toto* to form a diffuse network, belong to the sensory sphere (the psycho-motor, as respects the cerebral cortex),

and that on the contrary, the gangliar cells whose nervous prolongation, although it gives of some threads, yet tends to maintain its individuality, and puts itself into direct relation with the nervous fibres, belong to the motor sphere (or psycho-motor as regards the cortex of the convolutions). Correspondently it will appear equally probable that the first mode of origin of the nervous fibres, which we have called *direct*, is proper to the motor or psycho-motor sphere, and that the second mode of origin, which we have designated *indirect* is on the contrary proper to the sensory, or psycho-sensory sphere.

From what precedes, there is presented another question, which is connected with the controversy mentioned by us, as to the supposed direct connection (anastomoses) between the protoplasmic prolongations of the nervous cells; and this is whether the origins of the two systems of fibres are independent, or is there between them a union; and, if so, in what manner is it effected?

It would truly be difficult to say, whether, and how, a union could have place, had the common opinion at any time been shown to be exact, that the nervous prolongation of the gangliar cells, after a short trajet, maintaining itself simple, and only acquiring a medullary envelope, passes, as a general rule, directly to constitute the cylinder-axis of a medullary fibre. The reply to this question would be yet more difficult, in face of the demonstration given, that the protoplasmic prolongations neither present a direct anastomoses, nor are conjoined in a direct way, by means of the supposed minute network of *Gerlach*. But from the knowledge of the facts described by us, we think we may unhesitatingly specify in what manner it is effected.

The basis for so decided a reply is furnished by the assemblage of several of the particulars mentioned.

It is, first of all necessary to remember that the nervous prolongation of those gangliar cells, regarding which we admit direct connection with the nervous fibres, in their course within the gray substance, give out a

greater or less number of filaments (primitive nervous fibrillæ) which, subdividing, take part in the formation of a diffuse nervous network. In the second place, that the so formed network is of very complex origin, since in its formation these take part, besides the fibrillæ here mentioned, the nervous prolongations of the cells of the second type, and the two categories of nervous fibres, which as regards their manner of behavior, present respectively a perfect correspondence with the nervous prolongation of the two types of cells. Now, it is evident that the secondary threads of the nervous prolongations of the cells of the first type, whilst they take part in the formation of the network, represent the means of anatomical union between the origins of the two categories of nervous fibres.

Although we admit that in the central organs of the nervous system, the nervous fibres have their origin in two different modes, yet we must at the same time hold, that within the strata of the gray substance, the parts which, in a certain manner, represent the roots of the two categories of fibres, are not independent, but that a sufficiently intimate band of union exists between them.

Thus, whilst, as regards one category of cells (the motor or psycho-motor), each element has an individual and direct origin, (not isolate,) the second category (the sensory or psycho-sensory) has a very complex origin; that is, they proceed from a network, in the formation of which these take part; in the first line, gangliar cells of the second type, having their nervous prolongation dividing complexly; in the second line, filaments emanating from the nervous prolongation of cells of the first type. Taking the question from another point of view, it evidently results from what has preceded, that an extensive category of nervous fibres, rather than having individual relations with corresponding cellular individualities, may be found related to extensive groups of these, and perhaps with the gangliar cells of entire zones of the gray substance.

Some of the facts stated merit being taken into particular consideration, from the point of view of their physiological significance.

Under this head, one of the particulars, which claims our attention, is that of the anatomical bond of union which, within the strata of the gray substance, exists between the roots of formation of the two systems of fibres recognized and described by me. In this connection stands the explanation of the physiological relations existing between the fibres of the sensory sphere and those of the motor sphere. What other significance can be attributed to the fibres which, emanating from the nervous prolongation of the cells of the first type, (supposed motor, or psycho-motor cells,) proceed to be confounded with a diffuse network, which, as we have seen, is essentially formed by the nervous prolongations of the cells of the second type? (sensory, or psycho-sensory).

Can, above all, the reflex actions, with the knowledge of the histologic relations described, find that explanation which, in the past, has been so earnestly sought after, either in the never yet demonstrated direct anastomoses between the protoplasmic prolongations of the ganglionic cells, or in the just as hypothetical diffuse network resulting from the infinite subdivision of these same protoplasmic prolongations?

A subject, which should have special consideration, is the existence and the complex mode of formation of the diffuse nervous network, by means of which an extensive, perhaps, a universal, colligation must be effected among the elements which represent the roots of origin of the nervous fibres. This knowledge enables us to understand how that close bond may be effected which exists between the functions pertaining to the divers provinces of the central nervous system, and it is specially through the so-called phenomena of diffusion, that, with the knowledge of the mode of formation of the network, we can be said to have acquired an anatomical basis for a satisfactory explanation.

Taking into account also the particulars described as to the mode of connection between the gangliar cells of the nervous centers and the nervous fibres, it seems to me, it may be held that we continue to speak too arbitrarily of *isolated transmission* between the peripheral points and the supposed corresponding individualities of the gangliar cells. Rather do I believe myself authorized to declare that the so-called law of isolated transmission, in so far as it would be had to apply to the mode of functioning of the gangliar cells and the nervous fibres of the central organs, has been deprived of all anatomical basis. At least, so far as respects the greater part of the provinces of the central nervous system, histological facts constrain us to admit, certainly not an isolated action of cellular individualities, but a simultaneous action of extensive groups.

The nervous fibre, as an organ of centripetal and centrifugal transmission, far from being found in isolated individual relations with a corresponding gangliar cell, is, on the contrary, found connected with extensive groups of cells; but the opposite fact is also verified, that is to say, every gangliar cell of the centers may be in relation with several nervous fibres which have a different destination, and probably a different function.

This fact merits better explanation and illustration by some examples, and it is not to me difficult to find some, by recalling the results of my recent examinations of the structure of the olfactory lobe and the medulla spinalis.

According to what I have been enabled to establish in the olfactory lobes, the gangliar cells are severally in relation with at least three classes of nervous fibres which have quite different progress and destination. For example, a cell of the first type is, by means of its nervous prolongation, in relation: 1st, with nervous fibres of the tractus; 2nd, with fibres of the anterior commissure; 3rd, with fibres of the corona radiata; the relation is, in every instance, indirect. Thus every cell of the second type would be in relation with three different classes of fibres, but with this

difference, that the relation is direct with the fibres of the tractus, and probably also with those of the commissure (sic). And in the medulla spinalis also I have seen many instances of gangliar cells, whose nervous prolongation gave place to various fibres which were carried in opposite directions.

In conclusion, as regards the greatest part of the nervous centers, far from the described individual and isolate connections between cells and nervous fibres there is seen, on the contrary, an evidently direct disposition, by which is effected the greatest possible complication in the relations between the two. And this law exists, not only as regards the several elements or groups of them, but also as regards entire provinces.

Another observation occurs to me: The concept of the so-called *location of the cerebral functions*, should it be insisted on accepting it in a rigorous sense, would not be in perfect harmony with the anatomical data, or, at the least, it should now be admitted only in a somewhat limited and conventional sense. It being demonstrated, for example, that a nervous fibre is in relation with extensive groups of gangliar cells, and that the gangliar elements of entire provinces, and also of various neighboring provinces, are conjoined by means of a diffuse network, to the formation of which all the various categories of cells and nervous fibres of these provinces contribute, it is naturally difficult to understand a rigorous functional localization, as many would desire to have it. At the most, we might speak of *prevalent* or *elective* paths of transmission, and of provinces, not rigorously limited, which, as *prevalently* or *electively* excited, so prevalently do they react in a sense corresponding to the excitation effected.

I would lastly allude to another question, already touched on in the descriptive statement precedently made, and which should have relation to one of the questions which we have proposed to solve; it is, whether in the nervous centers there exist elementary differences which may correspond to the different functional task devolved on them.

As respects this question we can say that a difference truly exists, but it exclusively regards the different mode of deportment of the nervous prolongation. But from the point of view of the supposable relation existing between the anatomical differences of the elements, and their function, we cannot take into account either the form or the size of the cellular bodies. It is, however, true that there are prevalently large gangliar cells (of the second type) which, being provided with a nervous prolongation that puts itself into direct relation with the nervous fibres, should be designated as motor, or psycho-motor cells, whilst, conversely, there are prevalently small cells (gangliar cells of the second type), provided with a nervous prolongation which divides complexly to place itself in indirect relation with the nervous fibres; these cells probably belong to the sensory, or psycho-sensory sphere; but these relations have so many exceptions that it is not possible to establish any general law.

That, in correspondence with the functional difference of the cells, there may at the same time also exist chemical or other differences, cannot be excluded in any manner; rather is it probable that they do exist; but from the anatomical point of view, I think I may assert that the difference described by me is, at the least, the most important.

At the end of this study as to the mode of origin of the nervous fibres of the centers, it appears to me useful to state, in a series of resumary conclusions, so much as directly or indirectly regards so important a question.

First. In studying the problem of the origin of the nerves, in the different provinces of the central nervous system, it becomes apparent that there exist some secondary differences, relative to the morphology, disposition and distribution of the elementary parts, but that in the essential parts, as the relations between the cells and nervous fibres, there exist constant laws, and an absolute correspondence between the diverse provinces.

Second. In general, the nervous cells, by their form,

the special aspect of the cellular body and of the nucleus, the mode in which the prolongations have origin from them, as also by the aspect, and the mode of ramifying of the prolongations, may, by an expert observer, be differentiated from the other cellular elements; yet, no one of the characters assigned can be given as absolute so true is this that, holding as the basis of our judgment these data alone, it is not a rare case to find that we must remain uncertain whether some cellular elements should be considered as of connective or of nervous nature; and it is known that the elements are not few, relative to which the judgments of histologists are contradictory. There is, however, an absolute characteristic datum from which a cell may, with certainty, be designated as nervous, and this consists in the presence of a prolongation (always unique) different from all the others, and destined to be put into relation with the nervous fibres, or to be transformed into these.

Third. The so-called protoplasmic prolongations in no way, either directly or indirectly, give origin to nervous fibres; from these they always maintain themselves independent; they have, on the contrary, intimate relations with the connective cells, therefore their functional purpose should be sought for from the point of view of the nutrition of the nervous texture; that is to say, they probably represent the paths through which the diffusion of the nutritive plasma is brought from the blood vessels to the gangliar cells.

Fourth. The gangliar cells of all the provinces of the nervous system, by a law which has no exception, are in relation with the nervous fibres by means of one only of their prolongations, that which, in homage to the author who first made it the subject of a particularized description, has been designated the prolongation of *Deiters*, or the cylinder-axis prolongation, but which we shall always call the nervous prolongation. Wherefore, from the point of view of their specific function, all the central nerve cells may be considered as monopolar.

Fifth. The fact, many times noted, that it is only by means of the nervous prolongation with which they are provided, that the gangliar cells are put into relation with the organs by which they extrinsicate their functional activities (nervous fibres of sense) is related to another fact of notable importance, which is that the difference between the nervous cells of sense and those of motion, principally, if not exclusively, relates to the mode in which, by means of this prolongation, their connection with the corresponding fibres of sense and motion is effected. The relative differences as to the form, size and also, with some exceptions, as to the situation of the gangliar cells, falls into a very secondary rank. As an evident corollary of this law we ought to hold that, in performing the anatomical study of the nervous centers, the function of the gangliar cells can, with secure foundation, be argued only from the department of the respective nervous prolongations, and from the manner in which their connection with corresponding fascies of nervous fibres of known function is effected.

Sixth. All that has been asserted with regard to the nervous prolongation of the gangliar cells, first by *Deiters* and afterwards confirmed by the generality of anatomists who have occupied themselves with this subject, is erroneous, to-wit: that, maintaining constant simplicity, it passes directly to constitute the cylinder-axis or a nervous fibre. Instead of this, the rule is, that this prolongation gives origin, at greater or less distances from its departure from the cell, to a more or less large number of filaments, which are so many nervous fibrillæ.

Seventh. The behavior of the nervous prolongation is not alike in all the gangliar cells; indeed in this respect notable differences may be shown; in many gangliar cells the nervous prolongation, subdividing complexly, takes part, in its totality, in the formation of a fine nervous network, which is found diffused in all the strata of the gray substance; in many gangliar cells, instead of this, the nervous prolongation, although it gives off some

filaments, in like manner destined to take part in the formation of the above diffuse network, yet arrives in the medullary strata maintaining its proper individuality, and there in fact, it forms the cylinder-axis of a medullary nervous fibre.

Eighth. In relation to the different mode of behavior of the nervous prolongation, in the gray substance of the nervous centers, two types of gangliar cells may be distinguished, viz :

(a.) Gangler cells whose nervous prolongation, though it gives off some lateral threads, maintains its proper individuality, and passes on to place itself in direct relation with the nervous fibres.

(b.) Gangliar cells whose nervous prolongation, subdividing complexly, loses its proper individuality and takes part *in toto* in the formation of a diffuse nervous network. These cells, therefore, would have only indirect relations with the nervous fibres.

The arguments resulting from accurate studies of the two types of cells mentioned, give a sufficiently valid foundation to the decision, that the cells of the first type are of motor, or psycho-motor nature, and that those of the second type are, on the contrary, sensorial or psycho-sensorial.

Ninth. The two types of gangliar cells recognized by us, far from being found separately in this or that other region of the central organs, are constantly found associated; at the most in some zones, as regards their different function, there is noted a prevalence of one or of the other type, or it is observed that in the same zone, a series of cells belongs to the first type, whilst the others belong to the second.

Tenth. The nervous fibres, also, entering into the different strata of the gray substance, may, in relation to the behavior of the respective cylinder-axis, be divided into two categories, viz :

(a.) Nervous fibres whose cylinder axis, though it administers some secondary fibrillæ (which subdividing are

lost in the diffuse network), yet preserves its proper individuality, and passes on to place itself in direct relations with the gangliar cells of the first type, and continues itself in the related nervous prolongation.

(*b.*) Nervous fibres whose cylinder-axis, dividing complexly loses its proper individuality, and in totality takes part in the formation of the diffuse network mentioned.

In the same manner as we judge, the two types of gangliar cells described, to belong, the one to the motor, psycho-motor sphere, and the other to the sensory, or psycho-sensory, so do we hold that the first category of nervous fibres belongs to the motor, and the second to the sensory sphere.

Eleventh. In all the strata of the gray substance of the central nervous organs, there exists a fine and complicate diffuse nervous network, in the formation of which there concur:—

(*a.*) The fibrillæ emanating from the nervous prolongation of the cells of the first type (motor, or psycho-motor).

(*b.*) The nervous prolongations of the cells of the second type, in totality, decomposing complexly (sensory, or psycho-sensory).

(*c.*) The nervous fibrillæ emanating from those nervous fibres which pass on to put themselves in direct relation with the gangliar cells of the first type (fibres of the first category).

(*d.*) Many nervous fibres in totality, that is to say, those which, identically with the nervous prolongation of the cells of the second type, decomposing into very slender filaments, and thus losing their proper individuality, pass on to be gradually confounded in the network in question.

The network here described is evidently destined to establish a bond of anatomical and functual union between the cellular elements of extensive zones of the gray substance of the centers.

Twelfth. The several nervous fibres, far from being

found in isolate, individual relations with a corresponding gangliar cell are, on the contrary, in the great majority of cases, found in connection with extensive groups of cells; but the opposite fact also is verified—that is to say—every (?) gangliar cell of the centers may be in relation with several nervous fibres, which have different destination and function.

Thirteenth. In the relations between cells and nervous fibres, rather than the described individual and isolate connections being verified, there is observed an evidently direct disposition, by which the greatest possible complication of relations is effected.

Fourteenth. As a necessary deduction from all that precedes, we should hold that, up to the present time, we have continued to speak too arbitrarily of isolated transmission between peripheral points and the supposed cellular individualities of centers. Taking account of the data above described, we may, without reserve, declare that, from the so-called law of isolated transmission, in so far as it is wished to apply it to the mode of functioning of the gangliar cells and the nervous fibres of the central organs, every vestige of anatomical basis is now taken away.

Fifteenth. Another corollary from what precedes is that the concept of the so-called localization of the cerebral functions, taken in a rigorous sense,—(i. e.—that certain determinate functions may be referred to one or another zone, exactly limited,) cannot be said to be in any manner supported by the results of minute anatomical researches.

CHAPTER III.

Morphology and Disposition of the nervous cells in the anterior central and the superior-occipital convolutions.

The study of the form and disposition of the gangliar cells should be entirely re-made in all the provinces of the central nervous system, in order to enable us to

solve the problem, whether the differences of functions are allied to differences of form, dispositions and relations of these elements. The solution of this problem has indeed been attempted by several observers, and some of them have given a reply, but certainly it cannot be said that it is tenable.

In order to reach our purpose, no province of the central nervous system, and no convolution, should be overlooked in the new survey; and only after completion of this long and patient analytic labor, only after having put in order, compared, and subjected to control, the facts gathered in, can there be formulated a well-founded judgment on the problem.

In the extensive domain opened up in these researches, that of the convolutions, by reason of the experimental physiological studies executed on these in the modern epoch, appears to me to have offered an interest very special in circumstances, and with these parts I have, therefore, desired to commence my enquiries with the object specified.

In face of the extent which these researches ought to have, in order to enable us to arrive at well-founded conclusions, it will be readily comprehended that I can attribute trifling value to the data now presented; and in fact I regard them as only two points in the long series of studies which I think should be gathered in, that we may reach our object; at all events I present them, observing that in selecting these two convolutions, I have had the intention of establishing a comparison between those convolutions to which, according to the latest researches, an opposite physiological significance should be attributed.

It is known that since the ever celebrated studies of *Fritsch* and *Hitzig*, in almost complete accord, physiologists have ascribed motor action to the convolutions of the anterior half of the cerebrum, whilst to the occipital convolutions they have, instead, attributed functions more specially sensory.

As, among the convolutions, which, considered as centers of diverse functions, might be supposed to be formed of a different histological constitution, those regarding which I present this specimen of morphological study, might properly stand in the first rank, that is to say, the central anterior and the superior occipital convolutions. These convolutions, indeed, as regards structure, should in a certain manner be considered as two contraposed types.

And since this subject is certainly one of those which should merit an ample development, so is it my intention to confine myself, for the present, almost solely to the presentation of the plates, on which, with scrupulous exactitude of form, and altogether special typography and relations, the cells have been depicted as they are seen in my preparations; in illustration of the plates, I will merely present a *résumé* of the cellular forms existing in the various zones, adding, in this relation, only a few critical observations, on the division into strata, which, as regards the cortex of the convolutions, are very generally accepted as the most exact.

Before passing to the description of the two plates (3rd and 4th) which reproduce the form and disposition of the cells in the central anterior and the occipital convolutions, I must state, that, within the last years (1874), *Betz* published a work with the same object as that stated above by me. He would appear to have found that the cortex of the anterior parts of the cerebrum, in front of the fissure of *Rolando*, is characterized by the presence of special cells of exceptional largeness (*Riesenspyramiden*), in that which he calls the 4th stratum, and that they would be presented in groups or nests, and would be furnished with two special prolongations,—one gross, which, sending out lateral branches, is directed towards the periphery, the other slender, proceeding from the nucleus, and destined to pass directly into a nervous fibre. But cells having such characters would be wanting in the posterior part of the cerebellum.

Resting on these data, *Betz* expressed the opinion, that in the cerebrum there are two domains which might be considered as two different centers, one motor, and one sensory, thus repeating in the structure of the cerebrum the type of the medulla spinalis.

The part situate anterior to the fissure of Rolando, would correspond to the anterior cornua, and the part behind it to the posterior cornua.

That the physiological doctrine which ascribes to various convolutions different functions, may contain a portion of truth, after the results of the experimental and clinical studies for which we are indebted to a select band of modern physiologists and pathologists, we have no right to deny; but that this doctrine has not acquired any solid foundation from the anatomical data of *Betz*, will be apparent after the exposition I now undertake to make.

Study of the anterior convolution.—(Gyrus centralis anterior) of Ruscke and Ecker.

This belongs to the convolutions in which, according to *Meynert*, we should verify the general typical structure of the cortex, and in which we ought therefore to distinguish 5 strata. The same distinction has been made by *Huguenin*, who, as to the rest, on this subject, as in all the others, merely repeats almost always without dissent, the observations of *Meynert*.

The *Meynert-Huguenin* division into strata, having been commonly judged the most exact, or indeed placed as the basis of the physiological disquisitions relating to the cortex, I think it should be selected for the construction here of a *résumé* to be placed in comparison with the data resulting from my researches. It is as follows:

First.—*A stratum of disseminate small nervous cells.* This would have a thickness of 25 centimes (1-100 inch) of a millimeter, (1-8 and 1-10 of the thickness of the whole cortex), and would contain, besides

the neuroglia: 1st., Small gangliar cells whose long axis would measure from 9 to 10 micro-millimeters; the form of these cells is pyramidal or polygonal. 2nd., Nervous fibres which form a thin stratum on the outmost part, and are directed tangentially to the surface.

Second.—*A stratum of small pyramidal crowded cells* This stratum would be 0.25 millem. in thickness; the quantity of small pyramidal cells would be so great as to hide the neuroglia in the interstices.

Third.—*A stratum of great pyramidal cells.* (Formation of the cornu Ammonis.) This stratum would be three times as large as the second, but the gangliar cells would not be found so crowded as in the second; on the contrary their diameter is much larger (25 to 40 micro-millimeters). The name, *formation of the cornu Ammonis*, used by Meynert, is due to this, that, as he says, the cornu would contain cells of this nature only.

Relative to the forms of the cells of the second and third strata, Meynert says that the term pyramidal given to them, is illusory; the true form (vide fig. 235 of his article, *Das Gehirn*, in the *Handbuch* of Stricker). should be fusate, with the great axis perpendicular to the external surface of the cortex.

Fourth.—*A stratum of irregular small cells.* (Granular formation.) The thickness, 0.20 and 0.25 millim. The cells rounded, rarely triangular; in diameter 8 to 10 micro-millimeters; they are much closer to one another than the great cells of the 3rd stratum. Meynert compares these elements, which he says he has met with in the cerebral cortex, to the internal granules of the retina.

A stratum of fusiform nervous cells. (Formation of the Claustrum; *Vormauer Formation*.) It is the inner-most of the cortex, the thickness is 0.5 millim.; its cells would be about 30 micro-millimeters in length. In correspondence to the summit of the convolutions, these elements would be disposed parallel to the pyramids; in correspondence to the sulcus between the two convolutions, they would,

instead, have a horizontal disposition. According to Meynert, therefore, these cells would send forth prolongations all diverted towards the periphery of the cortex, and from this circumstance, he, without reserve, draws the conclusion, that they have nothing to do with the system of projection (fascies of the corona radiata), and they ought to be considered as cells belonging to the system of association. He calls them *Vormauer Formation*, because, as he says, the *Claustrum* consists solely of an accumulation of cells identical with these.

I note finally, that Meynert attributes a cylinder-axis prolongation in the same sense as Deiters, only to the great pyramidal cells of the third stratum, and to these he consequently attributes the significance of the motor cells, admitting that they are in direct relation with the fibres of the corona radiata (system of projection), whilst to the small elements, in form of nuclei in the 4th stratum, he attributes sensory functions.

How inexact are his anatomical data, and consequently how trivial is the foundation on which rest his theories as to the functions of the several categories of elements, may already have been argued, from what I have before said respecting the nervous cells in general, and it will appear yet more clearly further on in this work.

In relation to the stratification above described, I merely observe, that it corresponds indeed to the illustrative plates of Meynert, but if comparison were made, not with the plates, but with the preparations, whatever may have been the method of their execution, I believe that nobody would succeed in making out a correspondence.

Leaving apart, for the moment, the ensemble of the cortex, before saying whether any division is possible, and what I believe it may be, I shall make a summary of the different cellular forms existing in the cortex of the anterior central convolution, which I have taken as the type of those which would be designated as psycho-motor convolutions.

I believe the following types may be distinguished:

First. Pyramidal cells.

Second. Fusiform cells.

Third. Globose or polygonal cells with angles rounded.

First.—The pyramidal cells. As to their number, these by far prevail over all the others, and some of them are very large (their diameter across from 30 to 40 micro-millimeters, and lengthwise they may correspond to the thickness of the cortical stratum, hence 1 I-2 m. m. and over); there are also very small ones (diameter across 10 to 15 micro-millimeter, and lengthwise 300 to 500 micro-millimeter). From the angles of the basal side, and often also form their lateral surface, there go forth nervous prolongations (which may be 6, 8, 10 or more, in number), and these whilst continuing to ramify dicotomically, may be followed to a very great distance from their origin.

Among the numerous prolongations *one alone offers the characters of an essentially nervous prolongation.* All the others present the characters of protoplasmic prolongations.

In the majority of cases, the nervous prolongation has its origin at the middle, or a little to one side, of the basal surface of the pyramidal forms; in some cases, however, it has its origin from one of the protoplasmic prolongations which proceed from the surface of the pyramids.

As respects the successive behavior of the categories of prolongation, I refer to the general description which I have given of them. They all put themselves into relation with the connective cells which are everywhere distributed, especially along the vessels in the diverse strata of the cortex.

Appropriately I find it worthy here to note, that in many cases I have been able to see that the cells situated in the deepest strata of the cortex are pushed, with their protoplasmic prolongations, even to the connective stratum, which in the form of a continuous submeningeal stratum, in the central anterior convolution, as in all the others, exists on the surface of the cortex.

The nervous prolongations behave in the manner described in the first part of this work, that is to say, they give origin to numerous lateral branches, which, subdividing, succeed in constituting a diffuse interlacement in all the cortex.

As regards the distribution of this type of cells, I at present restrict myself to saying that they pertain, not exclusively to this or that stratum, but exist in all the extent of the cortex, not excluding the deepest parts. I shall resume this subject when I come to treat of a possible division into strata.

Second.—Fusiform cells. These are in reality almost exclusively in the deepest stratum of the cortex, where the nervous fibres proceeding from the corona radiata, also exist in parallel fascies. It may not therefore be excluded, that their special form is determined by the topographic conditions surrounding them, that is to say their being found in the midst of fascies, which, running parallel to each other, render it, in a certain manner possible, that their development shall be only in a longitudinal direction.

As to their essential characters, the fusate cells conform exactly with the general type; hence the assertion of *Meynert*, that they have special relations with nervous fibres, is totally unfounded. Their protoplasmic prolongations have the usual relations with the vessels and the connective elements; I shall, in this relation, only now prominently state, that some of these prolongations are pushed forward very deeply, reaching the connective cells situated properly in the medullary stratum.

The nervous prolongation issues prevalently from one side of the cellular body, directing itself very soon towards the fibres, and in its traject it always gives out some very slender fibres; which show a tendency to bend upwards, in order to reach the diffuse network existing in the gray substance.

Third.—Globose or polygonal cells with rounded angles.

These exist in but small number, and they cannot be said to be proper to this, or that zone, as it is possible to meet with some in the most superficial zones and in the middle and deep ones. However, they exist in the deep parts, in correspondence with fusate cells, in notably greater quantity.

Their diameter across varies from 12 to 20 micro-millimeters, and lengthwise from 15 to 25 micro-millimeters; they are in general provided with numerous protoplasmic prolongations, which emanating from various points on the surface, are carried very far in the most varied directions, always, however, as to their mode of termination, according to general laws.

As regards the nervous prolongation, these cells pretty frequently present a diviation from what may be called a general law; though, as a rule, this prolongation issues from that part of the cell spoken of, it frequently emanates from the opposite part, and takes its course towards the surface of the cortex. As to its ulterior course, it presents differences; in some cases it bends in order to conform to the course of the others; much more frequently decomposing into very slender fibrillæ, it passes on to become confounded with the diffuse nervous network. Therefore, as to the nervous prolongation of these cells, the fact, that by decomposing into very slender fibrillæ, it in a certain mode loses its proper individuality, through being confounded with the diffuse network, may be said to be normal, whilst, as we have seen, for the other cellular types, it is exceptional.

Returning now to the subject of the division into strata, what I have before said suffices to make it understood that I absolutely do not believe the division by *Meynert* acceptable, for it is utterly arbitrary, and is based on erroneous views of the morphological characters of the elements distributed within the cortical gray substance; I shall even add, that in all rigor I ought to say, a true distinction in strata is impossible, since the differences which are shown in the different zones are so gradually

effected, that it becomes impossible to say where one stratum ends and another begins.

But as it is useful and convenient, to be able, with a certain degree of precision, to designate this or that cortical zone, so wishing to adopt a distinction in strata, in the cortex of the central anterior convolution, I shall limit myself to the enumeration of these, viz :

First. A superior or superficial stratum (the superior one-third of the cortex).

Second. A middle stratum (middle third).

Third. A deep stratum (deep third).

It may be noted, that this distinction, which, in fine, to a certain point, is in relation with the distribution of the cellular forms described, in some way corresponds to that distinction which, as is known, is, from its graduation of color visible to the naked eye.

I next observe, that in making this distinction into three strata, I do not take account of the pigmy stratum, connective and superficial; a stratum which, more or less distinct, exists in all the convolutions and over the entire free surface. Including, however, this purely connective part, we would have four strata.

Although it may be admitted that the distinction, so far as relating to the confines, is always merely arbitrary, since relatively to the diameter and the form of the cells the transitions are gradual, yet some differences exist, and I shall indicate them in the following brief summary :

First.—The first or superficial stratum. (Vide plate 3rd.) It is formed almost exclusively of rather small pyramidal cells, which present a slight increase of diameter in their passage towards the underlying stratum. There are also here represented, but in rather small quantity, the cells which I have designated globose or polygonal.

Second.—Second or middle stratum. Here we meet with pyramidal cells which may be designated medium and great. The latter exist prevalently in proximity to the inferior stratum.

On account of the great pyramidal cells, I wish to put

into clear view the fact, that it is not difficult to follow their prolongation from the apex even to its arrival in the submeningeal connective stratum. Despite the repeated dicotomic divisions which it presents, and the lateral branches it gives out, we have found that its very last offshoots, in the connective stratum, have still a notable diameter.

Along with the great and medium cells, there are others, in like manner of pyramidal form, and belonging to the smallest existing in the cortex.

Third.—Third or deep stratum. As to its cellular forms, this stratum presents the greatest variety; the fusiform, however, prevail; the globose or polygonal and the atypical are here, more than elsewhere, presented, and the medium and small pyramidal are not wanting. It is also in this stratum that the greatest anomalies are met with, as to the disposition of the cellular bodies, the mode of origin and the direction of the nervous prolongation. Concerning the direction, I observe that pretty frequently the cells are seen disposed obliquely or also horizontally. Here, with great prevalence I have met with cells whose nervous prolongation emanates in the direction of the free surface; among the diverse other deviations from the typical disposition, I should mention that of the presence of cells having quite pyramidal form, but presenting a direction opposite to that which may be called normal, that is to say, presenting the point downward and the base upward.

In rare types of this sort, met with by me, the nervous prolongation emanating from the base of the pyramids, was directed towards the periphery.

II.

Study of the superior-occipital convolution.—(Posterior extremity.)

This belongs to the convolutions which were also studied by *Clarke*, who, as is known, distinguished in it seven strata concentrically arranged. In order to avoid

useless repetitions of the description given by him, I limit myself to recording what he asserted, that in the cortex of the extremity of the posterior lobe, "*all the cells are small.*"

Instead of his division, I shall reproduce that of *Meynert-Huguenin*, which has been the most accredited, and which, as I wish, at any cost, to make but one work of both, seems to me the most convenient.

The strata distinguished by *Meynert-Huguenin* are no less than eight:

First. A stratum which corresponds completely to that described as the first stratum of general type.

Second. A stratum similar to the second (? Clarke's) of general type. (Small pyramidal cells.)

Third. The stratum of gross pyramidal cells would be wanting. On the contrary there would be found a stratum of nuclei, which would offer the same structure as the 4th stratum of general type.

Fourth. A stratum containing pyramidal cells very sparse but remarkable for their size. To these cells, by reason of their small number, Meynert gives the name *solitary cells*.

Fifth. A stratum of nuclei similar to that which Meynert admits in the frontal convolution.

Sixth. A stratum similar to that described as the fourth; it contains the elements of the neuroglia, among which are found, disseminate, a few solitary large cells.

Seventh. A stratum of small cells with rounded nucleus.

Eighth. Lastly, the eighth stratum would be formed of fusiform cells, which in their form and disposition, present no difference as to the general type.

According then to Meynert, the convolutions of the occipital lobe would be distinguished by the prevalence of the so-called granules of which there would be three strata.

If I should desire, as to this convolution also, to group

the different cellular forms which are met with in it, I ought to distinguish, as I have done for the central convolution, three principal types, viz: pyramidal cells fusiform cells, and globose or irregular cells; as regards their essential characters, I should be obliged to repeat exactly what I have said when speaking of the nervous cells in general, and of those of the central convolution in particular, which would be superfluous. As relates, therefore, to the general characters of the cells of the occipital convolution, I shall only note that we here meet with, in greater or less number, small and very small cells, but that these last also always show, quite conspicuously, the cellular character, and are always furnished with numerous long prolongations, among which the characteristic nervous prolongation may be very clearly distinguished. I shall add that the medium and large and very large pyramidal gangliar cells, with characters identical with those of the cells met with in the central anterior convolution, are not absent; nor can it be said that these cells are found in less quantity in the occipital, than in the central anterior convolution.

Relative to the subject of the strata, it is superfluous to state that the division made by Meynert (into eight strata) is utterly unfounded. In truth, among other puzzles, I would not know to what part to refer the three strata of granules brought into the account by him, provided that they belong to those elements which merit being qualified as granules; if, however, we take them in the sense of small cells unprovided with prolongations, neither in this convolution, as may be seen on the plate, nor in any other, have I succeeded in finding a trace of them.

For my own part, as regards the cortical zone, I must declare that I believe it is not possible to recognize either a true division into strata, or a regular distribution of different types of elements; but when, with the view of rendering the description and the relative position more easily understood, we would make a conventional division, I think that here also, leaving always out the superficial

connective stratum, three strata might be distinguished, viz :

First. The first or superficial stratum,

Second. The second or middle stratum.

Third. The third or deep stratum.

First.—The first or superficial stratum. As regards the form, size and disposition of the nervous cells, it would be difficult to find significant differences in comparing them with the corresponding stratum of the central anterior convolution. The cells, here also, of pyramidal or triangular form, more or less regular, with the apex, as a rule, turned towards the free surface, are in great prevalence. As to the size of the cellular bodies, accurate measurements show that there is no peculiar prevalence here of the small forms, the medium and small cells being found in nearly equal quantities ; it is, on the whole, noted that the elements of this stratum offer less proportions than those of the underlying stratum.

The only difference that can be shown, by continuing the comparison of the superior occipital convolution with the central anterior, is that in the former the first order of cellular bodies is met with at a notably less distance from the surface, than in the central convolution ; here (the superior occipital convolution), the nervous cells of the orders nearest the surface, have a form more stumped (*tozza*) than the corresponding cells of the central convolution (because the protoplasmic prolongations of the apex have come nearer to their termination). This difference is probably connected only with the greater or less development of the connective tissue, as it is known that this is always most abundant in the parietal and superior frontal convolution.

Second.—Second or middle stratum. This stratum is prevalently occupied, like the corresponding stratum of the central anterior convolution, by pyramidal cells of medium and large diameter, not however excluding some small ones. The large prevail towards the deepest parts of the stratum, where they are seen distributed in rather regular distances at different levels. Here also I have been able

many times to follow the prolongation, which represents the continuation of the apex of the pyramids, and likewise its divisions (which in the traject are pretty numerous, and in form dicotomic), up to their arrival in the sub-meningeal connective stratum.

Third.—Third or deep stratum. This stratum presents the most notable differences, not only as respects the first and second strata of this convolution, but also as respects the corresponding stratum of the central convolution. Here are represented all the described types of cells, and all the gradations of diameter. Here are met with, in very large quantity, the fusiform cells, but in a proportion perhaps rather less than in the central convolution, it is here in like manner, that the globose or polygonal cells almost exclusively exist; and here we find, in notable quantity the medium and small pyramidal cells, a little more numerous. Finally we should signalize also the presence of rare pyramidal cells, belonging to the largest which can be met with in the cerebral cortex. One of these accurately designed, is seen on plate 4, down in the deepest zone, (the third) where the nervous fascies, (which, in order to avoid confusion have been omitted in the plate) have hardly commenced to diverge; it may be observed that the continuation of the apex of the pyramid may be followed up to its arrival in the superficial connective stratum; the length of this cell would therefore correspond to the thickness of the entire cortex; (the exact length from the base to the extremity of the prolongations of the apex, I have found to 1 1-2 millimeter, and the breadth 30 micro-millimeter.*

Relative to the general physiognomy of this third stratum, we may say, that its most conspicuous character results from the presence of a grand quantity of very small nervous cells, of globose or pyramidal, or also fusate form, which are always provided with several prolongations (and a nervous prolongation always unique); these prolon-

* NOTE BY TRANSLATOR.—This splendid pyramidal cell will be found in the third stratum on the fourth plate, rather more than half way down. If it existed in nature just as here shown, it might be regarded as an embryo-comet. (Perhaps its owner was an astronomer.)

gations are seen disposed in the deepest zone of the cortex (but without a marked limit); this zone is situate at a level, where, with the naked eye, it might, from its white color, be said that the tissue is formed of nervous fibres only.

If now, in conclusion bearing in mind the *résumé* of the types of gangliar cells belonging to the anterior central and the superior occipital convolutions, which we selected for comparison, we would study to indicate whether there exist, between those two convolutions fundamental differences of anatomical organizations, and to state in what these may consist, it has appeared to me that, leaving out of consideration their difference in thickness, the only other appreciable difference regards the *third* or *deep stratum*, and it consists in the fact last stated, of the presence of numerous small nervous cells, distributed in a rather limited zone, situate in the deepest part of the same stratum.

That to this sole difference there may be ascribed any great weight in explanation of physiological facts, seems to me difficult to believe; but keeping in view the facts exposed, I hold that the contrary decision would be far more justified, that is to say, that the functional differences inherent in the various cerebral convolutions, find their explanation, not indeed, in the histo-morphological particularities of these convolutions, but rather in the mode of progression, and the peripheral relations, of the nervous fascies, which have their origin in the convolution. *The specificity of functions of the various cerebral zones (convolutions, &c.) may be in relation, not indeed with the particularities of the anatomical organization of these zones, but rather with specificity of the organs to which peripherally the fibres which have their origin in these zones, proceed to make their termination.*

To be Continued.

NOTE BY TRANSLATOR.—In very numerous instances the word prolongation may seem to have been erroneously used in the singular, instead of the plural number. It is possible that the Italian author has used it in a collective sense; it has therefore been judged better to render it literally in the English version.

A Reply to J. J. Elwell, M. D., *in re* Guiteau.

By E. C. SPITZKA, M. D., N. Y.,

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MANY years ago the writer read in a book of travels, of a race of savages in some one of the archipelagos of the Pacific, whose tribes had a peculiar custom: Whenever a lesser chief and his people had their possessions raided by a more powerful neighbor, they gathered together, erected an image of their foe, caricaturing him as much as possible; and after taunting the defenseless object of their wrath, and offering it every indignity, they assaulted their handiwork with arrow and spear, hewed off its head, and dragged the mutilated symbol home—if their living enemy had left them such—in a triumph, symbolical of the one they would have very much liked to achieve in reality, had they felt equal to the task.

While the writer disclaims any intention of even remotely attributing a savage nature to any one connected with the Guiteau case, outside the motley crowd of prognathous Africans, who howled and yelled in ignorant glee when the drop fell on the 30th of June, 1882, yet it cannot be denied that there is a great analogy between the conduct of the tribe related and the procedure of Dr. Elwell, when he entitles his paper *"Guiteau—A Case of Alleged Moral Insanity." At no time during the trial was Guiteau asserted to be a case of "Moral Insanity." Dr Elwell may thumb the long trial record from one end to another or

* Guiteau.—A Case of Moral Alleged Insanity, by J. J. Elwell, M. D., Cleveland, Ohio; Member of the Cleveland Bar; ALIENIST AND NEUROLOGIST, April 1883.

its twenty-seven hundred pages, without finding testimony given by a single witness, or a clause in the speeches of the defence, to justify his strange misinterpretation; and equally will he search in vain, among the numerous pamphlets written by those who maintain that the assassin was insane, for the statement that Guiteau was a case of moral insanity and nothing else. But it happens to be easier for Dr. Elwell to assault a puppet of the prosecutions creation, than to take up the real view of those who believe Guiteau to have been insane, on the solid basis of facts, which have been accepted and interpreted in the same sense by Kelp, Pelman, Lombroso and Tamassia. Dr. Elwell has chosen to aim at a target which he has himself put up, and no one—the writer feels certain—among alienists at least, would occupy a moment of his time in interfering with the Doctor's idiosyncrasy, if unfortunately he had not been guilty of a misrepresentation of others, of great injustice to scientists who are guilty of no other crime, than that of valuing their scientific convictions above the approbation of newspaper scribblers and their readers, and if he had not elected to announce views misleading to the novice, and dangerously misleading because they pander a prejudice of the mob which has too often caused weak and timid men to swerve from the path of science, into the channel of the evanescent public feeling of the moment.

If Dr. Elwell notwithstanding his very frank and undoubtedly *subjectively* correct admission, *that "an examination of mental questions, is much like a voyage of discovery on an unknown sea, without chart, beacon-lights or headland," could afford to treat the views of those who hold Guiteau to be insane as absurd and with such undisguised contempt,** as he does, it is remarkable that he has had to resort to a misrepresentation of their

* Loc. cit p. 193.

** The testimony convicting Guiteau is landed on page 201 as having "completely lifted medical expert testimony out of that quagmire of sentimentality, fatalism 'moral monstrosity' and wickedness, called moral or emotional insanity, into which it had fallen."

statements, and the facts on which they based them in order to defend this position. Shall we judge of the justice of the cause, by the weapons its defender employs? If so, the following will suffice: Speaking of the medical testimony for the defence, he says: "Dr. Spitzka, the defendant's chief and most important medical witness, says he found 'his skin was in a healthy condition; found his appearance perfect; his eyes perfectly healthy. No changes of habit, of life or thoughts.'" Dr. Elwell actually uses quotation marks falsely giving the impression that those words were used by the witness in a certain order, whereas the fact is, that nothing was actually said as represented in Dr. Elwell's manufactured quotation. The misrepresentation of the latter is so vital and palpable, that at the outset the writer may be permitted to again cite portions of the testimony from the official trial record, so that the reader may compare them with the alleged citations offered by Dr. Elwell:

Page 973. (Mr. Davidge cross-examining.) Q. And these different elements constituted the groundwork of a fixed conviction on your part that the man was insane? A. Yes, sir. Q. And so strong that you could not accept employ under the prosecution? A. Yes, sir. Q. Now, you saw this man for the first time, yesterday, at the jail. How did you find him in respect to bodily health? A. *In very indifferent bodily health.* Q. What I mean is did you detect any bodily disease, any physical disease? A. I did not examine him for any ordinary physical complaint at all, and therefore found no evidence of it. Q. You examined his skin, did you not? A. I did not state so. Q. I ask you if you did? A. As much of it as I could see on his hands and face that is all. Q. You do not usually strip a man when you want to examine his skin do you? A. Ordinarily, yes, sir. Q. You strip your patients? A. I strip my patients; yes. Q. Do you not suppose that if you wanted to find out how the pores of a man are working his arm is about as good as his whole body? THE WITNESS: I do not

catch the word (the question was repeated.) THE WITNESS: Oh; how his pores are working? MR. DAVIDGE: Yes. A. The question of the workings of his pores has little to do with insanity, so I did not— Q. (Interposing.) I am *not speaking now of bodily health*, and you know it perfectly well. THE WITNESS: *You are limiting me strictly to his physical condition?* MR. DAVIDGE: I am speaking of his physical condition as you very well know. THE WITNESS: That is your impression. MR. DAVIDGE: And everybody else's, I think. THE WITNESS: Well? Q. Now I want to know, whether you had need to strip this man in order to ascertain what, in respect to the action of his pores, his health was. THE WITNESS: Do you take that in connection with the question of skin disease? MR. DAVIDGE: No, I do not. I have never heardt hat there was any skin disease in the case..... Page 974. Q. Did you examine his head? A. I did. Q. Did you find that in a healthy condition? A. Externally, I found that in quite a healthy condition; *a little eruption on the skin*, but nothing that you could call disease.

There is sufficient here to indicate that the witness repudiated the view subsequently hinted at by the second medical witness called by the prosecution that psychiatry is a branch of dermatology, and that Guiteau was not considered by him to be perfect, but in *very indifferent bodily health*. The questions of Mr. Davidge it is easy to see were cunningly planned so as to cover the condition of the skin alone in this part of the examination.

The writer is at an utter loss to find anything in his testimony to compare with the words "no changes of habit of life or thoughts," which Dr. Elwell pretends to cite from it, so he may select a few statements made as to Guiteau's habit, life and thoughts which will indicate to the readers of the ALIENIST AND NEUROLOGIST the extent to which the manufactured citation of Dr. Elwell is calculated to mislead.

Page 980. Q. You attributed this crime, assuming it

was a crime, to the formation on the part of the prisoner of a morbid project? A. A morbid project *growing out of a diseased condition* of the man. Page 983. Q. I will not trouble you any further as to your first conclusion from your examination of the prisoner; that is, a tendency to morbid projects originating in delusive opinion. Your next conclusion was that his facial appearance indicated imbecility? A. Insanity. Q. Imbecility I think you said, sir? A. I beg your pardon. I referred to the special point of moral imbecility.*

Q. Then as I understand you to correct your testimony; the appearance of his face indicated moral insanity as you called it? A. No; you have matters a little tangled up there. I meant † a general proposition, that this man's facial expression was that which we would know as the insane one, and I made the special proposition, that without having any other evidence than the face, I would have concluded that he suffered from‡ imbecility or moral monstrosity. I did not use the expression moral insanity, but some authors call that moral insanity, which I term moral imbecility or moral monstrosity.§

Probably Dr. Elwell may be induced to give the grounds on which he makes such statements as the following: *First*. "There are no positive indications of this hereditary tendency to insanity being present in the family of the Guiteaus." *Second*. "No one thought of having him shut up in a lunatic asylum?" Perhaps, Dr. Elwell will inform us what he considers evidence of morbid heredity in a family, if he does not consider in conjunction with other facts the one that Guiteau's sister has always been thought insane and has recently been

* This was after about an hour had been consumed in attempting to shake the opinion of the witness, and adjourning the court for recess, under the pretext of favoring a sick juror.

† Word "as" omitted.

‡ Word "moral" omitted.

§ For continuation of this branch of the testimony see April number of ALIENIST AND NEUROLOGIST page 210. It will be noted that the witness there repeatedly speaks of "disease" conditions in the prisoner.

pronounced insane by a jury in the face of public prejudice, which disapproved of this indirect means of strengthening the insanity theory in the case of a man, on whom a judicial murder had been committed, in obedience to its clamors,—such evidence? How does he manage to elude the fact, that there is an official record, that one of Guiteau's uncles died at the Bloomingdale Asylum, that another blood-relative died at the Elgin Asylum, and that still another is now living at the Pontiac Asylum? Does he not know that Dr. Rice, the family physician of the Guiteau's, one of the few men who with Senator Logan dared to tell the truth, testified that Guiteau escaped from the place where he was staying at the time he made an attack on his sister with an ax, while Dr. Rice was taking the steps to commit him to an asylum? And to leave for one moment the record of the trial itself, in which these facts can be found proven and admitted, does Dr. Elwell not know that the only expert who ever examined Guiteau's father found him insane, and was excluded from the stand by a technical objection of the prosecution? It strikes the writer, that Dr. Elwell has approached the question of Guiteau's sanity about as badly prepared with regard to the necessary knowledge of the facts of the case, as is possible.

Let us now proceed to examine into the other element whose analysis will facilitate a proper appreciation of the bearing of the views and arguments of the gentleman cited.

Dr. Elwell, who is a practicing lawyer, cites Guiteau's statements made in an application for a life insurance policy, that he was of sound bodily health, and had no insane relatives as a proof of these facts. Is it not a little surprising that a lawyer should be unaware of the notorious fact, that bodily and family disease are denied even under oath, in the filling out of such documents time and again? And does Dr. Elwell know of a single case where the statements of a suspected lunatic denying his own insanity, were ever used as the basis of an opinion by a scientific alienist? What conception of a "lawyer-like manner" has

Dr. Elwell when he speaks of Guiteau, announcing in such manner, that "malice is an element in murder, and 'I had no malice,' therefore there could be no murder in his case?" Surely a lawyer who would advise his client to put forward such an imbecile excuse under such circumstances ought to be disbarred. The cunning evasions, as they have been called of Guiteau, are on a par with the excuse of the paretic dement mentioned by Simon,* who stole some fish from the nets of certain fishermen, and when arrested, said that he had only taken them out with the object of putting them back again after arranging the nets, which had become entangled by his oars. The writer first suspected Dr. Elwell of irony when he speaks† of Guiteau's conduct during the trial as being "able leadership and management," and when in connection with the fact that he attacked his brother and ruined his testimony by contradicting the latter's statements as to his insanity, he speaks of him as "too shrewd a general to neglect the balance of his line." A perusal of the rest of the article convinced the writer, that Dr. Elwell had here been as intentionally serious and unconsciously humorous as where he opened his article by the admission that his inquiry into Guiteau's mental state was made "without chart, beacon-light or headland."

It is to be hoped that Dr. Elwell's claim, that Guiteau's bodily health was good, the chief one he makes in opposition to Guiteau's insanity, will stimulate some one of the readers of the *ALIENIST AND NEUROLOGIST*, who defended the opinion that Guiteau was sane, to explain just what organ aside from the brain must be palpably diseased to distinguish real insanity from sham insanity. It so happens that not only were miliary tubercles found in the assassin's lungs, but also an abnormal condition of the aorta; and that his color was sallow; that he had as the writer stated in evidence an eruption of his skin, and that at the time of the assassination, he was notoriously in a wretched physical condition. It is therefore to be hoped

* *Die Gehirnerweichung der Irren.* Hamburg 1871.

† *Loco cit.* page 199.

that when we are favored with the criteria which enabled the gentleman who defended the opinion endorsed by Dr. Elwell, to pronounce Guiteau a sham lunatic, they will consistently commit themselves to the admission that they never admitted a lunatic into their asylums who had not at least more physical disease than Guiteau. And for the sake of the reputation of our specialty, it is to be trusted that none of them will be betrayed into such self-convicting contradictions as Dr. Elwell is, when he says in one place* "a healthy body with a symmetrical cranium," and in another "he was physically syphilitic."†

It is a notorious fact that Guiteau was regarded as a lunatic by every one who came in contact with him before the assassination; that the very day Mr. Scoville heard of the assassination, he told a reporter that his brother-in-law was insane. What foundation Dr. Elwell had for the statement that Guiteau "started the insanity idea for a defense, Guiteau was the inventor, and Scoville only took it at second-hand and used it in the trial," it is difficult to guess. Whatever its source may have been it is utterly and demonstrably false.

There is an inside history to the Guiteau trial, which will undoubtedly see the light some day; it was not all enacted in a secret conclave, but it has singularly enough evaded public attention. Thus Messrs. Blaine and Logan had both been interviewed in regard to their knowledge of Guiteau. In the published interview it was stated that both these gentlemen had given their unqualified opinion that they considered Guiteau of unsound mind, and advanced abundant reasons for that belief. Mr. Blaine subsequently denied having considered Guiteau insane. Unfortunately for the credibility of this witness, a telegram had been sent out to the European capitals and chief cities of the Union and signed by Mr. Blaine, stating that the deed was that of an insane man; a statement of great weight, as it was made by one who according to his own

* *Loco cit.*, page 185.

† *Loco cit.*, page 186.

testimony had had over twenty interviews with Guiteau, and because it was made before the lingering disease and death of the President, the hatred of disappointed political intriguers who saw in Guiteau the cause of their ruin, and the persistent and shameful misrepresentations of the press had inflamed public feeling until it burst through the bounds of reason. We must recollect that there was much of this sort of testimony; that just as men of science bowed down before the tempest of public feeling, and the few that stood up against it, made but a feeble protest, or sheltered themselves in a neutral or evasive position, but a half dozen of the hundred politicians who had known Guiteau and believed him to be insane, could be gotten in the stand, and when there, to testify to the "whole truth." It was still worse with the laity; it was quite a popular thing to throw a stone at Guiteau, and the impartial historian of the future will feel nonplussed when he reflects on the fact, that one of the chief witnesses, who testified to Guiteau's bad character, for the prosecution, had previously escaped conviction for perjury by a very narrow margin. The behavior of the prosecuting counsellors certainly was not of the highest order. The skillful provocation of the petulancy of Guiteau could not have been more systematically carried out, if they had been under the continual prompting of some one who having had experience with the class of the insane to which Guiteau belonged, knew that the display of superficial acuteness of which Guiteau was capable, would convince many of the laity that he was sane, and if not sane, at least "responsible." Then there was the suppression of the stenographic report of the conversation which Mr. Corkhill had with the prisoner after the assassination, as well as the admitting in evidence of a letter of the latter, from which by a sinister coincidence, the insane portion had been removed.

Much as the merits of the case have been clouded by the imperfect elicitation of the testimony, the methods of the prosecution, and the tone of the trial in general, there

is one feature of the case, which, while it only served to fix the halter on Guiteau's neck at that time, will be welcomed by the alienist studying Guiteau's character in the future, as having rendered far more efficient service in showing his mental condition, than the post-mortem examination, the testimony of the experts, and the pamphlets issued by the latter, and of at least equal value with his family history. The writer refers to the interruptions of the prisoner, which may be found recorded on almost every page of the trial report. It is these very interruptions which Dr. Elwell believes show able management and generalship on the prisoner's part; the writer believes that they are the most convincing proofs of the genuineness of Guiteau's insanity, and has the firm faith that authorities everywhere will so regard them. This brings us to the question of expert authority invoked by Dr. Elwell.

Under ordinary circumstances the writer would hesitate to approach this question. In the present instance, however, he feels that he is called upon to do so. Aside from his citation of the convincing evidence of Guiteau's weak-mindedness, as evidence of sanity, his misquotation of the testimony, his suppression of the post-mortem revelations* and of Guiteau's previous and family history. Dr. Elwell's paper chiefly consists of a peroration laudatory of the government experts, and a foot-note referring to his own work on medical jurisprudence as an authority in moral insanity.† If Dr. Elwell's position were really a strong

* This will exclude the medico-political expressions made on behalf of those who had been their hosts on psychiatrial picnic-tours.

† It evidently did not suit Dr. Elwell's purposes to quote the official report of the microscopical committee, Drs. Shakespeare, Arnold and McConnell, of the Army Medical Museum. The writer may be permitted to supply the deficiency with a few of the most important extracts:

"Chronic disease in numerous diffused areas, accompanied by alteration of the cellular elements, in the specimens of brain submitted for their examination. While the lesions found were most marked in the corpus striatum and in the frontal region of the cerebral cortex, yet they very profusely pervaded all portions of the brain which the sections represented."

"The first (outermost) layer (of the frontal region) seemed to be thinned almost to nothing.

"The dura-mater was thickened and adherent to the cranium; the arachnoid showed yellowish and milky opacities of considerable extent. (All the reports of the examination of recent brain.)

one, he would not have needed to fortify it with authorities, and if he had felt that need and had had a half-way tenable cause, he could have found better authority in its support than that which he cites. It so happens that there is not a single writer on insanity, of repute *whose* deliberate writings*, Dr. Elwell could have derived an iota of support from. He says: "Is there then no significance and no reliance to be placed on expert testimony, when it comes, as in this case, from thirteen or more of the most eminent and experienced professional men of the country, all, or nearly all distinguished superintendents of lunatic asylums, with a reputation in the Old World as well as in the New?" Dr. Elwell is in one sense right, in assigning a Trans-Atlantic reputation to several of the gentlemen whose position he defends, or at least to their views. It is well-known that the peculiar theories on moral insanity, and transitory frenzy which they have promulgated, has had their most prominent exponents in the persons of two well-known writers on medical jurisprudence, namely, Dr. Ordonaux and Dr. Elwell himself. Comparatively unknown or disposed of, as that portion of the circle in question which is associated with the name of Utica, usually has been by the words of Westphal "Nichts Neues," it is through these two prominent representatives that the views of the chief of the thirteen gentlemen referred to by Dr. Elwell have become known abroad. So let us see what the authorities, whose position as authorities even Dr. Elwell will not question, have to say about such views and their upholders!

Utilitarian considerations, growing out of the desirability of announcing popular views on the witness-stand as a step

"It is sufficient to state that they (the appearances) were usually identical with those noted in sections from the frontal region, the only difference worth mentioning being the fact that the areas in which the vessels offered a granular degeneration were much less numerous and extensive than in the frontal region."

"While the lesions found were most marked in the corpus striatum and frontal (anterior being synonymous with frontal here) region of the cerebral cortex."

"In conclusion, your committee has no hesitation in affirming the existence of unquestionable evidence of decided chronic disease of the minute blood-vessels in numerous minute diffused areas, accompanied by alterations of the cellular element in the specimens of brain submitted to their examination."

*Italics ours.

to further patronage by the legal fraternity, have had their day in Europe, and the eloquent language of Foville,* the elder, may be cited as applicable to the rhodomontades indulged in on "unpopular" psychiatric discoveries. "Here is a fantastic interpretation which we could scarcely have expected and which is hardly calculated to rank as a scientific production.** Other than this, it is not to scientific procedures that the author has recourse to combat the existence of moral insanity and mania transitoria; it is only by the aid of appeals thoroughly permeated with religious sentimentality, and drawn from the domain of literature, that the author declares moral insanity and mania transitoria false, absurd, ridiculous, and, above all, unworthy of being received by the courts. To enable the reader to judge of the extra-scientific method adopted by the author, we give the conclusion of his article: 'Lastly, we object to both (mania transitoria and moral insanity) because it is an attempt to set back the clock of the century, and to revert to supernaturalism and superstition in medicine. It is an attempt to curtain the windows (*sic*)† of that science whose religious duty it is to cast light and not mysticism around disease—to treat it not as a personal devil entirely, to be exercised by *philters* and mummery, but rather as the perversion of a natural state struggling to regain its equilibrium.' Many physicians will be astonished to learn, that according to Dr Ordonaux they are deceived in believing themselves in the pathway of modern progress and scientific advance, when in reality they are returning to the dark ages. But will the rhetoric of their American colleague induce them to retrace their footsteps?"

Kraft-Ebing then, whom few if any alienists stand higher in forensic psychiatry, has the following* *apropos*

* Annales Medico-Psychologiques 1871.

** Alluding to this statement that the existence of moral insanity was due to Pinel's benevolent attempt to account for the executions of the first French revolution, approvingly repeated by medical witness for the prosecution, A. E. MacDonald.

† Dr. Foville's interpolation.

* Allg. Zeitschrift f. Psychiatrie. 39th Vol. 4th fasciculus, 1883.

of the views announced by Dr. Elwell as published in the symposium of the *North American Review*. Dr. Elwell has strange (*sonderbare*) views * * * * with this dictum* the author demonstrates such a resplendent ignorance (*glaenzende Unwissenheit*) in the field treated of by him, that the further analysis of the course of reasoning is not worth while."

Similar opinions of leading representatives of the body of French and German alienists have been echoed by Tamassia and Lombroso in Italy; but even England, from which land the advocates of Guiteau's sanity may make the attempt to derive a little consolation,† follows in the wake of Foville. Bucknill and Tuke in their *Treatise on Psychological Medicine*,‡ say regarding Dr. Ordranax's attack on moral insanity, of which Dr. Elwell's is a mere echo: "See an extraordinary proof of this in an article in the *American Journal of Insanity*, January, 1873, by Dr. Ordranax; while a protest may be entered against the abuse of the doctrine, the position taken by the author of this article, in regard to moral insanity seems to us like 'an attempt to set back the clock of the century, and to revert to superstition and supernaturalism in medicine.'"

It is perhaps scarcely well-timed, since none of the medical witnesses who testified for the prosecution in the Guiteau trial have yet raised a voice to defend their position§ to analyze the record they made on the occasion of the trial. But if it seems harsh to them, that some of

* Referring to Dr. Elwell's statement that the deterrent effect of punishment is as great with the insane as with the sane, and that the insane murderer being more dangerous than the sane murderer, must be executed.

† When the attempt is made, the writer will ask the indulgence of the editor and readers of the *ALIENIST AND NEUROLOGIST* once more. Until it is made the medico-political articles which have appeared in the British medical press, may be provisionally regarded as having fallen flat.

‡ Page 252, footnote.

§ Except in an article by Dr. Worcester, which smacks much of *qui s'exuse s'accuse* and a bitter personal attack on Guiteau, made after his execution, in an editorial of the "*American Journal of Insanity*," whose writer seems to be scarcely able to conceal his mortification, that Guiteau was not gagged, rather than that he should be permitted to demonstrate his insanity and the errors of certain medical witnesses in so striking a manner as he did.

their remarkable dicta should be dragged out from the obscurity of the trial archives, and exposed to the all-searching light of science, they must hold Dr. Elwell, who has cited them as authorities and opened the door to a criticism of the foundations for his claim, responsible for the result. The writer would rather have left the illumination of what he considers the darkest pages in the annals of psychiatry—calling it psychiatry for the sake of argument—to some one else!

Before proceeding to the discussion of their actual scientific merits, it may be well to make an introductory citation, which reveals the conception of the position of an authority on forensic psychology, which one of Dr. Elwell's "thirteen" had.

Page 1023. (Dr. Barker on the stand.) Q. Have you made a personal examination of the accused for the purpose of determining whether he is sane or insane? A. *I have not.* Q. Why did you not? A. In the first place because I was not asked to, and in the second place *because I have no desire to do it.*

As to the deliberation with which the prominent witnesses for the prosecution formed their opinions in Guiteau's mental state, it may suffice to say, that one of them had his opinion ready five days after the assassination, at a distance of 400 miles, and published it in the *New York Herald*, and another one had secured an interview, representing his opinion by a reporter of the *Evening Post*.

Page 1476. (Dr. Barksdale on the stand.) Q. Have you ever read Dr. Ray on that subject? A. *I think I have.* Q. Have you read all he has said about it in his published work (referring to moral insanity)? A. *I do not know as I have. Probably I have not read all of it.* Q. How much of it do you think you have read. A. *I cannot tell.*

Page 1543. (Dr. Kempster on the stand.) A. *I do not know what an irresistible impulse is. That is something I do not understand. I cannot conceive of an*

irresistible impulse. I suppose, however, that what is meant by that term, is one of those impulses which are sometimes observed in the insane, and which are carried out very rapidly. The idea comes to the individual and is rapidly executed, and it may be with reference—
(Interrupted.)

Page 1534. There is no such a thing, in fact as hereditary insanity (adds that susceptible, etc. insanity may be transmitted). Page 1535. Q. Are people who are known as eccentric, people or persons possessing marked traits of character, or *illy-balanced*, more likely to outbreaks of insanity, than persons of uniform temperament and steady character? A. No, sir; they are *not as liable* to outbreaks of insanity, as those who are more steady and staid in habits and character, for the reason that an eccentric person is not so easily affected by the jeers and taunts of his opponents, and not so easily affected by the ups and downs of life, as they are called, *as those who are of more staid habits and character*. They can bear the jostling and buffeting with much more unconcern than a person of staid habits and steady character and disposition, and throw off trouble easier. It does not weigh them down as it does men of staid habit.

Page 1474. (Dr. Barksdale.) Q. I will ask, you, doctor, whether you are of the opinion that he is acting naturally in court or feigning? A. Feigning, sir. Q. What are your reasons for that opinion? A. Several, sir. The marked contrast between his behavior in court, and that on the occasion when I saw him in jail. *He seizes every salient point as it occurs in the evidence, and then becomes excited*, but at other times he is quiet and natural, and behaves as any other man would.

Page 1534. (Dr. Kempster.) Q. What in your opinion would be the effect upon the question as to whether there was any hereditary tendency in a family, if it was stated, that cousins or uncles of a person had been of unsound mind? A. In the case of insane cousins, *it would have no bearing whatever*, unless it could be shown that the

parents of the individual had also been insane. *In the case of uncles or aunts* the same answer would apply. *It would have no bearing* unless it was shown that the immediate ancestry of the individual had been insane, and in any event it would have no bearing, as I said before, unless the parent or parents had been insane previous to the birth of the child.

Page 1537. Q. Can insanity exist without one of these characteristics. (Previous question was, "Is there any difference between a delusion, illusion and hallucination.") A. *No, sir; I think not.* But you may not be able to determine what the hallucination or illusion is, for the reasons which I gave in my answer with reference to delusions, that the mind of the individual may be so active as to fail to convey to you the hallucination or illusion or by reason of the progress of the disease, the operations of the mind are all in abeyance, so that the individual expresses no idea on the subject.

Page 1536. Q. Are delusions ordinarily present in insanity. A. *In my experience and observation they are always present in cases of insanity, with perhaps two exceptions, acute mania and dementia.* * * * * Q. Are these persons cases of what is known as moral insanity? A. No, sir. I do not believe in moral insanity. I think that is a convenient term, which has been introduced into certain books, and generally applied to those persons who have committed an outrageous act of some kind, and for whose behavior there was no other excuse. These have been called cases of moral insanity. I have no faith whatever in moral insanity as expressed by such writers.

Since Dr. Elwell makes it a question of "authority," let us cast a brief glance over the galaxy of authorities on insanity, and see who it is that one of his protégés (see page 1536 of testimony) ventures to sneer at as "such writers." In America, the great Ray, who, as the writer said on the stand, would have turned around in his grave, if he had heard of the statements of some latter-day would-be alienists—Rush, Woodward, Workman, Howard, Bannister and

Hughes. In France and Belgium: Pinel, Marcé, Foville, Lentz, Delasiauve, Esquirol, Despine, Morel, Briere de Boismont, Falret, names, a single one of which would outweigh in the balance tenfold the array of the medical witnesses for the Guiteau prosecution, with their Trans-Atlantic sympathizers thrown in. In Germany: Krafft-Ebing, Griesinger, Stoltz, Schuele, Grohmann, Solbig. In England: Lockhart Robertson, Crichton Browne, Prichard, West, Maudsley. In Italy, as in fact almost generally throughout Europe, the writer is unable to find a single alienist who opposes the doctrine of moral insanity. Let it be borne in mind too, that while those mentioned are prominent defenders of the existence of moral derangement, as a main and sometimes single feature of insanity, that the great body of alienists everywhere admit its existence, and that not thirteen, but one hundred and thirty alienists could be found in America to subscribe to the same belief. To say as half a dozen of the prosecuting witnesses did, that there is no such term in science as "moral insanity" when in the very text-book, which they relied on for inspiration throughout the trial, as every other, contains whole chapters devoted to its consideration, is to call matters by their right names—to tell a falsehood. Dr. Elwell with all his prejudices devotes twenty-one pages to "moral insanity" in the treatise to which he refers as an authoritative one; and if he has preferred to rest his opinions on the expressions of a distinguished surgeon (Brodie) who was not an alienist, on the editorial expressions of a medico-political journal and in default of real scientific authorities in his behalf, on the assertions of those who since died the death of mediocrity, he will scarcely confess, that he devoted a whole thirtieth of a book intended to cover the whole field of Medical Jurisprudence to the consideration of a chimera.

Page 1366. (Dr. Stearns on the stand.) Q. Is it not the fact that insane people often have very good memories A. I have answered that question once or twice. Q. I just want it answered yes or no. I will let you explain,

if you desire, after you have answered. A. I do not think it is often the case. Q. Is not that case laid down in Ray on Insanity? MR. PORTER. I must object to the witness being deprived of an opportunity to explain. (To Mr. Scoville.) You pledged your word as a lawyer and gentleman* that you would give him that opportunity if he answered the question. MR. SCOVILLE. (To the witness.) Do you desire to explain. THE WITNESS. No, sir. MR. REID. I thought not, judge. Q. Have you read Ray's work on Insanity? A. I have never read it through consecutively; no, sir. I have read parts of it. Q. Does he not state that fact? A. *I don't know, sir; I have not looked.*

Page 1363. (Same witness.) Q. What is your theory of a person becoming insane suddenly through the excitement of fear in its operation on the brain? A. I suppose that to be injury of the tissue of the brain from the effect produced upon it as communicated to it. Q. By the blood rushing to the brain, or withdrawing from the brain? A. It is very difficult to say precisely what does produce the effect. *It may be in a change in the electrical currents, that we know pass through the brain.*

Page 1398. Q. Is it not true, where persons who are manifestly insane, kill another, that they sometimes plan and plot, and deliberate, and practise and get ready for it? A. *I do not know of my own knowledge.*

Page 1674. (Dr. John P. Gray.) Q. What is kleptomaniac? A. It is a word used to express thieving. There is no such insanity as kleptomania. Q. You do not believe in it, do you? A. I do not believe in any of these so-called moral insanities. I believe that they are simply crimes. A lunatic may steal, *but he does not steal because he has only a mania for stealing.* What do you understand by Dipsomania? A. It is what some people call insanity; a strong appetite and habit of

* Loud protestations of this kind are, it is needless to say, regarded with peculiar disfavor by lawyers of the better class. This interruption is a sample of the attempts frequently made by the senior counsel for the prosecution to do a little "stage" business with the jury.

drinking, not resisted. *I call it drunkenness. I do not call it insanity at all.* What is understood by Pyromania? A. It is understood by some to be an insanity for burning houses or buildings. I would call it incendiarism—crime. *All those terms are makeshifts to secure from punishment for crime.*

Page 1662. Q. —is that true? A. Certainly a child a week old might have disease. Q. It could not inherit though, could it? A. No. Q. Are children ever born with any disease at the time of birth? A. *I have no personal knowledge of that.* It is said by some, that if a mother has a certain constitutional disease the child may have it. I do not know whether there is any truth in that or not. Page 1661. Q. Did you ever know of a case of hereditary insanity? I do not mean in the ordinary sense of the term, but where the disease itself was transmitted? A. No; *disease is never transmitted.* Page 1660. Q. Do you consider the fact that there is insanity in a family (among uncles, aunts or cousins of a person) has any bearing whatever on the question of the insanity of the individual? A. No.*

(Dr. A. E. Macdonald.) Q. As a general rule, based upon your observation and knowledge, do the descendants of insane persons become insane? A. No, sir; they do not. If they did everybody in the world would be insane by this time. The tendencies in all cases of constitutional defect is to recover from it. As generation succeeds generation† there is return toward health. In the case of hereditary tendency to insanity, the tendency is more toward health than it is toward disease.‡ Page 1440. Q. At what age do children usually talk? A. I have never had any children, sir, and I have not had

* The end of this matter is not yet; the inherent contradictions of the witnesses and some related matters are reserved for the future. It may, however, be of significant interest to the reader to learn at this point, that the witness was immediately confronted with the tables "showing the statistics of hereditary transmissions" in numerous of his annual reports.

† Shades of Morel!

‡ To have an insane a pastor, will hereafter have to be considered rather an advantage than otherwise.

any opportunity for observing. Q. Did you ever see any? A. Yes, sir; but not so that I could make a statement about that; not in such a way as to enable me to answer your question.

These few from among a hundred similar assertions, may servè to characterize the claims of those making them to be considered authorities, or even faithful students of insanity, and with this the writer may be permitted to close the medical branch of the discussion in its present phase. He has shown that Dr. Elwell has substituted issues for the real issue, and the jury of scientists will undoubtedly judge from the maneuver as to its motive. He has shown that Dr. Elwell has come prepared to defend his position so poorly, that he has been compelled to manufacture, or to retail manufactured quotations from the witness opposing his view, to deny facts which are known to every intelligent man and woman in the United States, to assert things which had no basis, and to confess his inability to do the victim of a most unparalleled medico-judicial procedure, the paltry justice of citing the evidence which his dead body yielded to the searching eye of unimpeached scientists, with even approximate fairness. He has proven that Dr. Elwell in order to accomplish his purpose lost sight of his own material contradictions of self, and made admissions fatal to his claims as a sound adviser on questions of sanity and responsibility. Not to say anything about his motives, or the justice of his cause, it is clear that the effect of his paper is calculated to pervert opinion. Finally the gentleman has put into the witness-box thirteen physicians, whom he has endeavored to foist upon a scientific jury as authorities, and ultimately has taken the stand himself as an authority on moral insanity. The writer has shown, not retorting with diatribes and common-places, such as those Dr. Elwell employs, but by the very words of the alleged authorities that they are none, and in so doing he has not been compelled to use a single expression as harsh as the ones used by one of the very best judges

of expert competency in passing on the claims of Dr. Elwell to being considered an authority on, or to have mastered the rudiments of legal medicine himself.

Dr. Elwell correctly says, that "an impartial discussion of the matter is not to be expected, until a sufficient time has passed to allow the sediment of popular indignation and professional zeal to fall to the bottom. Truth will then reveal herself, and not till then, for she shuns excitement and prejudice." Truth shuns prejudice and particularly when it is as obtrusive as it is in Dr. Elwell's statement, that "a normal consistency of the substance of the brain, with well-balanced hemispheres," was an evidence of a sound mind in Guiteau's case, he having on the page preceding, admitted that sanity could neither be proven nor disproven by an autopsy.

One naturally wonders why Dr. Elwell should take so much trouble to sustain the justice of Guiteau's sentence, by endeavoring to prove his sanity, when he already stands committed to the doctrine, that if Guiteau was insane there would have been only the greater reason for punishing him. Evidently Dr. Elwell is by a rapid and kaleidoscopic transformation returning to the view of Heinroth, that insanity originates in sin. The delusive exaltation of Guiteau who compares himself to Abraham, Jesus Christ and Company, is for Dr. Elwell merely a "moral leprosy" and shocking godlessness.

It is but doing justice to Dr. Elwell to say, that one of his assertions, although unfortunately one that does not apply to the case of Guiteau, is correct. He is right in saying that wickedness and immorality are not insanity, and that Dr. Beard stands strictly alone, when he says, "the essence of insanity is immorality, and the insane are always immoral." This statement is simply a paradox, and can be paralleled only by the converse statement of several of the experts called by the prosecution, that moral insanity is wickedness, and that kleptomania, pyromania and dipsomania are crimes and nothing else. It is probably to the gentlemen that made these statements

and to himself, that Dr. Elwell refers when he says, that "the Freeman, Coles-Hiscock, McFarlane, Sickles cases, as well as the celebrated English cases, were as well understood by him (Guiteau) as by any superintendent of an insane asylum or criminal lawyer in the country." With the justice of the comparison, in the sense in which it is understood by the writer, he has no disposition to quarrel. Nor will he hesitate to admit his own obtuseness which interferes with his comprehension of the coherence of the two ideas involved in the following end of one of Dr. Elwell's paragraphs. "He also prompted his attorneys as to the latest decisions in the courts on the law of insanity. He said to Judge Porter: "You would have hung Charlotte Corday."

That even to this day there are people who mistake invective for argument, shallow rhetoric for reasoning and their prejudices for the truth, is, to use the words of a distinguished writer, a merciful dispensation of Providence with which no good man will quarrel. But when misstatements of historical facts and testimony are made with the view of strengthening and confirming a popular misconception, it is the duty of those who know the truth, to correct the errors. If in endeavoring to carry out this duty, the writer has been compelled, here and there to refer to individuals, it must be borne in mind as a mitigating and explanatory circumstance, that the issue of personal authority was first raised by Dr. Elwell, and not by the writer, and that nowhere has the writer, like Dr. Elwell, misquoted testimony, omitted essential facts, or resorted to diatribe. The advocates of Guiteau's insanity feel that the whole testimony given in the trial should become more widely known, and all the facts connected with it should be made public, for the facts point so strong in one direction and constitute such overwhelming proof of Guiteau's mental abnormality, that no omission of facts or sophistry of speech is necessary to strengthen the position of those who regard the assassin of the President as a lunatic and not as a criminal.

Maniaco-Uræmic Delirium in Renal Affections.*

By LUIGI M. PETRONE, M. D.

THE so-called uræmic accidents which arise in the course of chronic nephrites have been well studied by clinics; but though their clinical form has been well described, the pathogenic interpretation of the phenomena seems to me to be yet discussible. There is, however, a certain order of cerebral facts, rather rare, which I think have need of further study; they are those relating to certain maniacal disturbances, and certain deliriums combined with hallucinations of sight and hearing. The majority of authors have attributed the appearance of these psychical disorders to uræmic disturbances, or the influence of an altered crisis of the blood, consequent on renal disturbance.

The first author, who according to the observations of *Griesinger* on the relation between encephalopathia and renal lesions, met with the manifestation of true paroxysms of uræmic-pseudo insanity, was, so far as appears, *Hagan* (1869). He published four reports which merit being here summarized:

First Case. A woman of 46 years, in consequence of a dispute, followed by a chill, was affected with albuminuria and violent acute delirium, which lasted six days. At the autopsy the kidney was found contracted and atrophied.

Second Case. Melancholy and maniacal agitation in a man affected with chronic albuminuria. Death took place on the appearance of pulmonary gangrene. At the autopsy hydronephrosis on the right, and renal atrophy on the left from interstitial nephritis were found.

Third Case. Excessive religious practices, followed by

* Translated by Joseph Workman, M. D., from the *Rivista Sperimentale*, Italy.

a species of acute melancholy, in a man of 25 years, suffering for a long time from chronic albuminuria with a very extensive necrosis of the tibia. At the autopsy Bright's kidney.

Fourth Case. Uræmia of mental form, badly characterized, observed in a man of 73 years, an alcoholic. One kidney only affected with sclerosis.

Hagen attributes the mental state to the insufficiency of the urinary depuration. More recently this author has published new observations analogous to the preceding.

Dr. Jolly published (Berlin, 1873) the following case:

A young woman of 19 years, always before sane, in consequence of a chill, complained of head pain. She had ideas of death, fell into a state of stupor, and refused to eat. In the course of some days there were found, first, traces of albumen in the urine, and afterwards considerable quantities of it. The patient lay in the very same state of stupid indifference; it became necessary to feed her with the œsophageal tube. She had retention of urine, which demanded catheterism. In the course of three weeks the albumen diminished. The mental disturbances persisted yet for several other weeks. She left her bed, in the course of the night, and tried to escape; she seemed to be frequently invaded by hallucinations. Finally the urine being freed from albumen, she went on improving, she consented to take some food, and completely recovered.

Samuel Wilks published, in the *Journal of Mental Science* (July, 1874), three cases of mania Brightia, uræmic (?).

First Case. A railway man, manifestly suffering under chronic interstitial nephritis, was taken with violent mania which lasted two days.

Second Case. A young woman, long troubled with a Bright affection, was seized with epileptiform attacks and acute mania. It was necessary to isolate her. This state was followed by a species of lethargy, after which recovery took place.

Third Case. A woman of middle age was, for a long time, affected with albuminuria. All at once she was seized with fury and hallucination, and remained in this state over a week. On her death, which occurred some time after, the kidneys were found atrophied.

Dr. Schulz, of Bremen, relates the following case, (1876): A man of 43 years, without any important antecedents, entered the hospital on account of a Bright affection. A little anasarca was present, micturition rather abundant, slight albuminuria. Notable hypertrophy of the left ventricle, systolic souffle, no disturbance of the lesser circulation. Pronounced albuminuric retinitis, fasciolate sclerosis, sinuous, hyperæmic, thickened veins; papilla of a turbid grayish; hemorrhage and discoloration of the yellow patch. In the course of eight days an attack of well characterized mania, with brisk exaltation and hallucinations supervened. The exaltation was very soon followed by depression, he became concentrated, then unquiet and anxious. Later on he showed more tranquility the hallucinations seemed to weaken, but the delirium assumed a fixed character; it reproduced the known traits of delirium of persecution. In the course of 34 days the patient died, after coma of 36 hours; he had no uræmic manifestations whatever. At the autopsy there was found hyperæmia and thickening of the dura-mater; a recent gelatinous exudation was spread over the convexity of the hemispheres. The left ventricle of the heart was hypertrophied, the mitral valve was insufficient; the pericardium was slightly injected, and covered with a thin stratum of sero-purulent exudate. The two kidneys, but especially the left, were granulous and much contracted, and the cortical substance had almost completely disappeared.

Schulz attributes the hallucinations to the maniacal delirium of Bright's disease; it is difficult to know what part, in the pathogenesis, the congestion of the meninges and the auricular lesion of the heart might lay claim to.

Recently (July 1880, *Journal of Mental Science*), an observation of the same sort was made by *Dr. Savage*.

A woman of 35 years, after having presented a certain degree of cerebral excitement, appeared dejected, stupid, negligent and incapable of discharging her duties as a teacher. After an attack, enfeeblement of the left side persisted. She had, five years before, received a violent blow on the head, on the right side, from which she lost consciousness. In August, 1879, she spoke incoherently; she believed herself persecuted, she showed inquietude, was voracious, sometimes violent and insubordinate; she had hallucinations of sight and hearing, and several times cataleptic crises. She complained of pains in the right side of the head, and in the ocular globe mostly on the right side. The pupils were much dilated; the sight was weaker on the right than on the left side; ophthalmoscopic examination showed optic neuritis on both sides, but more pronounced on the right. Later on violent vomitings occurred, the head pain augmented; the psychological phenomena progressively diminished. The urine became very abundant and very rich in albumen. In February, 1880, the optic neuritis showed itself much pronounced, the papillæ were swollen, their borders tumefied, the veins dilated and sinuous; in the right eye there were hemorrhages and white maculæ. The strokes of the heart were very energetic, the pulsations were very tense. On 10th February she was semi-comatose; the weakness of the right side was greater, speech difficult, deglutition of solid aliments impossible. On 10th of April convulsions came on; the head deviated to the right. Respiration was stertorous, pulse very frequent and weak. The patient died without having regained consciousness.

At the autopsy we found a slight adherence of the pia-mater, the surface of the brain pale, the convolutions flattened, the cerebral substance discolored; the lateral ventricles were dropsical. In the brain we observed some sanguineous extravasations, especially on the surface of the pons Varolii. The arteries of the dura-mater were atheromatous. The heart was large, the left ventricle much hypertrophied. The kidneys were small; their capsule was

adherent, the surface granulous, and the cortex contracted.

Haslund recently (1880) communicated an analogous case :

A boy of 14 years, affected with Bright's disease; albuminuria abundant; œdema, uræmic symptoms—suddenly delirium and anguish arose; the muscles of the face were convulsively agitated; then came furious delirium and hallucinations. This state lasted four months. At frequent intervals violent paroxysms of mania came on. The patient was very voracious, and presented all the aspect of a real maniac. During all this time the anasarca persisted. At the end of the fourth month the mania disappeared and with it the œdema. He was able to re-enter his family and resume his habitual occupations, yet the albuminuria continued. At this time he presented no mental phenomena excepting weakness of memory. He died six months afterwards, in collapse, following an attack of cerebral uræmia, with convulsions and delirium.

Dr. M. Lecorché, in his medical studies at the *Maison de santé*, relates a similar case. Giving a description of interstitial nephritis, he says: "In one case we observed maniacal disturbances of short duration, it is true, but such as to render it necessary to place the patient in a *maison de santé*. He believed that there were plots against his life. Through the fear of being poisoned, he refused every sort of nourishment. The appearance of these symptoms coincided with the cessation of the polyuria; the former disappeared when the latter appeared."

The author thinks he has the right to ask whether these accidents may not have been of uræmic nature.

Dr. Raymond (1882), published four observations which have much similarity to those we have summarily given.

First Obser. A woman of 69 years, laboring under chronic Bright's disease. Uræmia, accidents of acute mania. Coma. Death. At the autopsy both kidneys were

seen enlarged, parenchymatous and showed interstitial inflammatory lesions (mixed nephritis). The brain was pale and a little soft. The lateral ventricles had slight dropsy. The convolutions were compressed, and very close to each other. The cerebral vessels showed the ordinary lesions of chronic arteritis. The heart presented the alterations described by *Latulle* and *Debove*, in interstitial nephritis.

Second Obser. A woman of 41 years, ill with œdema of the face and legs, became, after four days, uræmic; presented dyspnœal and intestinal symptoms; also cerebral, consisting principally in phenomena of excitement. Religious and erotic delirium. The delirium alternated with the dyspnœal symptoms. Absence of epileptiform convulsions. Death from syncope. An autopsy could not be made.

Third Obser. A man of 50 years, ill with chronic nephritis. Dyspnœal and intestinal uræmia. Persistent cerebral symptoms, delirium, hallucinations, etc. These symptoms were alternative with those of dyspnœal uræmia; coma; death. At the autopsy the kidneys were found to be hypertrophic and degenerate in fat. There was vegetant mitral endocarditis. Cerebral œdema without lesion. Slight atheroma of the arteries of the base of the brain. Considerable pulmonary œdema.

Fourth Obser. A man of 55 years, with polyuria, was seized with paroxysms of dyspnœa. Dyspeptic symptoms, cerebral phenomena, delirium, hallucinations, vomitings, serous diarrhœa. Coma. Death. Autopsy:—Kidneys atrophied and granulous. Histological examination showed an interstitial nephritis arrived at its last period. Cardiac hypertrophy; sclerosis of the myocardium. Pulmonary œdema, and cerebral œdema. Absence of hemorrhagic foci and of softening. The arteries of the circle of Willis were not atheromatose.

Our own observation, which we here report, has some points of similarity to those we have been reviewing.

Maria R. of 45 years, entered the Hospital for Incura-

bles, in July 1881. She was anxious and externally dyspnoeal. The face pallid and tumid. The palpebræ puffed; the lower limbs very œdematous. Pulse frequent and irregular; the arteries presented the characters of atheroma. Heart enlarged. Lungs give signs of diffuse catarrh. Temperature, axillary, 99 Fahr. 22nd July. The patient declares she has never been a drinker of alcohol, nor has ever suffered from gout, syphilis or saturnism, and has never used any substances which might irritate the kidneys. In the month of April these disturbances continued to appear paroxysmally. In May the palpebræ and the lower limbs began to swell. In June the swelling in the legs had so much increased that she was compelled to have recourse to the hospital. She said she had never felt any pains in the region of the kidneys, and had never observed the quantity of urine diminished or altered in color.

Cardiac examination showed that the left ventricle was dilated. The point of the heart beat between the 7th and 8th ribs, on the left, and outside the line of the nipple. The stroke was strong, and the rythm irregular. The first sound at the point, was heard to be weak and murmuring. The second aortic sound was feebly accentuated. At the jugular-fossa a very distinct souffle was heard. The pulse was irregular and hard, 81. There were evident signs of of bronchial catarrh. The urine was scanty, (1200 c. c.). Urea of moderate quantity (15.00). No albuminuria. July 29th. The patient has raved many hours. Afterwards she became tranquil as if weak. Again, towards evening, the delirium set in with much exaltation. The pulse was accelerated (98). The temperature 100 F. The quantity of urine in 24 hours, 1250 c. c. Urea 16.55. July 31st. For the past two days the delirium has continued. It is paroxysmal and intense. The patient threatens every one around her bed. Lungs catarrhal. Temperature 102.7 F. Pulse 100, weak and irregular. Urine 300 c. c. Urea 8.34. A little albumen.

August 3rd. Somnolence and exultation alternate from

hour to hour. Dyspnœa extreme. Temperature 102.5 F. Pulse 101. Urine 680 c. c. Urea 12.52. A little albumen.

August 5th. The same state. Persistent coma. Temperature 99 F.

August 6th. Coma continuous. Death.

Autopsy. Heart large and flaccid; a little degenerate into fat; active eccentric dilatation of left ventricle; its musculature pale red; valves sound. Aortic atheroma. Lungs congested and œdematous; diffuse catarrh; marginal emphysema. Nutmeg liver. Brain pale and rather soft; moderate ventricular dropsy; convolutions flattened; no macroscopic lesion; the vessels presented the ordinary lesions of chronic arteritis. The kidneys much enlarged. The capsule atrophied, and readily detachable. Their surface knotty, and color pale yellow. Parenchyme congested,

Histological Examination. The vessels of the kidneys. in every section made by us, presented the lesions of chronic arteritis. The endothelium was wrinkled in some of the vessels, and beneath it numerous clear nuclei appeared. Several vessels showed the middle and outside coats fused, and thickened by strong proliferations of interstitial connective. The outermost strata of this fibrous tissue are infarcted with embrional nuclei, which are further disseminated in all the renal parenchyma. Almost all the glomerules contain these nuclei, some, however, present also the lesions of epithelial nephritis. Glomerules partly atrophied, partly reduced into fibrous capsules, which are attached to the interstitial connective of the parenchyma of the organ are enlarged, and of an opaque turbid color. The labyrinth is the seat of sclerosis. The urinary tubules have an ordinary calibre, and are altered in various ways. The investing epithelia in some tubules are intact, in others they are augmented in volume. Cylinders are found here and there, rarely. There are points in which the the uriniferous tubes (contorted) are atrophied.

In this case the delirium assumed the form which is

described in the history by *Raymond*, and in many of those which have been published by *Christison* and *Gregory*, *Milks*, *Lasegue*, *See*, etc.; the maniacal exaltation with general incoherence is the dominant character of the intellectual perversion. The delirium has an acute frank course, and it yields the post to mortal coma. Such a delirium is certainly an accidental perversion, which is the consequence of the renal disorder. The patient never before had any form of mental exaltation, nor was there in her family a hereditary predisposition to insanity. The character of the delirium, its evolution in relation to the other accidents, the coincidence with the symptoms of a chronic nephritis, certainly demonstrate the symptomatic character and the enduring degree of intensity of the encephalopathia here treated of.

It remains, however, to determine the relation between this cerebral symptom and the nephritic affection shown in the autopsy. In order to search for this relation it is necessary, first of all, to reflect that the development of the maniacal delirium, in the observations published by *Haslund*, *Jolly*, *Hagen*, *Wilks*, *Schulz*, *Savage* and *Raymond*, appeared coincidentally with the appearance of albumen in the urine. In the observations of *Haslund* and of *Jolly*, among other facts, there was noted a certain relation between the albuminuria and the encephalopathia; the latter improved as soon as the albumen in the urine decreased. This coincidence led, as a consequence, to the attributing to the cardiac complication, (insufficiency, hypertrophy, dilations and so on) of a certain action on the development of the delirious accidents, so-called nephritic. It is known that organic lesions of the heart, because of the circulatory disturbances which attend them, create a particular state in the organs of the animal economy, and consequently in the brain. This influence on the brain is introduced with psychical disturbances. *Ball*, who has recently studied the relations between cardiac affections and insanity, has established that the crises

are in strict connection with the asystolic exacerbations and the appearance of albuminuria. It is certain that in cases of nephritis, as in simple cardiopathias, it is necessary to search for the presence of albumen in the urine; but, I add, that the theory of *Traube*, on cerebral œdema as a consequence of circulatory disorder appears to me to explain very badly the appearance of uræmic encephalopathia, since the cerebral disorders are rare cases. And it is here to be noted that, in the case of Haslund, the intellectual disturbances much improved several times under the influence of a milk regimen, without, however, the albumen disappearing in the urine. In my own case also, it might well be said that between the intellectual disturbances which are developed in the course of some chronic nephritis, and albuminuria, there is not a perfect accord.

But to what are we to attribute the genesis of the encephalopathia Brightia? To uræmic poisoning? Certainly. The cases in this article call for no other explanation. The alteration in the urinary secretion resulting from the permanence of certain products of retention and decomposition, which circulate in the mass of the tissues and fluids, induces a species of toxic influence in the systems, and especially in the nervous system with all its consequences. The long duration, also, of the delirious variety of encephalopathia Brightia, accords very well with the special toxæmia in question. The cause of the maniacal delirium will be fruitlessly sought for in the several known principles of either healthy or decomposed urine.

In a memoir on *Permanent Hysterical Iscuria* (November and December, 1879) *Morgagni* has shown by an analysis of the most noted experiments, instituted by many authors on the several principles of the urine, (urea, creatina, uric acid, creatinina, carbonate of ammonia, etc.), injected, in different ways, into living animals, in order to produce uræmic encephalopathia, that the mechanism of the form Brightia, has not, up to the present time, been explained

by any theory, and that we must wait for the explanation of the uræmic nervous symptoms, in ulterior researches. These conclusions formulated three years ago are valid to-day. In this relation I take the opportunity of observing, that in my patient the appearance of the delirium, quantitative excretion of urine and urea, did not always proceed in accord, since there were days in which the nervous symptoms were intensely developed, though the quantity of each emitted in 24 hours did not much exceed the normal proportions.

It must therefore pertain to future observations to give due import to the reflection of *Lasague* in relation to uræmic delirium: "We should not be too prompt in attributing the delirium to uræmic poisoning; it is necessary that we should search whether another cause exists, such as alcoholism or acute intercurrent affections."

Syphilis in its Relations to Progressive Paresis.

By JAS. G. KIERNAN, M. D., Chicago, Ill.

THE determination of the etiological value of any alleged cause of insanity is not by any means a simple problem. Independently of the personal equation there is the interaction of numerous influences, and the reaction of the affection on these influences constituting the "vicious circle" of the French, to be eliminated from the influences of any alleged cause. It must be obvious also that coincidental influences also constitute elements of error. All of these elements of error are best eliminated by collating the experience of various authorities with one's own. In endeavoring to determine the etiological relations of syphilis to progressive paresis, there are met with numerous positively opposed opinions. There are those, who, like ¹Esmarch, ²Jessen, and ³Kjellberg, claim, that progressive paresis is always due to syphilis. On the other hand Lewin and Fournier claim, that progressive paresis never arises from syphilis. At the outset of this enquiry there are, therefore, met with positively contradictory statements. An examination of the opinions and statements of the various authorities, therefore, becomes necessary to determine which of these contradictory statements is correct, and whether they are reconcilable. ⁴Sternberg, and ⁵Sandberg, found that syphilis causes the majority of cases of progressive paresis. ⁶Snell found that seventy-five per cent. of his paretics had had syphilis. ⁷Schuele is inclined

1 Allgemeine Zeitschrift fuer Psychiatrie, 1857.

2 Ibid. B XIV.

3 Hospitals Tidende, 1868.

4 Hospitals Tidende, 1864.

5 Ibid, 1870.

6 Allgemeine Zeitschrift fuer Psychiatrie. Band xxxviii.

7 Allgemeine Zeitschrift fuer Psychiatrie. Band xxxviii.

to believe that syphilis is among the most potent and frequent causes of progressive paresis, and is to be found in about one-half of the cases. ¹Hondoeffer, ²Schmal-fuss, ³te Gempt, ⁴Westphal, ⁵Leidesdorf and ⁶Wahrendorf express almost the same opinions. ⁷Mendel found that one hundred and seventeen of his two hundred and one paretics had had syphilis. ⁸Jespersen found, that out of 123 progressive paretics, 83 had had constitutional syphilis; in nineteen syphilis was probable, and in fifteen there was nothing indicative of syphilis. My own experience in the New York City Asylum for the Insane, is very similar. Obersteiner⁹ found that the syphilitic paretics were five times as numerous as the other syphilitic insane.

Now, although these figures seem to denote a great frequency of syphilis among paretics, they do not show, even assuming, that they are correct, and that the relation between the two affections is an etiological one, that progressive paresis is always caused by syphilis. Kjellberg's words, however, are that progressive paresis never occurs in a subject free from congenital or acquired syphilis. It therefore becomes necessary to examine as to the influence of congenital syphilis in the production of psychoses. Mendel¹⁰ has shown that syphilis in the parent may produce a predisposition to insanity in the offspring, such insanity occurring long after the usual syphilitic congenital manifestations attain their full development. The question now arises does syphilis occur in progressive paretics as frequently as is claimed by Jespersen and the other authorities cited. ¹¹Ripping and ¹²Hugenin find, that syphilis is only encountered among about twelve per

1. Ibid page 273.

2. " 273.

3. " 274.

4. " 275.

5. *Medizinische Jahrbuecher*, 1864.

6. *Allgemeine Zeitschrift fuer Psychiatrie*. Band xxxviii.

7. *Die progressive Paralysis der Irren*.

8. *Hospitals Tidende*. No. 34, 1876.

9. *Monatschrift fuer praktische Dermatologie*, 1881

10. *Archiv fuer Psychiatrie*. Band ii.

11. *Ibid*. Band xxxvii.

12. *Annales Medico-Psychologiques*, 1869.

cent. of the paretics. These results are explained by the fact that, as ¹Spitzka has found, the percentage of syphilitic paretics is greater among public than among private patients. It becomes also necessary to determine whether syphilis does stand in any etiological relation to the paresis with which it co-exists. Whether it is not, as was sometimes found by Ripping and Snell,² merely an epiphenomenon of progressive paresis concomitant upon sexual excitement of the earlier stages. Jespersen's statistics agree with those of Mendel and ³Erlenmeyer, Berthier,⁴ Dreer,⁵ and the other authorities cited in the fact, that the syphilis preceded for a number of years the earliest development of the psychosis. Such is the affirmative side of the question, and as so far analyzed it leaves no doubt, that syphilis does produce progressive paresis.

Examination of the negative side becomes now necessary. Lewin's opinion is an opinion merely, and is entirely too dogmatic, for he denies that any psychosis can be produced by syphilis. Fournier claims, that syphilis produces a pseudo-paresis not identical clinically or pathologically with the real psychosis. The attempts at demarcation of the two forms must, therefore, be passed in review. ⁶Mueller considers, that alterations in the arterial coats with a diminution of their calibre, and consequent malnutrition and degeneration of cerebral tissue are common to both affections, and account for common symptoms. In cerebral syphilis the pathological changes are not confined to the cerebral arteries or brain itself, but extend to the meninges and skull. Syphilis also causes alterations in the sympathetic nerves, hyperplasia of the interstitial connective tissue, causing pressure on the nerve cells and fibres. The diagnosis will rest upon the existence of æsthesias, epileptoid and paralytic attacks of

1. Journal of Neurology and Psychiatry. Vol. 1.

2. Op. cit.

3. Die luetsichen Psychosen.

4. De la folie diathesique.

5. Archivio Italiano per la Malattie Nervoso, 1869.

6. Correspondenzblatt der deutschen Gesellschaft fuer Psychiatrie. Nos. 5-7.

longer duration, and more gradual origin, than those of progressive paresis. ¹Wille lays much stress on the existence of the headache, æsthesias, etc., believes with ²Coffin, that progressive paresis in a man under twenty-one is always of syphilitic origin. In this case the delusions of grandeur are wanting. ³Ireland lays stress upon much the same diagnostic signs as Mueller and Wille, and believes that the results of treatment are the great test of the difference between brain-syphilis and progressive paresis, which forms he regards as distinct. ⁴Linstowe and ⁵Mickle lay great stress on curability as a decisive test of the two affections which they regard as distinct. ⁶Voisin states, that these two forms are distinct and the diagnosis can readily be made by means of—*First*: The presence of other syphilitic manifestations. The absence of delusions or speech, troubles common in progressive paresis or their fleeting existence. *Second*: The evolution of the disease; the appearance of the symptoms, indicating a circumscribed lesion. *Third*: The happy and rapid results of specific treatment. Mauriac⁷ states that brain-syphilis and progressive paresis differ markedly. The diagnosis between the two can be readily made since—*First*: In the cerebro-spinal syphiloses psychic disorders and the motor incoördinations are never systematized as is the case with progressive paresis. *Second*: That this is one of the prominent characteristics of the cerebro-spinal syphiloses. Fournier claims that brain-syphilis is distinct from progressive paresis, since it has a different mode of onset, evolution and duration, since in it there are frequent partial paralyses and hemiplegia, since it presents a special cachectic appearance and finally, since it readily responds to treatment. ⁸Charcot, ⁹Hanot, ¹⁰Blandford,

1. Irrenfreund. No. 1, 1873.
2. Annales Médico-Psychologiques. Tome. vi. Serie III.
3. Journal of Mental Science. April, 1874.
4. Archiv fuer Psychiatrie. Band II.
5. General Paralysis of the Insane.
6. Paralyse Generale des Alienes, p. 296.
7. Sur les Affections syphilitiques des Centres Nerveux.
8. Gazette des Hospitaux, 1880.
9. Revue des Sciences Médicales. Tome IX.
10. Insanity and its Treatment.

Drysdale,¹ ²Broadbent, ³Albers, ⁴Gros, ⁵Lanceraux, Zambaco, ⁷Lagneau fils, ⁸Concaix, ⁹Hildenbrand, ¹⁰Huebner and ¹¹Baumgarten, express almost the same opinions. Clouston,¹² ¹³Wright, ¹⁴Ford, ¹⁵Read, ¹⁶Schuetzenberger, ¹⁷Bedel, Williams,¹⁸ ¹⁹Brouss, ²⁰Skae and ²¹Mansurrow all agree, that the results of treatment diagnose brain syphilis. For these reasons Fournier, Voisin and the other authorities cited make progressive paresis a distinct affection from the psychosis resulting from syphilis. Against the opinions last quoted I oppose but a single case, which will serve as a basis for an argument, showing that syphilis does produce progressive paresis and that all the alleged criteria of cerebral syphilis are valueless.

A French laborer was admitted to the New York City Asylum for the Insane, at the age of twenty-six. He was luetic and intemperate. On admission he exhibited grandiose delusions. He maintained that he was in possession of vast amounts of real estate, and that he was to grow immensely in stature. His pupils were unequal, tongue tremulous and there was a slight difficulty in articulation. During the first two weeks he was very excitable. He became progressively more and more incoherent and irrelevant in conversation. He shouted at the top of his voice without being moved thereto by

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1. *British Medical Journal*. August, 1880.
 2. *Lancet*. January.
 3. Syphilitischen Gehirnkrankheiten.
 4. Cited by Fournier *op cit*.
 5. *Des Affections Nerveuses Syphilitiques*.
 6. *Des Affections Nerveuses Syphilitiques*.
 7. *These de Paris*, 1862.
 8. *These de Strasbourg*, 1859.
 9. *Traite des Maladies Syphilitiques*.
 10. *Die luetiche Erkrankung der Hirn-Arterien*.
 11. *Archiv der Heilkunde*. Band xvi.
 12. *Journal of Mental Science*, 1875-76.
 13. *Edinburgh Medical Journal*. Volume xvi.
 14. *Journal of Insanity*, 1874-75.
 15. *Syphilitic Nervous Affections*.
 16. *Gazette Médicale de Strasbourg*. March 20, 1850.
 17. *Thèse de Strasbourg*, 1851.
 18. *Journal of Mental Science*, 1869-70.
 19. *Die Hirn-Syphills*.
 20. *Journal of Mental Science*, 1875-76.
 21. *Die tertiäre Syphilis*.

any apparent cause. He was at length removed to the hospital ward in consequence of the motor paresis having become so extreme as to amount to almost complete paraplegia, and his labial tremor was marked. He still retained his delusions more stupidly expressed, and claimed that he was able to lift the Asylum on the top of his little finger, but could hardly enunciate one continuous sentence uninterruptedly. A well-marked convulsive attack was followed by almost complete aphasia. Death took place from exhaustion, following upon a maniacal attack. The most marked mental symptom manifested by this patient was a complete loss of certain recollections. The greater part of his existence, while in France, had become a complete blank to him, he had forgotten altogether that he had been a laborer. A peculiar motor symptom was the only variation from the ordinary course of progressive paresis. It was a passive contracture of the muscles of the neck and left arm; the chin being drawn to the left and backwards, so as to touch the left clavicle; the arm being partly flexed and pronated and carried behind the back. On rousing him he could abandon this constrained position, but gradually relapsed into it afterwards.

Dr. *Spitzka, who made the autopsy and histological examination in the case, made the diagnosis from this symptom of a left optic thalamus affection locating the lesion in the posterior part of that ganglion in accordance with Meynert's diagnosis, from the same symptom, in an epileptic imbecile in whose case the autopsy confirmed the diagnosis. The autopsy was made twelve hours after death. The cerebral dura was adherent to the cranium, and presented a greenish discoloration over the left lobules tuberculi, otherwise it presented nothing abnormal. The dura-mater spinalis was extremely thickened from the point of exit of the first, to that of the fourth cervical pair, exhibiting other evidences of pachymeningitis. The lepto-meninges of the encephalon were thickened

* Somatic Etiology of Insanity.

and infiltrated with young cells but no pus, coagulable lymph or increase of the arachnoid fluid could be determined. A more intense similar process had affected the spinal meninges and a diffuse gummy infiltration, cheesy in its center, involved the parts around the anterior fissure of the spinal medulla, opposite the roots of the third cervical pair and had destroyed the anterior commissure of that district.

The hemispheric cortex was everywhere the seat of various superficial and nodular infiltrations. The nodules varied from microscopic sizes up to half an inch or more; the smaller were spherical and periadventitial with respect to some vascular trunk; the larger were ovoid, their long axis being represented by the stem of a large vessel, being vertical to the cortical superficies. The diffuse infiltration involved the uppermost layer of the cortex, and was chiefly located at the floor of the sulci and especially over the island of Reil, as well as the corresponding inner surfaces of the operculum and temporal lobes.

Where the nodular growths had become larger, they fused with the superficial infiltration giving to the latter an appearance as if it had processes dipping down into the deepest layers. Frequently several nodules, situated on different branches of the same main vessel, fused with each other around the latter, thus resembling a papilloma. The white substance was also affected. The nodules, however, were not so well marked and the transition from the neoplasm to the normal tissue was gradual. Their color varied as also did their consistency; while the smallest were undistinguishable by the naked eye from the surrounding tissue, the medium-sized nodules were quite firm and exhibited a reddish gray or yellowish white center, with a markedly red zone at the periphery. Larger ones showed the same peripheral zone, with a softening of the center, and the last stage of the breaking down process, which terminated the existence of these masses, was represented by cavities of

varying dimensions, some without any sharp boundary and softened walls, others provided with a more or less firm connective tissue capsule. These masses were equally distributed in both hemispheres, but softening had proceeded further on the left side. The right thalamus was entirely free, while the left, although intact in its anterior half, was converted into one mass of anastomosing nodular and tubular infiltrations in its posterior tubercle. The focus of the change was in the lenticular nucleus and the island of Reil. The central extremities of the præcentral gyri, the lobulus tuberis, and the cornu ammonis were affected in a high degree. The left tegmental tract was completely broken down; one large cyst occupied the place of the left olivary body; two smaller ones were situated in its fellow. There were besides several small diffuse, and as a rule, softening nodules in the cerebellar hemispheres, likewise quite symmetrical.

Microscopical examination showed, that the youngest tumors consisted of an accumulation of round mononucleated cells, varying in size from that of a red corpuscle to that of the white. These were seated in the adventitial sheaths of the vessels, and gradually encroached on the perivascular space, obliterated the latter and penetrated into the neighboring neuroglia. Now the neoplasm began to assume distinctive characters; the main body was composed of older elements, which did not imbibe carmine well and stiff coarse fibres; pyramidal nerve cells with intact contours were still to be seen in the very center of the mass. The peripheral zone was composed of young elements of the nature described above, as well as free nuclei, which were rapidly and deeply stained by carmine. Later on, the center of the nodule underwent a degeneration partly mucoid, partly granular. The neoplasm whose periphery exhibited a rich vascularity was determined to be a miliary syphiloma. Had the patient not died from exhaustion, his death would unquestionably have been attributed to the process which destroyed the important centers of

the medulla and tegmentum. The symptom ascribable to the thalamus affection could not be so clearly referred to it after death, for although the part of the thalamus supposed to be affected was involved, there was also a lesion of the left tegmentum and spinal cord; either one of which might have produced the symptom in question.

It will be obvious that in no essential particular did this case differ from progressive paresis. Anti-luetic treatment was used from the first, but without effect. It may be said, that the pathological lesions differed from those of progressive paresis, which is an affection characterized by early vaso-motor disturbance and subsequent encephalitic changes. To this the answer may be made, that progressive paresis may exist without any discernible lesion in its early stages. *Rabeman has found many cases in which this occurred. Spitzka is of like opinion. It is obvious, therefore, that the encephalitic changes are the later consequences of the disease, and this is further shown by the occurrence of remissions in which the patient's normal condition is seemingly restored. Vaso-motor changes are at the basis of this encephalitis, and what could be more potent in the induction of these changes than the direct or irritative influence of gummata in certain localities. This is the opinion of Luys,† who says, that "if as a rule, syphilis marks its passage through the organism by sclerotic productions and gummy tumors it is not impossible that syphilis may reveal itself in certain cases only by a sclerotic hyperplasia to all seeming a simple hyperplasia. I say the thing is not impossible for up to the present the anatomo-diagnostic characters between non-syphilitic and syphilitic sclerosis are not so firmly established as to permit the clinical recognition of a syphilitic type of progressive paresis." The pathological lesions found are no evidence that the case was not one of progressive paresis. The peculiar motor symptom was the result of the location of the lesion not of its

* *Archiv fuer Psychiatrie.* Band iv.

† *Maladies Mentales.*

cause. Wille's criterion of the non-existence of grandiose delusions in brain-syphilis is shown to be of no value. Similar cases with like delusions have been reported by Burlureaux,¹ Rodrigues,² Todd-Thompson,³ Mendel, Zambaco⁴ and others. Is curability a valid criterion? Mueller, a hostile witness denies that it is. ⁵Dreschfield remarks that "In the more chronic syphilo-neuroses where the syphilitic deposit has itself undergone degeneration, changes and established secondary changes in the surrounding nerve matter, treatment, will of necessity, be of little avail," and this is the opinion of most syphilographers. Spitzka⁶ claims that in cases where syphilis can be positively excluded, mercurial treatment is sometimes of value.

The value of dermatoses, etc., as a diagnostic point, is totally destroyed by the fact that syphilis may, from causes already cited, complicate progressive paresis. The other points of diagnosis cited will, it is obvious, depend upon the location rather than the nature of the lesion. It must be obvious, therefore, that, as ⁷Oedmansson, ⁸Falret, ⁹Hammond, ¹⁰Keyes, ¹¹Luys, ¹²Blanche, ¹³Magnan, ¹⁴Jung, ¹⁵Rollert, ¹⁶Simon, ¹⁷Meyer, ¹⁸Arndt, ¹⁹Sauvet, Mendel, Ripping, Jespersen, Spitzka, ²⁰Jewell and other authorities cited, have said, a diagnosis between progressive paresis of syphilitic and non-syphilitic origin is impossible. Taking all these facts into consideration, I think it may safely be

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1. These de Paris, 1874.
 2. Cited by Voisin.
 3. Archives de Medecine. Tome xviii.
 4. Op. cit.
 5. Practitioner, May 1875.
 6. Insanity. Its diagnosis, classification and treatment.
 7. Allgemeine Zeitschrift fuer Psychiatrie. Band xxviii.
 8. Maladies Mentales.
 9. Treatise on Insanity.
 10. Venereal Diseases.
 11. Op. cit.
 12. Cited by Fournier. Op. cit.
 13. Cited by Fournier. Op. cit.
 14. Cited by Snell. Op. cit.
 15. Cited by Mendel. Op. cit.
 16. Gehirnerweichung der Irren.
 17. Allgemeine Zeitschrift fuer Psychiatrie. Band xxx.
 18. Psychiatrie.
 19. Cited by Falret. Op. cit.
 20. Journal of Nervous and Mental Disease, 1880.

concluded that, *First*: From neither a clinical, nor a therapeutical, nor a pathological standpoint, can progressive paresis of non-syphilitic origin be demarcated from that of syphilitic origin. *Second*: That the etiological influence of syphilis in the production of paresis has been over-estimated by some authorities. *Third*: That the value of anti-syphilitic treatment in progressive paresis, will depend upon the stage at which the syphilis is found, and in no case is it necessarily contra-indicated. *Fourth*: That the contradictory statements in regard to syphilis and progressive paresis are due to *doctrinaire* and *a priori* tendencies altogether too prevalent in medicine.

Concealed Insanity.—As Illustrated by Case of Mark Gray.*

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INSANITY is no moral agent—the disordered nutrition of the brain upon which it depends, does not in any way improve the ethical tone of the unfortunate victim. If the patient was inclined to lie or steal or dissimulate before his insanity, he is none the less so inclined after. That insane patients should, therefore, deceive those around them, by concealing their insanity when occasion seems to require it, is not inconsistent with such insanity. That they do it, is within the experience of all, who have had much personal contact with them. The motives which prompt the insane to action are not necessarily different from those which influence the sane. A desire to escape from the confinement of a hospital for the insane, or to avoid the ridicule of those around, or to maintain control of their affairs, is the usual incentive to this concealment. Those who are successful have delusions that are not necessarily manifest in their daily life and conduct.

Instances of concealed insanity are numerous. Ingels† reports a case in which a systematized delusional lunatic concealed his delusions so well, that he was about to be discharged when an accident which excited his emotional nature caused him to give vent to his delusions. In a second case a man, who was guilty of very *bizarre* actions, was twice discharged and twice recommitted in one asylum. On the third admission Dr. Ingels was able to determine, but only after a long conversation, that the patient's actions were from the first based on systematized delusions. But for an accidental emotional explosion,

* Read before the Chicago Medical Society, December 18th 1882.

† Annales et Bulletin de la Société de Médecine de Gaud. August, 1868

these delusions would not have been elicited. In a third case a systematized delusional lunatic had delusions of persecution, but for several years had so conducted his business as to lead every one to regard him as of perfect mental integrity. To his mother he communicated his delusive ideas and she accepted them as true, but ascribed his persecution to sorcery.

Meyer* reports a case in which a man was able to conceal his insanity from his friends, and this insanity was only detected on the explosion of a wild business scheme based on it. Spitzka† cites a case, in which a systematized delusional lunatic was so well able to conceal his insanity, that he was appointed guardian over his insane sister, Blanche‡ reports several cases, in which patients concealed their insanity to avoid being douched and subjected to restraint by Leuret, who attempted to treat insanity by intimidation.

Munro§ had a curious experience of this kind. A patient brought action against him for false imprisonment and underwent a severe cross-examination without revealing any delusion. It was suggested to the Judge (Mansfield) to ask him what has become of the princess with whom he corresponded in cherry juice, and immediately a group of delusions became manifest. The patient indicted Dr. Munro a second time, but could not be led to say a single word on the subject which had led to the failure of his first indictment. Blandford|| says, that patients may deny their delusions for the purpose of regaining liberty. Forbes Winslow¶ states, that Lord Ellenborough expressed in the course of a judicial enquiry his opinion, that a patient had perfectly recovered. The patient was detected speaking in Latin in order to conceal his delusion. Bucknill and Tuke** cite a case in which a patient was able to

* Allgemeine Zeitschrift fuer Psychiatrie. Band xxiii.

† American Journal of Neurology and Psychiatry. August, 1882.

‡ De l'état actuel des aliénés traité par Leuret.

§ Cited by Bucknill and Tuke, Psychological Medicine, p. 477.

|| Insanity and its Treatment, page 361.

¶ Obscure Diseases of the Brain and Mind.

** Op cit.

conceal his delusion in conversation, but revealed it in his correspondence. Hammond* states, that the insane may conceal their delusions for a purpose.

†Haslam states concerning the insane that "they have sometimes such a high degree of control over their minds, that when they have any particular purpose to carry they will affect to renounce their opinions which shall have been judged inconsistent, and it is well known that they have often dissembled their resentment until a favorable opportunity has occurred of gratifying their revenge. Of this restraint, which madmen have sometimes the power of imposing on their opinions, the remark has been so frequent, that those who are immediately about their persons have termed it in their rude phrase, stifling their disorder." Esquirol‡ makes very similar statements. On the other hand, Dr. A. E. Macdonald§ states, that men really insane do not recognize their insanity, and hence do not conceal it. He is however the only physician who has had that experience.

Chicago has recently had two striking illustrations of the same kind in the case of Adelaide Roberts who shot Theo. Weber; she was declared to be insane, was sent to Elgin Hospital, and about two years thereafter released by Judge Rogers under an *habeas corpus* proceeding, and in the case of Mark Gray, the would-be assassin of Edwin Booth, who was declared to be insane, and about two years after was released by Judge Williams, of Quincy, under a similar proceeding.

These learned Judges by a stroke of the pen cured these two cases of insanity, after the accomplished superintendent of the Elgin Hospital for the Insane had expended his resources in that direction for two years in vain. Such presumption is marvelous. Had I taken before either of these Judges a case of phthisis and asked him to relieve the patient by the same process, it would

* Treatise on Insanity.

† Observation on Madness, p. 53.

‡ Maladies Mentales.

§ American Journal of Neurology and Psychiatry. Volume I, p. 120.

have created a doubt, as to my mental soundness, yet insanity is not less a disease than phthisis. The Judges would soon recognize in a most decided manner the exclusive medical relations of insanity should one of their own family become insane. The judgment of Dr. Kilbourne would then be accepted without question. Neither of them would under such circumstances think for one moment, of calling even upon the most exalted judicial officer for assistance or relief. The case of Adelaide Roberts may on some future occasion be made the basis of some reflections on the medico-legal relations of hysteria and hystero-epilepsy.

At present I ask attention to the case of Mark Gray: May 10th, 1879. At an inquest and judgment of the Criminal Court of Cook County, Illinois, Mark Gray was adjudged insane, and committed to the Elgin Hospital for the Insane, into the charge of the superintendent who was commanded to take the body of the said Mark Gray, and keep it in safety in said asylum until he should have fully and permanently recovered from such insanity. The offense which resulted in this judgment, was an attempt to shoot Edwin Booth, the distinguished tragedian, in McVicker's Theater, Chicago. Mark Gray fired two shots from the dress-circle and was in the act of firing a third, when he was seized and immediately placed in the custody of the police.

For a day or two after the event he was morose and reticent. He would answer questions, if at all, only in monosyllables. Afterward he became more communicative and boasted of his wonderful histrionic talent, especially his proficiency in Hamlet, of which he claimed to know every line, and of his ability to render it in a manner much superior to Edwin Booth. His great extravagance in this direction, his excitability, his reticence about the tragedy, the seeming lack of motive for the crime, the fact that Booth had never seen him, led to doubt as to his mental soundness. After a day or two he manifested the delusion which impelled him to the crime. This was

the belief that he was the son of Edwin Booth and as such had by heredity his wonderful histrionic talent. Edwin Booth had abandoned him in his childhood, had deprived him of a suitable education for the development of these talents, had neglected his mother, and in revenge for this, Gray shot at him twice and would have continued firing had he not been arrested. It was at first the opinion of some that there might be a foundation for this belief, notwithstanding its denial by Edwin Booth. Those who entertained this opinion abandoned it when Mrs. Gray made her appearance, a glimpse of her was sufficient to satisfy the most skeptical, more especially as Gray was found to be twenty-eight years old, and it was shown that Mr. Booth had been absent traveling in Australia and elsewhere abroad for two years prior to Gray's birth.

On examination of Gray, three days after the shooting, I found him to be tall and slender with small muscular development. His face was asymmetrical, the muscles of left side differently innervated from those of the right, so that a smile caused quite a marked distortion of the face. There was twitching of the muscles of the right side of the face. The muscles of the right arm and leg were more active than those of the left. He dragged his left foot in walking and kept the right in more or less activity when talking. His pulse was one hundred and ten and feeble. He complained of headache which had continued for months, and of sleeplessness. His tongue was covered with a heavy white fur and was tremulous.

It was established at the trial in the Criminal Court, that Mark Gray's father died of ascites, four months after Marks' conception, which ascites was probably the result of hepatic cirrhosis seemingly a consequence of spirit drinking. This is an interesting and important fact in the record. His father was laboring under an incurable disease of nutrition at the time of his conception. The other children of the family have shown none of Marks' peculiarities. It illustrates the important bearing of the condition of the parents at the time of the conception, upon the

health and welfare of the offspring. I recall a case in which the father had been unfortunate in business, left the city, drank heavily, returned home after some days, not yet over his spree, a child was conceived, and it is to-day the inmate of an hospital for the insane, incurably insane. There are four other children in the family, three older and one younger than this patient; all men and women of robust, mental and physical health. The spree above mentioned is the only one in which the father ever indulged.

The broken down health of Mark Gray's father at the time of his conception, laid the foundation of a weak nervous organization which was the first step in the origin of Mark's insanity. Another interesting feature of the case is that Mark's age at the time of the full development of the insanity was about the same as the age of his father, at the time of his death. The disturbance of nutrition, which by attacking abdominal organs gave rise to dropsy in the father, by attacking the brain gave rise to insanity in the son, and this transfer of morbid action from one organ in the parent to another in the progeny is a fact of common observation. Had the same organs been the seat of disease in the son as in the father, the criminal trial never would have taken place, and the stupidity of the Quincy Judge would not have manifested itself in this direction.

Mark Gray grew up possessed of inordinate conceit and exalted self-feeling and having ideas of grandeur and importance. In early life he became intemperate, a part of the time he drank heavily. In 1876 he stopped drinking excessively, and began to act strangely about his home. He would get up at night and declaim Shakespere the night through. He would keep himself away from the other members of his family, and would sit for hours with his head between his hands. At other times he would strike "stage attitudes" and remain for a long time in these. So peculiar was his conduct, that his mother and sister were much alarmed about him. It was at this time that he

conceived the delusion of his relationship to Edwin Booth. He told me that he heard it frequently whispered as he passed along the street, "there goes the bastard son of Booth." His fellow-clerks in the store tormented him by the same sort of whispering. These were evidently auditory hallucinations.

After a time he determined to have an interview with Mr. Booth, and demand a monetary compensation for the years of imaginary neglect which he had sustained. For this purpose he came to Chicago, April 22, 1879, and went immediately to the theatre to see Mr. Booth, but did not find him there. He went to the theatre again that night. Mr. Booth was playing Richelieu. During this play Gray imagined that Mr. Booth saw him sitting in the gallery and recognized him; made faces at him, called him by name several times, "Mark! Mark!" and made fun of his mother. Gray left the theatre with the resolution to kill Booth, for these insults, the next night. He purchased a pistol the following day, and afterwards secured the seat which he thought would serve his purpose best, in the dress-circle near the stage, and by a study of the play, selected the prison scene as a favorable time for firing the shots. He was arrested, tried and found to be insane as already stated.

At the Elgin Hospital for the Insane his delusion of his relationship to Booth, his delusion of his wonderful histrionic talent and his constant reading and declaiming Shakespere were manifest. December 15, 1879, he importuned Dr. Kilbourne for his discharge as he had often done before. Dr. Kilbourne told him that he was still insane and, as a proof of it, stated that his (Gray's) delusion of being Edwin Booth's son was just as fixed as the day he entered the hospital. The day after this the hospital record shows that Gray gave up reading and declaiming Shakespere, and when spoken to about being the son of Booth, would say that he had given up all idea of such a relationship, that it was a crazy notion of which he had rid himself. He continued then to assert on all occasions, that his delusions had been corrected and

he manifested no interest in Shakespere or theatrical matters, until December 1, 1880.

During this interval of nearly one year, the Board of Trustees had Mark before them three or four times, carefully examined into his mental state, and thought he might be discharged, but Dr. Kilbourne, not being quite satisfied asked them to wait a short time longer. December 1st, 1880, Gray broke out afresh, and the hospital notes show "that he refused to have his hair cut, likes to wear it long, as it looks more stage-like, practises elocution every day in his room, considers himself a great Shakesperian scholar, has talent for the stage much superior to that of his father Booth." He continued thus to manifest his delusions every day. Thus on October 18, 1881 in conversation with Dr Crane, assistant physician of the Hospital, Gray said that Mark Lyon (Gray's father) was Edwin Booth; that his father's brother, Pat Lyon, was Junius Brutus Booth, Jr.; another brother of his father was John Wilkes Booth, and still another, Bryan Lyon, was Joseph Murphy the comedian, whom he believes is a brother of the Booth's. He does not believe that Wilkes Booth is dead. He believes his cousin Mary Lyon, is a daughter of Junius Brutus Booth.

February 5, 1882, he had an interview with the Board of Trustees seeking a release from the hospital. In that interview he was again told that so long as he had the delusions concerning Booth and the stage, he could not be discharged. During this interview he was much excited violent at times, and incoherent in language. He left the room evidently resolved on concealment again, for he ceased from that time to manifest any interest in theatrical matters and laughed at his delusion concerning Booth, so that his attendant, who was employed shortly after this event, and who was quite constantly with him for about eight months, saw at no time any evidence of mental disturbances, but noticed Gray avoided with much effort and with a surprising degree of indifference any reference to theatrical matters.

The *habeas corpus* trial occurred in Quincy. Why in Quincy, two hundred miles from the place of the criminal trial, is a mystery! The trial was conducted as such trials usually are. A dozen people were called by Mark's attorney. Some had known him before; then talked to him for a few minutes about the weather, business, politics, theatres, etc., etc., and all with one accord testified, that they had found no evidence of insanity about him. This purely negative evidence would release from custody nine-tenths of the patients of any hospital for the insane. Four persons who were announced as physicians were called by Gray's attorney. One, a veterinary surgeon, who felt quite confident of Gray's complete restoration. One, a retired clergyman, who had attended one course of lectures in a medical school, who, to his credit be it said, testified that if the patient had deceived the hospital authorities as to his insanity for one year, it is quite probable that he might be doing it now, and he would hesitate therefore in aiding Gray's discharge. One was a young M. D., son of the retired clergyman, before mentioned, fresh from a medical college, who will probably be wiser when he is older, and the fourth was a physician of fine attainments with that familiarity of insanity which the country practitioner has. He testified that while he saw no evidence of insanity in Gray, yet he would not advise his discharge against the judgment of Dr. Kilbourne. In addition an attendant who came to the hospital about one month after Mark began to conceal his delusions, the last time, testified, that he had daily intercourse with him and had observed no evidence of insanity, but was surprised at the pertinacity with which he avoided all conversation upon theatrical matters, the attendant being much interested in such things.

Mark testified in his own behalf and his testimony was a surprise to the newspaper reporters and the people about the court room. The average individual looks upon insanity as a complete loss of reasoning powers, as something which must be violent and striking in its demonstrations.

I have repeatedly taken visitors through the Insane Hospital of which I was the superintendent, and when every ward had been visited have them ask me to show them the lunatics. To one familiar with insanity, and the history of this case, Mark's own testimony was sufficient to show that the disease was not eradicated. He manifested by his manner and by his talk, the self-adulation which had been a part of his insanity. He indulged in that denunciation of the Hospital authorities, which is usual in such cases. He pronounced judgment on the assistant physician, Dr. Crane, now in private practice in New York, to the effect that *he* was crazy, "crazier than witness was." Dr. Kilbourne, one of the most successful superintendents in the west, a thoroughly scientific physician, was to him vile and despicable. He accused Dr. Kilbourne of taunting him with the story of his birth; of abusing him so maliciously and acting in his visits to him so like a crazy man, that after he went out the attendant told him he ought to have knocked Dr. Kilbourne down. I have often, as has every superintendent of an insane hospital, heard precisely such abuse from this class of patients. It is a remarkable fact, that patients who leave the hospital cured, always have pleasant recollections of those who cared for them in their affliction. This unwarranted abuse of Drs. Kilbourne and Crane would be sufficient to establish Gray's insanity were there no other evidences of it. Gray told the story of his life and of the great tragedy he tried to enact, with a smile on his lips and with many efforts at jocularities; when these jokes provoked laughter in the hangers-on of the Court, Gray seemed particularly happy. He told with evident delight of the way he had fooled all the asylum authorities for one year; that Dr. Kilbourne had told him he could not be discharged until he had given up his delusions; that he then resolved to conceal them; that he was successful in deceiving his ward attendant, Dr. Crane, and the Board of Trustees, and after playing the game, as he expressed it, for a year, he gave it up. The learned judge, at this

part of Mark's testimony, asked him: "If you admit that you did practice this deception for one year, how shall I know that you are not doing it now?" Mark, after a long hesitation, answered: "I don't know," and in a very tragic attitude, rising from his chair, appealed to God to witness that he was not fooling now. On behalf of the hospital, Mr. J. S. Miller, the attorney, first presented the record of Mark's hospital life: an abstract taken from the daily reports of his various attendants, showing the presence of his delusions; the concealment of them for one year; the subsequent reappearance of them in the same form, and the concealment beginning in February, 1882. Dr. Kilbourne testifies to the same effect, and stated in strong and positive language his belief that Mark Gray was still insane. Dr. W. A. Byrd, one of the leading surgeons of Quincy, after hearing all the testimony, and after a careful personal study of Gray, testified that he was then insane. Dr. Byrd dwelt upon the evidence of neurosis, as shown in asymmetry of the face, in unequal action of the muscles of the two sides, in the twitching of the facial muscles, and those of the shoulder and hand.

My testimony, and that of Mr. Rice, a deputy sheriff of Cook Co., who had taken Mark to the hospital, and had frequently seen him there and knew of his concealed delusion, was to the same effect. Judge Williams then rendered his opinion, releasing Gray from restraint. I shall not waste time with a review of this opinion, but simply state that it shows a profound ignorance of the law governing the organization of our hospital for the Insane, of the general medico-legal relations of insanity.

Of course there could be no doubt that the relator was insane, if there had been any doubt, his subsequent history placed it beyond question.. He wrote a letter four weeks ago to Mr. John W. Norton, of the Grand Opera House, St Louis, in which he proposed to star Hamlet in small towns; still later to the Keokuk correspondent of the Chicago Tribune he said: "It is my

intention to make arrangements to star with a company on the road. The notoriety I have achieved during the last few years, and my great resemblance to Booth would draw crowded houses. I resemble Mr. Booth in every particular except the eyes; his are deeply sympathetic, mine the most brilliant. Of course my going on the stage will hurt Booth," and much more talk of the same character. The resemblance to Mr. Booth is an insane fancy.

This case suggests the necessity of taking this matter of discharging criminal lunatics out of the power of the judiciary. It should be placed in the hands of those who have given some personal attention and study to insanity. Those who recognize the fact that insanity can be concealed, and the further important fact that the homicidal impulse may lie dormant for years, and then manifest itself in its former fury. Hadfield, whose case is quoted in every book on medical jurisprudence, who was released by the eloquence of Erskine, from the responsibility for his act of firing at George III., in Drury Lane Theatre, remained in the Bethel Hospital for the Insane for years before he showed any other homicidal impulse, and then he made a murderous assault upon a keeper for whom he had always manifested the greatest regard. In Illinois, this important matter could with safety be confided to the State Board of Public Charities.

[NOTE.—I am very much indebted to Dr. Jas. G. Kieran for citations of authorities found in this paper.]

SELECTIONS.

CLINICAL PSYCHIATRY.

THE "PHOBIAS" AND THE "SCHWINDELS."—Erlenmeyer in reviewing Benedict's article on Agoraphobia in *Erlenmeyer's Practical Encyclopedia of the Medical Sciences* thus remarks: "The article by Benedict is written in 49 lines, in it not a single name of any author is mentioned. The term *Platzangst* does not appear. He gives no resumé of literature of the subject. *Afman*, we conclude that not a word has been published on this subject and that there does not exist any other imaginable explanation of this in treating symptoms than that given by the author. It is not necessary that I should inform the reader of the true state of the case.

"I find only the well known but unique view of Benedict here reproduced and everything else written on the subject is ignored.

"Agoraphobia, more properly *Platsschwindel*, is a special form of *Rumschwindel* and in contradistinction to *Hochenschwindel* (giddiness produced by height or depth) is a feeling of giddiness produced by contemplation of horizontal expanse. The disease consists in this, that the patients wherever they go from a narrow space into a larger one are overcome with a feeling of dread which commences with a disturbance of the general and muscular sensation, and they have a feeling as if they must fall. *Platsschwindel* is not a real phobia, *i. e.*—a dread called forth by intense exhaustion representative—over-exhaustion—but it belongs to the organic conditions of dread, that are called forth by insufficient discharge of function in the organs without consciousness of the fact. An important etiological point in connection with *Platsschwindel* is *taenia*, that ever living opprobrium of exact diagnosis. The disease is undoubtedly dependent upon function. The prognosis is generally favorable. The treatment is to be especially directed to the etiological factor, and before all things, the reaction and dependence upon *taenia* is to be considered. The most important symptomatic treatment is the galvanic. In a neuropathic patient I have seen macrocephalus.

"I do not know what the views of the editor are or whether he will in a future number publish an article entitled *Platzangst*, and I would also *prima facie* consider such a division improper. But now, however, I would recommend that the term *Platzangst* be used in order that all the omissions and mistakes of this article on agoraphobia may be discovered and remedied.

EYE LESIONS OF PROGRESSIVE PARESIS.—Charles Dutugue (*L'Encephale*, January, 1883) claims that in the first stage of general paralysis there is always irregularity of the pupils, papillary congestion, retinal, arterial and varicose dilation. In the second stage the lesions are more marked with the addition of decided papillary and peripapillary œdema. The disk is often obscured or masked by œdema, proportionate in extent to the duration of the disease. In the last stage, the papilla is small, flat and gray in color; the vessels which normally give it a pink tint, having disappeared from the optic atrophy. Atrophy of the choroid, retinal hæmorrhages, and granulations of the retina and choroid also occur. Duterque (*Annales Medico Psychologiques*, September, 1882) makes almost identical claims. These results are but an extension of those of Clifford Albutt ("*Ophthalmoscope in Nervous Disease.*") C. Albridge (*West Riding Asylum Reports*, Volumes I. and II). Monti ("*De L'Ophthalmoscope dans les Maladies Mentales*"), and Spitzka (*Journal of Nervous and Mental Disease*, 1877, page 270) have, however, found cases in which eye lesions are absent.

THE PULSE AMONG THE INSANE.—Dr. F. M. Turnbull (*Boston Medical and Surgical Journal*, May 18th, 1883) after extended sphygmographic researches comes to the following conclusions on this subject: (1.) That no typical tracing has yet been found in general paralysis, and that the tracings called "maniacal" are inconstant in acute mania. (2.) That the tracing of pyrexia, so called, may be produced by other causes than fever. (3.) That oscillation is at least a very inconstant element in the tracings of cerebral or cerebro-spinal disorder, and that when present it is probably due to muscular or tendinous tremor when no cause can be found other than nervous or mental. (4.) That the sphygmograph is of little or no use as an aid to the differential diagnosis between the types of insanity, and that its indications may be the same in a temporary functional disturbances of the circula-

tion as they are in serious organic disease of the brain and nervous system. Claus' results (*Allgemeine Zeitschrift fuer Psychiatrie*, Band xxxix., Heft 9) corroborate these conclusions in a general way.

INSANITY AND ADDISON'S DISEASE.—Dr. Jas. D. Munson (*Detroit Lancet*, April, 1883) has reported three cases of insanity co-existing with Addison's disease. In two cases the relation he claims was etiological; in the third coincidental. The type presented was that of depression and suspicion.

NEURO-THERAPY.

THE ADMINISTRATION OF CHLORAL.—At a meeting of the Paris Société de Chirurgie on October 11th (*L'Union Médicale*), M. Nicaise communicated a case of a patient then under his care, in which chloral administered in relatively small doses brought on very serious symptoms which obliged him to suspend its use. The case was that of a man, aged 37, the third toe of whose left foot had been crushed. He continued to work during ten days. On the tenth day, a surgeon, wishing to put the wound in order, removed the nail of the crushed toe. From that day the patient began to suffer; and on the 14th September, fifteen days after the accident, tetanic symptoms commenced by dysphagia, and went on to trismus, stiffness of the muscles of the neck, and opisthotonos. On the 21st of September the patient came into M. Nicaise's wards. The wound of the toe was then almost completely cicatrised and entirely free from pain, which indicated the absence of any foreign body in the tissues. Tetanus was very slightly marked, although there was opisthotonos and trismus, allowing slight separation of the jaws. From time to time, though rarely, general shocks affected the whole body, accompanied by slight pain in the region of the injured toe. During five days, M. Nicaise submitted the patient to the use of vapor-baths and of opium in large doses; but seeing that the tetanic symptoms did not improve, he prescribed four grammes (a drachm) of chloral to be given in three doses at intervals of two hours. As this dose produced no effect, the next day the dose of chloral was raised to six grammes. Symptoms of extreme excitement appeared, and were fol-

lowed by almost complete resolution of the contracted muscles. M. Nicaise then thought it right, on the following days, to reduce the dose of chloral to four grammes. The condition of the patient remained the same during some days; then, on the 3rd October, there was an aggravation following a chill, caused by the opening of a window near the patients bed. The dose of chloral was then raised to five grammes in a draught, besides two grammes as an enema; seven grammes being thus given during the day. The enema having been expelled almost immediately after its administration, there was really little or no chloral absorbed by that method, and the entire amount of the drug taken during the whole day may be estimated at about five grammes. However, the patient soon afterwards fell into a peculiar, comatose condition, not answering to any questions addressed to him, and having become insensible to any kind of stimulation. M. Nicaise, attributing this condition to the action of the chloral, immediately stopped its administration, and by degrees the coma disappeared and the patient awoke. The man completely recovered. M. Nicaise thought it well to call attention to the effects of poisoning by chloral, which showed themselves when that medicine had been taken in a dose of only five grammes. He believes that chloral should be given carefully, beginning by small doses, and only increasing them progressively. The action of chloral is of short duration; but if the dose be repeated, more than three or four grammes at a time should not be given.—*London Medical Record*.

CAPSICUM ENEMATA IN OPIUM POISONING.—By Jas. G. Kiernan, M. D., Chicago, Ill. In the suggestion of capsicum enemata I can claim originality, but not priority.

“Dr. Charles H. Hughes was the first to use capsicum enemata in a case of opium poisoning. A patient had taken opium with suicidal intent, and Dr. Hughes being called in consultation by Drs. Røemer, Hypes and others, after the usual routine remedies had been used, ordered an enema of one drachm each of aqua ammonia and tincture of capsicum, using coffee for a vehicle. The patient rapidly rallied and recovered.

“During the year 1881, I was called to a case which gave the following history: A patient suffering from the insomnia of a prolonged debauch purchased two ounces of laudanum, one of which he swallowed. Within half an hour he sunk into a deep slumber. A physician was

then called who evacuated the stomach by means of the stomach-pump, relieving the patient of about half the laudanum taken.

This physician found that despite the use of strong coffee and constant movement the patient did not improve. Dr. J. S. Jewell was then called in consultation, who advised the use of atropine. Under all these varied means of treatment there were temporary rallies, but after six hours of constant treatment the patient seemed to sink into and remain in a very deep coma. At this stage of affairs I was called in consultation, and having some faith in the old idea of a derivative action, ordered three drachms of tincture of capsicum to be poured directly into the rectum. The effect was almost magical. The patient walked around rather briskly, talked freely, and in about an hour was in his usual condition, other than being much exhausted and complaining of great dryness of the throat, obviously the result of the atropine.

In a second case a five year old child obtained possession of a bottle of laudanum belonging to its father who was a victim of gastric cancer, and in consequence an opium habitue. From the bottle the child drank approximatively about a teaspoonful. Atropine, emetics, the stomach-pump and the galvanic battery were tried with temporary success. But the influence of the laudanum manifested itself in a gradually increasing coma. Remembering my former experience I ordered an equal quantity of tincture of capsicum to be poured into the rectum. The result was a slower but equally permanent success. The child for some time after suffered from inflammation of the rectum, from which it made a slow recovery. From the case narrated by Dr. Hughes, and the two just cited, it would seem that this measure would be at least a good addendum to other means of treatment. Dr. Hughes claims to have had equally good results from capsicum enemata in chloral poisoning. Hypodermic injections of strychnia being used in addition."—*Med. Weekly*.

EXCITATION OF VASCULAR NERVE-CENTERS by the summation of electrical stimuli. Kronecker and Nicolaidis have examined the influence of successive stimuli upon the vaso-motor system, in order to see if the vascular nerve-centers obey the laws which have been established in this regard for the reflex movements of the limbs. They find a general agreement. Single induction shocks applied to

vaso-motor centers in the medulla or spinal cord have no influence upon arterial pressure. Moderately strong stimuli first begin to act by summation when they follow at no greater intervals than half a second. Increasing the rate of stimulation increases the effect up to a rate of from twenty to thirty per second; increase of rate beyond this has no effect. Keeping the rate quite slow and constant, but increasing the intensity of the stimuli, increases the effect, but never so much as quickening the rate. The maximum of blood pressure can be obtained either with powerful shocks at 1-10-1-12" intervals, or moderately powerful induction shocks at 1-20-1-25" intervals. It takes longer to attain the maximum with slow, powerful stimuli, than with weaker, but more rapid; also with slow stimulation the absolute number which must be given before the maximum result is attained is greater. The conclusion is therefore reached, that the cells of the vascular nerve-centers agree essentially with the proper motor cells of the spinal cord in having an adherent tendency (in the dog) to vibrate at a rate of about twenty times a second—(*De Bois' Archiv.* 1883.)

HYOSCYAMIA IN PSYCHIATRY.—Dr. T. Browne (*British Medical Journal*, November 25, 1882) finds that his observations show the uncertainty of hyosciamine when given by the mouth, and the danger of large doses. Also the marked superiority of the hypodermic method, and the confidence with which, in some cases, its efforts could be calculated on, and the dose increased or diminished in accordance with the violence of the patient. Hyoscyamine is a drug which is often capable of controlling the violence of a furious maniac, and checking the torrent of rushing ideas on which he is borne along, soothing without putting him to sleep, and differing in these respects from morphia or chloral. In noisy and destructive paretics, the quiet air of comfort and repose following a moderate dose was such a contrast with the previous condition, as to strongly impress every one with the feeling that, by the introduction of hyoscyamine, another valuable aid has been secured in the care and treatment of such cases. No curative action can be claimed for the drug; it only moderates or checks for a time the violence, and, perhaps renders less vivid and overwhelming the delusional whirlwind of the frantic patient. Richter (*Neurologische Centralblatt*, July, 1882) in a general way confirms these results of Browne.

A CASE OF POISONING by citrate of caffeine has just been reported to the Medical Society of London. The drug had been prescribed in drachm doses three times a day for severe headache in a man under treatment for debility. Bishop's effervescent preparation was intended, but the pure drug was used. Fifty minutes after taking one powder he complained of burning in the throat, and giddiness; there was vomiting and purging with pain in the belly. He then became almost paralyzed, and was affected with tremors, but his intellect was clear. Dr. Routh found him an hour later collapsed; pulse about 120. Ipecacuanha was given as an emetic, but failing to act, some animal charcoal, with nitrite of amyl and ether were given. Vomiting subsequently took place, and ammonia, alcohol and nitro glycerine were given. For some hours he remained much depressed, and did not rally completely till 1.30 a. m. next day, or nine hours after taking the caffeine. Nitro-glycerine in one minim doses was given every two hours, with digitalis, and in about three days he recovered to his former state.—*Louisville Medical News.*

DIABETES INSIPIDUS AND CENTRAL NERVE LESION.—Flatten (*Arch. f. Psych.*) reports the case of a young man who sustained a severe injury of the neck and occiput, left side, causing temporary loss of consciousness, variable diplopia and impaired hearing at the other side. Almost immediately polydipsia and polyuria set in, and later, boils made their appearance. When seen by Flatten, the patient had paralysis of the left sixth and partial paralysis of the right. Sounds were only conveyed by the solid parts of that side. There was neither sugar nor albumen in the urine, of which he passed twelve *litres* a day. Flatten diagnosed a lesion directly under the left sixth, extending across and involving the right. Iodide of potassium and mercurial ointment relieved the polyuria. The demonstrated seat of the initial lesion in this and other cases of traumatic diabetes, confirm the propriety of Althaus and others, galvanizing the occipital region. The successful result of occipital galvanization too, in non-traumatic diabetes, are confirmatory of this conjectural pathology of diabetes.

THERAPEUTIC USE OF THE MAGNET.—Dr. D. L. Barraquer (*Gaceta Medico Catalana*, Aug. 15, 1882) reports two cases in which marked relief followed the application of the magnet. The first case was cerebral hemorrhage

with consecutive hemiplegia. The hemorrhage had occurred three years previously. One application was followed by visible improvement, and after four sances the forearm and finger could be fully extended. The second case was a boy suffering from deafness, due to middle-ear disease secondary to measles. Galvanism had been employed eight times with the effect of increasing the hearing distance from 0 to 1 foot. The magnet was tried, and, after a half hour's sitting, the hearing distance was increased to three feet. At the fifth seance the watch could be distinctly heard at a distance of fifteen feet.

THERAPEUTIC VALUE OF NITRO-GLYCERINE.—At a recent séance of the Société de Therapeutique, this subject came under discussion. M. Huchard had experimented with a one per cent. alcoholic solution, in the dose of from one to six drops. After from four to six minutes there supervened cephalalgia, vertigo, a sensation of fullness in the head, ringing in the ears, and amblyopia. At the same time there was marked congestion of the face, acceleration of the cardiac movements, with dicrotism of the pulse, which became stronger and more rapid. * * * *

M. Huchard uses the following solution:

℞. Sol. nitro-glycerine (1 %), 30 drops.
Aquæ destill. 300 grams.

M. Dose. A dessertspoonful three times a day.

In the discussion which followed M. Huchard's communication, the general opinion of the Society seemed to be against the medicament, as one of the great and dangerous powers, whose therapeutic effects were not as yet sufficiently investigated.—*Brinton's Medical and Surgical Reporter*.

SILVER IN LOMOTOR ATAXIA.—Dr. H. C. Tweedy, Dublin, Ireland, (*British Medical Journal*, April 7th, 1883) reports the case of a pensioner aged 64, who was admitted into Steevens's Hospital in 1871. He was persistently treated with silver nitrate in one-third-of-a-grain doses three times daily, the use of the drug at intervals continued for nearly twelve years, during which time he was again in hospital during the years 1873, 1876, and 1882. The ataxic symptoms had completely disappeared, but the silver having been taken, the patient had become argyrised. Eulenburg, Mering, Senator and Schultz have also had seemingly good results from silver nitrate and glycocholate in locomotor ataxia.

CONIIN.—Dr. Fliess (*Dubois-Reymond's Archiv.*, 1882) claims concerning this drug, that it paralyzes first the peripheral ends of motor nerves; later the center. It excites the inhibitory apparatus. The convulsions seen in warm-blooded animals do not appear in frogs, on account of the paralysis of the motor nerves. The frequency of the breathing is first increased and then diminished. The pulse-rate after small doses is also diminished. Coniin, conducted through the heart does not affect the cardiac muscle.

ACTUAL CAUTERY IN NEURALGIA.—Dr. A. C. Post (*Medical Record*, November 11, 1882) has recently reported a case of anterior crural neuralgia of three years standing in a fifty-year-old man, in which the actual cautery was applied along the course of the nerve, from the groin nearly to the knee, and also upon the leg at a few points where it was painful. Thorp's multiple cautery, having six points, was used, and it was applied at eighteen different places, making in all, one hundred and eight minute punctures. Eight days after the operation, relief was complete.

CARBON BISULPHIDE IN NEURALGIA.—Dr. A. M. Stout, Sussex, Wis. (*Medical News*, February 17th, 1883) finds that the external application of carbon bisulphide is of great value in neuralgia. It, however, fails at times and stains the flesh more or less permanently. It at first causes a marked tingling and even severe pain when applied. It is very probable that it acts on the counter-irritant rather than the anæsthetic principle. Cautiously used it may have good effect in intractable neuralgia. It causes death by direct paralysis of the respiratory centers.

AMANILA MUSCARIA IN NEGATIVE LYPEMANIA.—Dr. Carlo Bareggi (*Archivio per le Malattie Nervose*, F. IV., 1882) p. 219) has been experimenting with this fungus in the treatment of forms of insanity attended by negative depression. His results were not at all decisive of anything. The drug appeared to be allied to belladonna in some respect, and from his description, might be of value in acute mania, but was decidedly not indicated in the conditions in which he gave it.

NERVE-STRETCHING AND TEMPERATURE.—Dr. Redard, (*Progres Medical*, February 3rd, 1883) has shown by aid of the thermo-electric calorimeter that stretching of a

sciatic nerve of one side lowers very markedly the temperature of that side, and this usually lasts for months. The unstretched side has its temperature lowered but very slightly, and for a brief period, all of which tends to show that the influence of nerve-stretching extends to the central nervous system.

GOLD BROMIDE IN EPILEPSY.—Gold Bromide has been used in epilepsy during the past year by Dr. Bourneville (*Progres Medical*, February 3d, 1883). He began with a very feeble dose, one sixty-fourth of a grain, and increased until the patient was taking one sixth of a grain a day. The physiological effects of the drug were not observed and the therapeutical effects were not at all marked, the drug appearing to exercise a very minimal effect on epilepsy.

TONGA, IN NEURALGIA OF THE FACE.—Dr. T. H. Streets, U. S. N., (Proceedings of the Naval Medical Society, Vol. 1, No. 2, 1883) reports sixteen cases in which tonga given in one drachm doses, at intervals of two hours, exerted a markedly beneficial influence on facial neuralgia.

NICOTINE IN TETANUS.—Erlenmeyer (*Progr s Medical*, April 14, 1883) claims to have obtained good results from the use of nicotine hypodermically in tetanus. The formula used was: \mathcal{R} . Nicotine gr. 1-10, aquæ dist. ʒ 11; of this one-fifth should be used at each injection.

INDIAN HEMP IN EPILEPSY.—F. D. Hayman (*Lancet*, January 27, 1883) reports that he has had excellent results from the use of Indian hemp tincture in epilepsy. The doses given were ten minims, gradually increased to half a drachm.

THE CURE of a case of "Rebellious Neuralgia" of the median nerve by stretching is reported in the October number of *La Press Medical Belge*, by M. Leon Le Fort.

CLINICAL NEUROLOGY.

VARIOLA AND VACCINATION IN INSANITY.—Dr. Calastri (*Archivio Italiano per la Malattie Nervoso*, 1873) reported sixty-one cases of insanity attacked by variola of which fourteen recovered from this psychosis; eight improved;

twenty-eight were unaffected and eleven died of variola. He suggested that in order to discover whether the beneficial effect of variola was due to the disease itself, or to the prolonged supuration, patients should be vaccinated and the effect noted. Judging from other cases cited by Sponholz, the febrile disturbance and not the prolonged suppurations was the chief influence. Dr. Madigan (*Gaillard's Medical Journal*, February 24, 1883) has found that the effects of vaccination on the insane were of four kinds. In some cases it had a beneficial effect, in some a disastrous effect; in some cases serious complications resulted, and in certain cases dermic phenomena of a peculiar type occurred. A favorable influence was exerted on, acute, atonic and agitated melancholia, progressive paresis, primary monomania, secondary monomania, and chronic mania with incoherence. In all cases where such influence was exerted, high temperature and a pretty general eruption resembling variola occurred. The progressive paretics were seemingly improved by the boils, which resulted after vaccination. The primary monomaniacs and chronic maniacs with incoherence, improved during the vaccinal fever. Three cases of melancholia recovered after the vaccination, the recovery commencing during the vaccinal fever. It would seem, therefore, from Madigan's results, that both the prolonged suppuration and the febrile disturbance played a part in the production of improvement.

LOCALIZED CORTICAL ATROPHY, SECONDARY TO AN EXTREMITY AMPUTATION.—Bourdon (*Progrès Medical*, May, 19, 1883) reports the case of a seventy-three-year-old man who had been subjected, at the age of thirty-three, to a disarticulation of the left arm. The man died at the age mentioned, in thirty-six hours, from meningo-encephalitis. Until then he had not had any cerebral affection, but his left leg became progressively paretic. There was found on autopsy in the right cerebral hemisphere, a notable effacement of the superior part of the ascending frontal convolution. The same effacement was noticeable on the paracentral lobule and crest of the hemisphere. The lateral ventricle of the same side was much increased in size, above all, about the affected convolution which denoted an extended atrophy of the subjacent white substance. The neighboring corpus striatum presented a depression in the center, and the optic thalamus was slightly flattened in a vertical direction. Sections of the pons

and medulla showed a deviation to the right, and that the nerve substance of this side was much atrophied. The right hemisphere weighed an ounce more than the left. This, with six other cases collected by Dr. Bourdon, seems to show that amputation is followed by functional inactivity and secondary atrophy of the superior part of the motor zone of the cerebral cortex. The present case seems to show, in addition, that this atrophy may extend to the central parts of the brain and to the medulla. The paresis of the leg was a result of the extension of the atrophy, in Dr. Bourdon's opinion.

TRANSIENT ALBUMINURIA AS IT OCCURS, PARTICULARLY IN CHILDREN AND ADOLESCENTS, IN APPARENT HEALTH—The occurrence of transient albuminuria is a subject which has often claimed the attention of observers and pathologists and is one of much importance. Cases are reported by many observers and different theories have been advanced to account for this phenomenon.

One considers it due to changes in the walls of the vessels, another maintains that it is the function of albumen to nourish the epithelium and when the vessels are denuded of their epithelial coat, their supply of albumen appears in the urine. A third theory is that the epithelium when present prevents filtration, when absent the albumen is allowed to pass through.

Still another theory accounts for it by attributing it to vaso-motor disturbance of the kidney, producing slowing of the blood current in the glomeruli. But what is the cause of the vaso-motor disturbance.

From a careful analysis of my own and other cases, I am led to believe this cause to consist in the presence in the blood of unoxidized-nitrogenous matter, in other words, temporary oxaluria or lithæmia.

A similar albuminuria follows epileptic attacks and exophthalmic goitre. It is more frequent in children and adolescents on account of their greater mobility and susceptibility. It is often observed in active brain workers—*N. Y. Acad. of Science*, Dec. 15th, 1882.

A NEW TROPHONEUROSIS OF THE SKIN IN TABETICS—Dr. D. Ballet and Dutil (*Progrès Medical*, May 19, 1883) come to the following conclusions respecting trophic dermic changes. First: There are to be noticed trophic dermic changes of a permanent nature among tabetics. Second: These differ in their appearance and their evolu-

tions from any hitherto described. The cutaneous eruptions (herpes, etc.), the ecchymoses and the pedal perforating ulcer itself are but expressions of temporary fleeting conditions. The ichthyoid condition of the skin is on the other hand a dystrophy of slow evolution and of progressive nature which belongs to the same category as the osseous changes. Third: This dystrophy finds expression in a sort of thickening of the skin with more or less marked discoloration, laxity of the tegumentary portion, desquamation of the epithelium, the remains of which collect in the form of scales. Fourth: The points of the body where this trophic change is most noticeable are those where anæsthesias or hyperæsthesias or sensations of cold, etc., have been noticed. The extremities, particularly the arms, seem to be most frequently attacked: the back of the hand takes on, at times, a pellagroid appearance. Fifth: The fall of the nails and the other changes to which attention has been called by Joffroy, Pitres, Roques, Dorneaux, Turon, seem to be an expression of this dystrophy.

SEXUAL PERVERSION.—Drs. J. C. Shaw and G. N. Ferris (*Journal of Nervous and Mental Disease*, April, 1883) state that they have been unable to find any case of this kind reported in American literature. It is obvious, however, that their search cannot have been very extensive, for a correspondent of the *Medical Record*, March 19, 1881, described a typical case of this kind. Dr. E. C. Spitzka, (*Chicago Medical Review*, Volume IV., page 378) also reported a case, as also did Dr. G. Alder Blumer (*American Journal of Insanity*, July, 1882) and Dr. P. M. Wise (*ALIENIST AND NEUROLOGIST*, January, 1883.) The case reported by Dr. Shaw is as follows: The patient, a man aged thirty-five, felt a constant desire to embrace men, and when in the presence of men is sexually excited. Natural sexual intercourse is repugnant. No details of family history or physical appearance of value are given.

ARTHROPATHIES IN PROGRESSIVE PARESIS.—Charcot (*Archives de Physiologie*, Tome I) called attention to the existence of arthropathies of trophic origin in cerebral disease. Kiernan (*Journal of Nervous and Mental Disease*, April, 1878) reported fifteen cases of progressive paresis in which arthropathies of the nature of those observed by Ball and J. K. Mitchell were found. Nine of these were cases of locomotor ataxia, terminating in

paresis. Dr. J. C. Shaw, (*Archives of Medicine*, April, 1883) reports three cases of progressive paresis where arthropathies were found. One of these was a case of locomotor ataxia terminating in progressive paresis. The femur was involved in one case; the fingers in another, and the lower jaw in the third.

ANATOMY AND PHYSIOLOGY.

CEREBRAL COLOR CENTER—Samelsohn (*Centralblatt fuer die med. Wiss.* p. 581, 1882, says that the existence of a cerebral color center turns upon the question whether there are cases of double-sided hemianopsia, in whom the sense for space and light is perfectly intact, while on the respective half-fields of vision the color sense is totally extinguished, Steffen (*Græfe's Archiv*, Band xxvii., Heft I, p. 6,) has found such a case, and says one similar case is a clear proof that in the brain, the space center and the color center are divided and there is a special center for each of these senses. Samelsohn had a case exactly like Steffen's where, in consequence of an apoplectic seizure, the sense of space and light was perfectly intact, but where the color sense was utterly extinguished. He would have published this case before Steffen's article only he had hoped to supplement it by a post-mortem. Under treatment absorption was established, all the symptoms disappeared, and then a second seizure due to an enormous effusion, rapidly resulted in death; leaving the brain in a condition in which finding this center was out of the question. Bjernum (*Hospitals Tidende*, January 18, 1882) reports an additional case in which the patient had total color-blindness in the left half of the field. The margin passed precisely through point of fixation, in a vertical direction. There was an acute brain trouble; at least, the patient complained of a severe headache, and died suddenly. There was no autopsy. Brill (*Journal of Neurology and Psychiatry*, 1882, p. 366), reports a case, supplemented by an autopsy, from which he concludes that the appreciation of color in the intellectual sphere is partly located in the calcarine fissure and its neighborhood. Brill cites a case reported by *Boys de Louy* of fracture of the base of the skull resulting in subsequent hemianopsia and loss of color sense; also a case by Cohen in which cerebral concussion resulted in a loss of color sense and limitation of the visual field and a case of Förster of a syphilitic patient with hemianopsia

accompanied by slight cerebral symptoms, from which he recovered with a limitation of the perception of red in the previously hemianopic field. Schneller (*Graefe's Archiv*, Band xxviii., Heft 8) from a like case to that reported by Brill which was supplemented by an autopsy, comes to very similar conclusions.

THE OPTIC NERVE.—Ganser after a series of experiments on cats (*Archiv fuer Psych.*, Bd. xiii., p. 341), comes to the conclusions that the non-decussating fibres of the optic tract form a distinct bundle, which runs along the lateral border of the optic chiasma and nerve. In confirmation of this view, he cites the case of an epileptic, in whose brain a thin band of fibres was seen to separate itself from the right optic tract a little in front of the corpora geniculata, pass forward on the ventral surface of the tract to the lateral border of the chiasma and afterwards become incorporated with the nerve. This is in direct opposition to Kellerman's view which denies that fasciculus lateralis exists, and asserts that all fibres intermingle in the chiasma. Ganser analyses Kellerman's case and declares it unsatisfactory and indecisive. The non-decussating fibres are distributed to the temporal half of the retina, the decussating to the nasal half and to parts of the temporal half. The area centralis seems to be supplied by both kinds of fibres. After destruction of the decussating fibres of the optic chiasma, there is atrophy of the nerve-fibre layer, and of the ganglion-cell layer in the nasal portion of each retina. Removal of the posterior parts of the left cerebral hemispheres of new-born cats caused homonymous right hemianopsia. When the animals being killed nine months afterwards, there was atrophy of the left optic tracts less extensive in the left optic nerve than in the right. The decussating fibres are evidently developed more largely than the non-decussating. The nerve-fibre layers were thinner on the left side of each retina; there was a homonymous left-side atrophy of the layers. Ganser concludes with some observations on the anatomy of the corpus bigeminum arterius.

STRUCTURE OF THE SPINAL CORD.—Dr. Laura (*Archives Italiennes de Biologie*, tome 1, fasc. 2, April, 1882) observes that the acquisition of the medullary sheath is the distinctive character of all processes from nerve-cells that become nerves. He has endeavored to trace these processes or nerve-fibres from their cells to their ultimate distribution,

more particularly with reference to the cells of the anterior cornua, of the Stilling's nucleus, of Clark's posterior column, and of the posterior cornua. He concludes that 1. The cells of the anterior cornua send their nerve-processes, in the greater number of instances, into the anterior nerve-roots. 2. Fibres from different points of both of the anterior and posterior cornua contribute to the formation of the anterior commissure. 3. The cells of the nucleus of Stilling (posterior column of Clarke) supply nervous prologations which pass at first inwards, then after a long course in the same direction fold backwards, and go to form a large bundle passing into the lateral column. 4. The lateral column receives fibres from different points of both anterior and posterior cornua. 5. The cells of the posterior cornua furnish processes which pass in various directions: *a.* into the anterior commissure; *b.* directly to the anterior roots; *c.* into the lateral columns; *d.* into the posterior columns; *e.* across the middle line behind the central canal into the opposite cornu. 6. Cells are found in the cord which send nerve-processes in opposite directions, and act intermediately in the change of direction of the fibres.

ACTION OF THE VAGUS.—Dr. Rosenthal (*Centralblatt fuer die medizinischen Wissenschaften*, No. 22, 1882) concludes that, *First*: There are in the vagus certain fibres probably pulmonary, the stimulation of which acts on the respiratory center to cause more frequent and weaker respirations or, with a stronger stimulation, complete cessation of respiration in moderate inspiration. These he terms "regulating fibres." *Second*: The superior laryngeal nerve contains fibres, the stimulation of which causes less frequent and deeper respirations or with a stronger stimulation entirely checks them. These he calls "inhibitory nerves" of the respiratory center, analogous to the inhibitory nerves of the heart. *Third*: The inferior laryngeal nerve contains fibres, the stimulation of which also arrests respiration in the stage of expiration; but which cannot be the same as the last mentioned, their action ceases when the stimulation is very strong when the animal is narcotized, and when the cerebrum is removed. They probably act like other sensory nerves, only indirectly on the respiratory centers. *Fourth*: Chloral hydrate in large doses completely destroys the action of the regulatory fibres, but leaves the inhibitory fibres unaffected.

EXTERNAL ACOUSTIC NUCLEUS AND RESTIFORM BODY.—Monakow (*Neurologisches Centralblatt*, No 21, 1882,) divided the left half of the spinal cord immediately below the decussation of the pyramids in a rabbit on the day of its birth. Six months afterwards the brain was examined, and the following changes found; atrophy of left lateral columns of the medulla; partial atrophy of the left formatio reticularis; atrophy of the lateral cerebellar tract; atrophy of left funiculus cuneatus and its nucleus; atrophy of the external acoustic nucleus; partial atrophy of the left corpus restiforme (inner side); partial atrophy of cortex of upper vermiform process. No change in the auditory roots, ascending trigeminus root, or inner part of cerebellar peduncle. Hence the author concludes that the external acoustic nucleus is in relation with spinal fibres, and not with the auditory nerve nor the cerebral peduncle: that the funiculus cuneatus passes partially through the corpus restiforme; that the lateral cerebellar columns terminate in the superior vermiform process.

NERVE-ENDINGS IN THE EPIDERMIS.—That all the cutaneous nerves do not stop at the epidermis has long been well known. It was first demonstrated that in the lower animals many nervous filaments penetrated the epidermis, where they terminate in club-shaped extremities. The same was afterward shown to be the case in man. Pfitzner describes ("Morphol. Jahrb.," Bd. vii, p. 726) nerves in the epidermis of the larvæ of the frog and salamander, at a certain period of development, that terminated after penetrating the cell-wall of each prickle cell, with small bulbous extremities near the nucleus. Every cell contained two terminal filaments. He found the same to exist in the epidermis of the human subject. Unna has recently ("Monatsch. f. prakt. Dermatol.," Oct., 1882) corroborated Pfitzner's results. A striking feature is the invariable association in every cell of pairs of the terminal bulbs. They do not appear to be branches of one twig, but usually approach the cell from different directions.

ELECTRO-PHYSIOLOGY OF HUMAN NERVES.—Drs. D. Watteville and Waller (*British Medical Journal*, August 12, 1882) come to the following conclusions on this subject. 1. There is increased excitability in the portion of the nerve submitted to cathodic influence, diminished excitability in that submitted to anodic influence. 2. With sufficient strength of polarizing current, the catelectrotonic region

appears to invade the anelectrotonic region. 3. On opening the polarizing current the diminished excitability of the anodic region passes at once into a state of augmented excitability. The augmented excitability in the cathodic region makes way to a well-marked diminution, gradually followed by a protracted increase of excitability.

RAPIDITY OF NERVE FORCE.—Réné (*Gazette des Hôpitaux* No. 46, 1882) has found the rates of the transmission of nerve-force, in man, as a mean, to be twenty metres per second. The rapidity of nerve-force in nerves, either sensory or motor, exhibits considerable difference, according to the individual, the procedure, the region excited, or even in the same individual. The rate of transmission increases with the intensity of the excitation, especially in sensory nerves. In motor nerves, when the excitation becomes strong, the rapidity diminishes. In locomotor ataxia there is a considerable retardation in the transmission of nerve-force. In the beginning of progressive paresis the rate is more rapid than normal.

ON THE REFLEXES IN CHILDHOOD.—Eulenburg (*Neurologisches Centralblatt*, May, 1882) has been studying the reflexes among 124 children. He has found the knee-jerk wanting, in seven cases on both sides and in three cases on one side only. Eulenburg claims that the frequent absence of tendinous opposed to the constancy of mucous and cutaneous reflexes is not exactly an argument in favor of the reflex nature of the former.

EDITORIAL.

Apropos of recent Insane Asylum Investigations, it is strange that more credence should be attached by courts to the testimony of outsiders respecting the sanity of persons whom the latter have but casually seen since their commitment to the asylum, than to the opinions of disinterested asylum physicians, who are only interested in depleting rather than in overfilling their already overcrowded wards.

It is strange that the public will insist on cheap management of these charities with consequent underpaid and numerically insufficient attendants, and then complain of the dear bought experience in brutality displayed by cheap nurses and through inadequate surveillance. The surest safeguard against brutality to the insane in public asylums is in the qualities of head and heart possessed by the attendants; but educated and refined men and women, with tender hearts and the power over self that comes of good training, are not always among those who take service in asylums at from fourteen to twenty-five dollars per month.

It is strange also that there are any asylum superintendents who will entrust to nurses discretion in the administration of narcotics or baths for therapeutic purposes. Every patient in an asylum for the insane who receives a bath, hot or cold, electrical or medicated, should be passed upon by a medical officer on the day the bath is to be given.

The practice of ducking a patient for purpose of punishment is never justifiable, and if ever thought proper as a calmative of excitement, it should never be relegated to any other person than a medical officer willing to take responsibility for consequences.

There is a great deal of human nature in attendants upon the insane and the most successful superintendent in securing kind treatment of his patients by them, is he who is most suspicious and vigilant.

The more ignorant an attendant is, the more self-conceited and opinionated he is likely to be, as regards what is best for controlling the mental excitement and actions of the insane.

There are also paroxysms of insane violence in action to suppress which, in many cases, were cruelty to the patients and detrimental. The motor excitation may be only a normal expression and often is, of morbid intellection, the indulgence of which to satiety brings a sense of mental relief and rest along with the normal fatigue of satisfied physical action, and long needed sleep to the irritated brain sometimes comes in this way, better than through narcotics.

It seems also most strange, that Governors or Boards of Managers will appoint, and statutes make the appointment valid, of medical men to "skillfully" care for our wives, parents, children and friends, who have neither experience nor capacity to properly treat the insane and then hold them responsible for capacity (not exacted) in the management of the most exalted and sacred charge ever entrusted to the care of a physician.

The majority of our asylums for the insane have at the present time excellent medical heads, but this is owing to the fact that the institutions have either learned by experience that every physician without discrimination can not manage and treat the insane properly, or because in many localities the members of the profession are too honest to undertake such a charge without special qualification. Still there yet remain too many asylum managements that look upon the proper care of the insane as within the skill of almost any ordinary physician. A greater mistake could not and can not be made (so long as reputable medical schools continue to graduate physicians as all the schools of the past generation did, without teaching them anything of psychiatry), than to take physicians indiscriminately from the ranks of the profession and place them in charge of Insane Hospitals.

As Others See Us.—The ALIENIST AND NEUROLOGIST for January, 1883, contains a brief but adequate *resume* of our knowledge concerning Myxodema, translated from the Italian of Dr. Seppilli by Dr. Workman of Toronto. This is followed by an interesting record of the cure of a case of the opium habit, presented in the letters of the patient. The treatment was carried out by the patient himself at a distance of several hundred miles from his physician; and with a courageous and manly persistence which are nowhere common, but which are very rare indeed among the devotees of opium and alcohol. Dr. Albert Blodgett has a dolorous article in which he shows that nearly every circumstance of our advancing civilization tends ever more and more to deteriorate the race of man into a race of neurotics, lunatics and drunkards. These cheering reasonings are pursued to their logical result,—the necessity of providing more asylums, and

enacting more rigorous laws in order to fill them. To this desirable arrangement there is one objection which appears to us fatal. If "every potential homicide and suicide" is to be locked up, who is to be left outside to turn the key? Would not Dr. Blodgett find it rather lonely? Or does he mean to come inside with the rest of us, and send for the inhabitant of some other planet to lock us in? Dr. Pliny Earle contributes another of his dispiriting articles on the curability of insanity, which are all the less welcome since we can find no flaw in his reasonings, and are compelled *volens volens* to accept his conclusions. He shows unanswerably that the percentage of cures of insanity has been factitiously raised by the inclusion of many cases which have returned again and again to asylums, and on each fresh discharge have been recorded as cured. When every allowance and deduction has been made, however, he still admits an average of more than twenty per cent., which is, after all, not so very discouraging. It should here be stated that the statistical tables of English asylums will in future distinguish between the number of recovered *cases* and the number of recovered *persons*, and also, as far as possible, between recoveries from a first attack and from a subsequent attack. The records of cases by Dr. Mickle and Dr. Wise are of interest, as are the articles of Dr. Hughes on Cephalic and Spinal Electrizations, and of Dr. Danillo (St. Petersburg) on Female Diseases among the Insane.

THE ALIENIST AND NEUROLOGIST. October, 1882. The number of this quarterly journal now under notice sustains the high character of the previous issues. The first article is another of those accounts, of which so many have been published lately by American physicians, of the nature and working of the lunacy laws, and the methods of treating the insane, established in this country. The second article is an account of a very interesting case of so-called "moral insanity," related by the mother of the patient. It appears transparently evident from the account given, that the intellect of this patient was greatly disordered, and the term "moral insanity," is therefore more than usually inapplicable. Apart, however, from hypothesis, the facts of the case are very valuable. Reports of several other cases follow, the editor observing what appears a somewhat inconvenient practice of interspersing reports of cases among the original articles. The most important of the cases is that of an experimental trial by Dr. H. A. Hutchinson of the effect of a quarter of a grain of hyoseyamine on himself. Briefly put, the effect was to throw Dr. Hutchinson into a state of profound coma, lasting eleven hours, to the great danger of his life. Such an experience is certainly unusual, but it renders necessary the greatest caution in beginning the administration of this powerful drug, since it is impossible to tell beforehand how far a particular individual may be specially obnoxious to its effects. The preparations of the drug appear to differ more in strength than, considering its enormous price, might be reasonably expected. Two articles upon Guiteau show that that well-worn subject is not yet exhausted, but they indicate by their dignified, calm, and dispassionate tone that the violent and unseemingly feelings that raged round the miserable being while he lived, are at length giving way to a more philosophic temper. "Katatonia"—which is the name given by Kahlbaum to a rather vaguely characterized form of insanity—forms the

subject of a long article by Dr. James Kiernan, and is followed by a very full and detailed report of the annual meeting of the Association of Medical Superintendents of American Asylums. The book concludes with an excellent *resume* of the additions to our knowledge during the preceding quarter. We beg to acknowledge very cordially the courteous terms in which this journal is referred to by the ALIENIST AND NEUROLOGIST — *London Medical Times and Gazette. January, 1883.*

Cortical Sensory Discharging Lesions. — Sensory Epilepsy is a term proposed by McLane Hamilton in a late article in the *New York Medical Journal*, for those epileptoid displays obviously beginning in the sensory region of the cortex, as attested by the precursory phenomena, and terminating short of the convulsive movements of *le grande mal*.

The term is a good one for differentiation since the morbid condition described has a real existence and is undoubtedly a degree or form of epilepsy.

He takes issue with Hammond who holds (*Archives of Medicine*. August, 1880, art. "Thalamic Epilepsy") that the sensory disturbance is due to a lesion in the thalamus opticus, believing that the origin of the disease is in the cortex cerebri.

The paper will be read by all interested in the protean phases of epileptic display. The psycho-sensory and the psycho-motor epilepsia and the pure psychical forms are no less interesting than those described by the author. That epilepsia has its starting point in different portions of the cortex is manifest in the initial auræ which Dr. Hamilton discusses so well in this interesting brochure. The precursory shriek so often heard, is doubtless a reflex response to painful sensory impression, obliterated in the immediately sequent unconsciousness of the *grande mal*; the automatic act of tasting which often precedes the immediately following unconsciousness, is likewise, probably a sensory impression, just as the starting off on a run, points to the motor regions of the cortex, in certain cases, and these forms are sometimes observable without unconsciousness, as the visual, aural and tactile hallucinations are. They are all initial auræ and the morbid action sometimes may and does go no further.

"Many are Called but few are Chosen" grinly said an eminent Dean of a Medical College as he proceeded to award, in the name of the faculty, the diplomas of an old and well-known medical school, to the diminished number of graduates under the new system of graded-

three year-obligatory study in lieu of the usual larger number which, in former years annually went out from its halls authorized to practice medicine.

It will be a happy day for legitimate medicine in this country when fewer are even called as well as chosen, of the kind that make up the average physician of the day. To gain that standing to which the science and art of medicine are entitled, there will have to be less of mediocrity and more of special fitness for the practice of the profession. The enormous annual swarm of barely-viable medical embryos prematurely born, had better be aborted at matriculation, before the ambitious conception of a future career in physic has taken definite form, than in the green room, when hopes are maturing only to be blasted.

The career of a physician is one of great mental labor requiring strength of mind and talent for high success. The mediocre thousands who annually recruit our ranks dilute and lessen the rewards of the meritorious few, and have a tendency to deter the greatly capacitated, of discriminating judgment, from entering upon a career in which great fortune and fame so rarely reward the persistent efforts of the ambitious and deserving, as in the overcrowded ranks of medicine.

Colleges that nip unfounded medical aspirations in the bud should be encouraged for the good they are doing to the profession at large and to the young aspirant who goes into medicine blindly.

Personal Liberty and Jury Trials for Insanity.

As a means of preserving certain supposititious rights of the insane, the jury trial system of commitments to asylums has been loudly applauded and has been held up to reverence as a sure means of preventing infringements on personal liberty. This at best is but a very weak argument for a system which makes private misfortune the sport of a scandal-loving public, but even this justification of a bad system is wanting, for it furnishes the most potent means of infringing on personal liberty since it puts practically unlimited power into the hands of unscrupulous politicians, as witness a case which recently occurred in Chicago: The bailiff in charge had been persuading the Judge for several days to allow him to impanel a jury and take them to the house of the defendant, and he finally consented, so when the jury returned all they had to do was to go through the form of hearing the evidence—there were only two witnesses—and make up their verdict. In this

there was nothing but a seeming evidence of commendable humanity on the part of the bailiff but he, instead of going out and selecting a jury from the body of the people, as the law requires, simply stepped down to the sheriff's office and picked up his men, for the jury was composed of two of the sheriff's custodians, one of his clerks, one of the janitors of the building, and one county employé, and the other juror had been summoned at his own solicitation. The fanatical reformers of Illinois have, it is obvious, accomplished their object of preventing the medical profession from committing lunatics by giving third rate venal politicians full power to pronounce any one insane at their own sweet will.

Simulation of Insanity.—The case of Michael Trimbar.—Trimbar was with two or three other young men convicted in one of the Philadelphia courts of a heinous outrage on a young woman, and committed for fifteen years to a penitentiary which was crowded, rendering it necessary to put him and one of his associates in crime in the same cell. Up to the last these two were apparently on good terms with each other. March 7th, 1872, Trimbar killed Webb, his room-mate, and assigned as a reason that he abused his mother, but that they had had no quarrel. He thereafter pretended ignorance of the sun and was noisy during the night, which noise ceased on being deprived of privileges. Dr. Ray detected a wild incoherence of a clearly insane character.

He found that Trimbar's mother had noticed evidences of insanity long before the murder, and had so stated to the jail officials. Trimbar became at length so demonstrably insane, that a trial was an absurdity. Dr. Ray concludes that Trimbar at the time of the homicide was really insane. *Second*: That apprehending the consequences of the act he concluded to simulate the disease of which he was the unconscious subject. *Third*: Finding it produced no impression, or that his powers of deception were unequal to the task, he abandoned the attempt after one or two trials.

Hypnotism.—Dr. D. H. Tuke (*Journal of Mental Science*, April, 1883) comes to the following conclusions respecting hypnotism. *First*: There may be consciousness during the state of hypnotism and it may pass slowly or completely into complete unconsciousness; the manifestations not being dependent upon the presence or

absence of consciousness which is merely an epiphenomenon. *Second*: Voluntary control over the thoughts and actions is suspended. *Third*: The reflex action therefore of the cerebral cortex to suggestions from without, so long as any channel of communication is open, comes into play. *Fourth*: When consciousness is retained, the preception of this reflex or automatic cerebral action conveys the impression that there are two egos. *Fifth*: Some of the mental manifestations as memory, may be exalted, and there may be very vivid hallucinations and delusions. *Sixth*: Unconscious reflex mimicry may be the only mental phenomenon present, the subject copying minutely everything said or done by the person with whom he is *en rapport*. *Seventh*: Impressions from without may be blocked at different points of the encephalon according to the areas affected, and the completeness with which they are hypnotised; thus an impression or suggestion whether by gesture or word or muscular stimulus may take the round of the basal ganglia, or may pass to the cortex, and having reached the cortex may excite edeation and reflex muscular action with or without consciousness, and wholly independent of the will. *Eighth*: There may be in different states of hypnotism exaltation or depression of sensation and the special senses.

Guiteau Mania.—Some time ago, the *British Medical Journal* having reached, by some method peculiar to itself, the conclusion that Guiteau was a sane man, and expressed itself on the subject to its entire satisfaction, attempted to forestall further discussion of Guiteau by applying the term "Guiteau Mania" to the disposition it had discovered among medical men to be unsatisfied with its singular psychiatric dicta and to take an opposite view of the executed lunatic's mental status. Its attempt at scientific intimidation has not deterred seekers after truth from analyzing the psychical character of the late lunatic, and reaching such conclusions as the facts warrant, nor has it obscured the editor's lack of real psychiatric experience, so plainly apparent to the discerning, in the peculiar propositions which the aforesaid journal propounded at the time, as tests of sanity.

The *B. M. J.* will doubtless be pained to see this deplorable form of mania increasing, since Guiteau paid the forfeit demanded by the maddened populace, notwithstanding its lucid criteria of sanity, and timely efforts to restrain the Guiteau maniacs (!) from displaying their singular mania (!)

for finding insanity of speech and conduct in a case which the *B. M. J.*, the courts and the populace have disposed off in a manner so satisfactory, summary and final.

Other Channels of Audition.—Dr. James C. L. Carson, in the *British Medical Journal* for May, referring to the case of a patient who was so thoroughly deaf that he could not hear any spoken sound whatever or the firing of a cannon coming to his ears though the ear could hear the sound of a mouse running on the floor, suggests the explanation that the nervous of hearing was double, being adapted for hearing through the air and body both. Drs. Abercrombie, Alison and Bell saw this case and thought it unique. Dr. Carson found nothing wrong with the ears. The peculiar impressibilities to contain sounds in deaf persons, deserve further investigation. Besides, those deaf persons, who can hear conversation when a great noise is made about them, there are many who can hear special sounds. A patient was under our care for incomplete hemiplegia and the phenomena of Bell's paralysis on the left side, with total deafness to communicated sounds, can detect the sounds of muscular contractions made by the muscles of the face and arm and can hear a sound plainly when an eight cell-current goes through the ear. A twelve to eighteen cell-current she describes as awful. Certain deaf persons do actually "feel sound" (as they express themselves) by vibration, though other channels of nerve communication than the auditory nerve mechanism proper. That enterprising medical weekly, the *Medical Surgical Reporter*, of Philadelphia, edited by Dr. Brinton, has thought proper to reproduce in its pages the case of Horshaw, detailed by Dr. Carson, and this will serve to keep attention to this important subject.

The London Medical Times and Gazette indicates its appreciation of neurological literature as an essential part of general medical knowledge and places us under renewed obligations by the favorable opinion it continues to hold and express of the contents and work of this JOURNAL.

Our readers who are not already subscribers to this live English medical weekly will find it a valuable addition to their libraries. Dr. Wm. Julius Mickle whose valuable contributions to cerebro-neural pathology are familiar to the readers of the *ALIENIST AND NEUROLOGIST*, is a frequent contributor to the *Times and Gazette*.

The original clinical department is always interesting, some of the best medical men of "The mother country" being familiar contributors to the *Times and Gazette*.

Our English readers in the Canadas and other provinces as well as in the islands of Great Britain will find the editorial and news departments of the *Times* of special interest to them. But we presume but few Englishmen in the profession need be reminded of this, for they probably all take the *Times and Gazette*.

Trephining in a Syphilitic.—Perrin (*Progrès Médical*, June 16, 1883,) reports the case of a syphilitic who had a syphilitic exostosis, and who in 1878 manifested hesitancy in speech and right hemiparesis. In 1854 he had been shot in the head, from which time dated an irregular, but obstinate headache. In 1865 he contracted syphilis, was treated for this, but the headache persisted. In 1869 Nelaton removed five sequestra from the center of the frontal bone in which a fistula had persisted since the wound of 1854 to 1870. During the siege of Paris the headache grew worse, but improved little by little under antiluetic treatment. In 1878 his character changed; he became bad tempered, suspicious and very excitable. His memory was irregular and the articulation difficult. At this time he came under Dr. Perrin's observation, who recognized in the center of the forehead a thickened spot with a minute aperture. Mercurial and potassium iodide frictions were without effect. The patient was trephined at this point, without affecting the dura-mater, and a piece of bone, a centimetre in thickness, removed. The most marked symptoms were relieved at the end of a month, but returned in three months and then yielded to antiluetic treatment. The patient at present is in good mental and physical health. Dr. Perrin believes that the presence of this exostosis prevented the medicinal treatment from having its due effect. The discussion of the paper led to the expression of similar opinions by Despres, Championière, Horteloup, See and Trelat. Horteloup held the opinion that certain cerebral lesions of syphilis were a secondary result of lues, and did not respond to mercurial treatment. The same opinion was expressed in the last number of the *ALIENIST and NEUROLOGIST*. Championière was of opinion that cerebral syphilis was progressive.

Insanity in Hysterical Women.—Dr. J. Marion Sims (*American Psychological Journal*, April, 1883) reports several cases in which gynecological operations had a

seemingly beneficial effect on hysterical women who were insane. Full histories are not given, but the majority of the cases seem to be hysterical insane patients whose insanity depended on teratological defect and on whom any surgical procedure would have a temporary beneficial effect from its influence on the imagination. Some of the cases cited were cured by slitting up the cervix, who will be again cured a few years hence by sewing it up. In contrast with the wonderful results obtained by the gynecologists is the experience of Ripping, who has never seen a case of insanity of reflex origin from the sexual organs. A little of the conservatism exhibited by Ripping and Danillo would be of considerable benefit to certain gynecologists.

Sensitive Cardiac Nerves.—Frank (*Progrès Médical*, June 16, 1883,) recently demonstrated the existence (really not a new discovery) of a cardiac sensibility apparatus, Section of Cyon's nerve dilates, as is well known, the peripheral vessels and relaxes the number and energy of the cardiac beats. With the aid of this apparatus the heart may to a certain extent regulate its own work, and not dispense a greater quantity of force than normal. It can diminish its activity and its task. The role of Cyon's nerve stops there. The other apparatus has the opposite powers. It contracts the vessels of the periphery, and accelerates the contractions of the myocardium. On cutting Cyon's nerve it suffices to touch the ventricular endocardium to produce a manifest acceleration of the cardiac beat, and contract the smaller peripheral vessels.

Dr. Clouston's Gospel of Fatness.—There is a therapeutic orthodoxy in Dr. Clouston's late sermon on fatness which we heartily commend. Though there is neither piety nor poesy in it, it is very appropriate for a lunatic asylum: "All acute mental diseases tend to thinness of body, and, therefore, all foods and all medicines and all treatments that fatten are good." And this is a good saying worthy of all acceptance by all doctors for insane, but there are exceptional cases where fat deposition is at the expense of restoration of nutrition to the nervous system. Some persons increase in flesh and in nerve instability at the same time.

The Annales Medico-Psychologiques, for March, 1883, contains a synopsis of the original articles which appeared in *THE ALIENIST AND NEUROLOGIST* for the year

1880, and speaks in high terms of it. The articles are not only given in abstract, but short criticisms are appended and show the estimate which is placed upon our home productions, which is on the whole very flattering to our contributors.

One of our collaborators was to have furnished our readers with an epitome of the contents of this valuable psychological journal, but he failed, much to our regret, to perform his promise.

The new Antipyretic Kairn or methylhydrate of oxyquinoline ($C_{10}H_{13}NO$, being, like quinine, a derivative of quinoline.) Prof. Filehne gives from thirty to fifty centigrammes (in a fever of medium intensity) every hour, or hour and a half, the temperature, after the third or fourth dose, descends to the normal or even lower, accompanied by profuse sweating, which soon ceases if the temperature be maintained at the normal, by new doses. During the apyrexia the patients experience a marked sense of comfort, the pulse recovering its normal frequency. To maintain this state, the medicine has to be continued in one gramme doses every two hours and a half. Dr. Hallopeau, from the few trials which he has made of this substance, confirms Prof. Filehne's statement. Its action is certain and powerful.

The New England Medical Monthly manifests signs of increasing prosperity and popular favor with the profession, in the increasing interest of the matter in its pages, and in the increased number of contributors, whose names appear in late issues.

Announcements of new Medical Colleges are coming upon us too fast and too "numerously" for our space. We have no room except in our obituary pages and we should be pleased to place some of them there in our next issue.

The Reply to Dr. Elwell by Dr. James H. McBride of the Hospital for the Insane at Wauwatosa, Wisconsin, came too late for this number, but will appear in October.

The usual number of hospital reports and some monograph reprints from excellent sources, are unavoidably omitted from this number.

PROCEEDINGS OF SOCIETIES.

THE ASSOCIATION OF SUPERINTENDENTS OF AMERICAN INSTITUTIONS FOR THE INSANE held its Thirty-seventh Annual Meeting at the Ocean House, Newport, R. I., June 26, 1883. Dr. J. H. Callender, presiding.

The following gentlemen were present :

Jos. Draper, M. D.,	Theo. W. Fisher, M. D.,	W. B. Goldsmith, M. D.,
J. P. Brown, M. D.,	John W. Sawyer, M. D.,	A. M. Shew, M. D.,
C. H. Nichols, M. D.,	T. M. Franklin, M. D.,	J. P. Gray, M. D.,
J. B. Chapin, M. D.,	J. B. Andrews, M. D.,	J. Z. Gerhard, M. D.,
S. S. Schultz, M. D.,	R. H. Chase, M. D.,	John Curwen, M. D.,
W. W. Godding, M. D.,	W. T. Bland, M. D.,	J. H. Callender, M. D.,
R. H. Gale, M. D.,	G. C. Palmer, M. D.,	H. M. Hurd, M. D.,
J. C. Rogers, M. D.,	G. C. Catlett, M. D.,	J. T. Steeves, M. D.,
F. E. Roy, M. D.,	Charles J. Hill, M. D.,	Ira Russell, M. D.,
D. Clark, M. D.,	W. E. Metcalf, M. D.,	G. H. Hill, M. D.,
O. Everts, M. D.,	E. Cowles, M. D.,	W. B. Hallock, M. D.,
A. E. Macdonald, M. D.		

Dr. Gray introduced to the Association Dr. H. R. Storer, President of the Newport Medical Society; Dr. Foster Pratt, one of the Trustees of the Asylum for the Insane at Kalamazoo, Mich., and Mr. D. A. Ogden, Trustee of the Willard Asylum, New York, and also the editors of the medical press of Newport.

On motion of Dr. Gray it was

RESOLVED, That the Medical Profession of Newport and vicinity, and also the Medical Officers of the Army and Navy in this vicinity, be invited to attend the meetings of the Association.

The Secretary stated that he had been requested by Dr. Kirkbride to present his kindest regards to the members of the Association, and his regret that he was unable to attend the meeting. The Secretary also read a letter from Dr. Eastman, stating he had resigned his position as superintendent of the Hospital for the Insane, at Topeka, Kansas.

The President then announced the Standing Committees:

To Nominate Officers: Drs. Hurd, Gale and Andrews.

To Audit the Accounts of the Treasurer: Drs. Steeves, Bland and Chase.

On the Time and Place of Next Meeting: Drs. Shaw, Catlett and Roy.

On Resolutions: Drs. Nichols, Everts and Gray.

Dr. Hurd, from the Committee to Nominate Officers, reported the names of Dr. J. P. Gray, of New York, for President, and Dr. Pliny Earle, of Massachusetts, for Vice-President.

The report was unanimously adopted.

Dr. Callender then read his address, as President, reviewing in a brief, but very able manner, the works of the Association, during the past forty years. At the conclusion of the address he introduced the newly elected President, Dr. John P. Gray, who after a few fitting remarks, assumed the chair.

On motion of Drs. Gale and Nichols it was

RESOLVED, That this Association return its thanks to Dr. Callender for the able and eloquent composition of its work, and of its principles touching the current questions of the rights and treatment of the insane, and respectfully request of him permission to publish such a number of copies of the address, as the members of the Association shall collectively desire.

RESOLVED, That the Secretary of the Association be authorized to have the address published in accordance with the foregoing resolution.

The Secretary presented a large number of invitations from various societies and individuals, which were accepted and referred to the Business Committee.

Dr. Curwen offered the following resolution, which was, at his motion, referred to the Committee on Time and Place of Next Meeting:

RESOLVED, That the Association hold its next annual meeting in Philadelphia, on the third Tuesday of October, 1884, the fortieth anniversary of its organization, and that the Committee on Time and Place of Next Meeting be requested to prepare a programme of exercises for that meeting, with Addresses on the various subjects connected with the specialty, setting forth the progress which has been made during the last forty years.

The Secretary then reported the order of business for the session of each day.

On motion, adjourned to 4 P. M.

The Association was called to order at 4 P. M. by Dr. Gray, President.

Dr. Gray introduced to the Association, Rev. Mr. S. C. Willard, Secretary of the Board of Trustees of the Hospital at Middletown, Conn.

The President then called for reports from the several committees appointed last year. No report was made by the Committee on Necrology, and none by the Committee on Cerebro-Spinal Physiology, on account of affliction in the family of the chairman, who had arranged with the other members to write the report. Dr. Clark had a very excellent report from the Committee of Cerebro-Spinal Pathology. Dr. Gale read a report on the action of certain medicines in the treatment of different forms of insanity. The other members of the same Committee were unable to be present at this session, but will all present reports.

Dr. Steeves, from the Committee to Audit the Accounts of the Treasurer, reported that they had found them correct.

Dr. Callender, after a few appropriate remarks on the death of Dr. C. A. Walker, moved that Dr. Theo. W. Fisher be appointed a Committee to prepare a memorial of Dr. Walker, to be read at this meeting, which was agreed to.

WEDNESDAY, June 27th, 1883.

The Secretary read a letter from Dr. W. Channing, expressing his regret that he could not attend this meeting.

On motion of Dr. Curwen it was

RESOLVED. That a Committee on the Treatment of Insanity be added to the Standing Committees.

RESOLVED. That letters testimonial as delegate from this Association to the Medico-Psychological Society of Paris and also the British Medico-Psychological Association be given to Dr. J. E. Roy.

Dr. Rogers then read a paper on the "Therapeutics of Insanity."

Dr. Godding read the report from the Committee on the Bibliography of Insanity.

The Chairman reported that he had not been able to prepare a report on the relation of eccentric diseases to insanity, but a paper was read by Dr. W. B. Goldsmith, entitled: "A case of Moral Insanity, following a Severe Attack of Scarlatina, accompanied with Convulsions of some Continuance."

No report was made by the Committee on Asylum Location, Construction and Sanitation, as neither member of the Committee was able to be present.

Dr. Gray presented to the Association Dr. A. G. Watson, of Newport, R. I.

The members of the Association spent the afternoon from 4 P. M. in a yacht-sail on the Harbor by invitation of the Newport Medical Society, visiting and inspecting the U. S. training-ship "New Hampshire" and the Newport Asylum for the Poor.

THURSDAY, JUNE 28th, 1883,

The Association was called to order at 10 A. M. by the President.

The Secretary read a letter from Dr. R. S. Dewey, expressing his regret at his inability to attend this meeting.

Dr. Gale related the successful results of a case of ovariectomy.

Dr. Gray introduced to the Association Mr. George Gerdon King, of Newport, one of the Trustees of the Redwood Library.

Dr. Everts then read the report of the Committee on Criminal Responsibility of the Insane, and Dr. Chapin then read a paper on "Public Complaints against Asylums for the Insane, and Commitments to them."

Dr. Curwen introduced to the Association Mr. A. C. Barstow, President of the Board of Trustees of Butler Hospital.

On motion it was resolved to hold a session at 8 P. M., to which hour the Association then adjourned.

At 4 P. M. the members attended a reception at the Redwood Library and Athenæum.

The Association was called to order at 8:30 P. M., by Dr. Callender, in the absence of the President.

Dr. Fisher then read a biographical memoir of Dr. C. A. Walker, deceased, which was on motion ordered to be entered on the minutes.

Dr. Draper then read a paper on "The Responsibility of the Insane Outside of Asylums."

Dr. Andrews then read a paper containing a case illustrative of the criminal responsibility of the non-insane.

The Committee on Time and Place of Next Meeting reported in favor of Philadelphia, on the second Tuesday of May, 1884 (and indicated several subjects for addresses, with the names of the gentlemen to prepare them.)

On motion of Dr. Hurd, the President was requested to appoint the usual Standing Committees.

On motion of Dr. Macdonald it was

RESOLVED, That where the subjects for Addresses selected for next year are identical with subjects assigned to the Standing Committees, the President be requested to appoint the gentlemen selected, to deliver such Addresses, or such Standing Committees.

On motion of Dr. Macdonald it was

RESOLVED, That the title "Criminal Responsibility of the Insane" for one of the Committees be changed to "Medico-Legal Relations of the Insane."

FRIDAY, June 29th, 1883.

Dr. Godding read a paper on "The Rights of the Insane in Hospitals."

Dr. Hurd read a paper on "The Minor Treatment of Insane Patients."

The President introduced to the Association Messrs. Gammell and Brownell, Trustees of the Butler Hospital. On motion of Dr. Andrews it was

RESOLVED, That a Committee on the "Treatment of Insanity" be added to the Standing Committees.

The President then announced the Standing Committees, as follows:

1.—*On Annual Necrology of the Association*: Drs. Fisher, of Massachusetts; Hall, of Pennsylvania, and Forbes, of Arkansas.

2.—*On Cerebro-Spinal Physiology*: Drs. Gundry, of Maryland; Rogers, of Indiana, and Dewey, of Illinois.

3.—*On Cerebro-Spinal Pathology*: Drs. Goldsmith, of Massachusetts; Catlett, of Missouri, and Bucke, of Ontario.

4.—*On Therapeutics of Insanity and New Remedies*: Drs. Andrews, of New York; Bartlett, of Minnesota, and Rodman, of Kentucky.

5.—*On Biography of Insanity*: Drs. Hurd, of Michigan; Bryce, of Alabama, and Shaw, of Connecticut.

6.—*On the Relation of Eccentric Diseases to Insanity*: Drs. Callender, of Tennessee; Franklin, of New York, and Kilbourne, of Illinois.

7.—*On Asylum Location, Construction and Sanitation*: Drs. Schultz, of Pennsylvania; Kempster, of Wisconsin, and Wilkins, of California.

8.—*On Medico-Legal Relations of the Insane*: Drs. A. E. Macdonald, of New York; Eugene Grissom, of North Carolina, Strong, of Ohio.

9.—*On the Treatment of the Insane*: Drs. Everts, of Ohio; Steeves, of New Brunswick, and Draper, of Vermont.

Committee of Arrangements for 1884: Drs. Kirkbride, Reed, Hall, Ward and Curwen.

Prof. Theodore Meynert, of Vienna, was elected an honorary member of the Association.

The Committee on Resolutions presented their report which was unanimously adopted.

On motion of Dr. Curwen the Association adjourned to meet in Philadelphia on the second Tuesday of May, 1884.

Addresses announced to be delivered at the meeting in 1884:

1. "History of the Association and its Necrology," by Dr. John Curwen.

2. "Causes of Insanity in America." — Dr. Pliny Earle.
3. Progress in the Treatment of the Insane."—Dr. H. P. Stearns.
4. Progress in Provision for the Insane."—Dr. W. W. Godding.
5. "Progress in the Pathology of Insanity." — Dr. Daniel Clark.

THE PENNSYLVANIA STATE MEDICAL SOCIETY, May 9th to 16th, 1883:

Lunatic Asylums in their Relations to the Community.—Dr. R. N. Chase, of the Norristown Asylum, spoke of the improbability of truth in the sensational charges often made against asylum officials of retaining sane persons in custody. Individual cases were referred to in which the charges had proved utterly unfounded. There was, however, one great disadvantage consequent upon the cure of the insane: restored to reason and to marital relations, a person that had been insane was prone to hand the taint down to offspring that would have had no existence had the restoration not been effected.

In the discussion on this paper, several gentlemen testified that the American Association for the Protection of the Insane had no disposition to attach undue weight to such charges as Dr. Chase had spoken of, and one gentleman spoke from personal knowledge of the groundlessness of the charges in the Dixmont case.

The Medical Service of Lunatic Hospitals.—Dr. Charles K. Mills, of Philadelphia, urged the necessity of a more ample provision of facilities of a purely medical sort in the management of asylums, such as an increase in the force of the resident staff, the establishment of boards of consulting alienists, and the appointment of a pathologist at each institution.

Writer's Cramp.—Dr. Benjamin Lee insisted that a distinction should be made between the spastic and the parietic forms of the disease. He showed certain mechanical

devices for the relief of the affection, one of which consisted of a ball to be held in the hand, and another of the bracelet devised by Von Nussbaum, to either of which the pen was to be attached. The latter was especially suited to cases of the cramp-like form of the affection, since its action was to call the extensor muscles into play, those being the muscles really at fault, according to Von Nussbaum.

The address on "Mental Disorders" was delivered by John Curwen, M. D., Superintendent of the State Hospital for the Insane, at Warren, Pa. In the course of his remarks, he said:

"The hereditary character of mental and nervous disorders, and the necessity of careful regulation of the health of the mother during pregnancy, and the removal, as far as possible, of all causes of vexation and annoyance, to prevent as much as may be the influence on the child, and instances were adduced where the health and mental integrity of the child were affected by causes acting on the system of the mother during pregnancy.

"It was urged on the profession to give more strict attention to the tracing out of the various histories of different cases so as to reach more certain conclusions as to the results of certain disorders and influences in the production of particular forms of disorder.

"The necessity of careful attention to the health of children, and the impropriety of placing them at an early age in school, was also insisted on so as to avoid that taxing of the mind and the interference with the bodily development so likely to arise from the confinement in school and inability to fix the mind on what was required to be learned. The first point to be aimed at was proper physical development.

"The training of the children should involve a thorough discipline in the education of the different faculties of the mind so that one class should not be educated at the expense of the other, that the states of feeling, including the passions and emotions, should be kept in subordination to the state of knowledge and the state of will. The tendency of the times is to give greater prominence by means of books and other matters to the development of the passions and emotions, and on this account so many are unable to stand the wear and tear of life and fall victims to mental

and nervous disorders, which could have been prevented by that attention to the proper regulation of these in connection with the development of the intellect and the will.

"The necessity of proper nutrition affording these elements most readily assimilated for the use of the different parts of the system, was also dwelt upon, and also the prime importance of an abundant sleep, not only in the early years, but throughout adult life.

"In school life it was insisted that what was taught should be well drilled in so that what is learned should be thoroughly learned, as it was better to know a little well, and so as to be of practical advantage in the duties of life, than to gain a large amount, so that in short it would only be a confused mixture in the mind and not of any practical benefit.

"Attention should also be given in education to the peculiar bent or aptitude of the scholar, so that he shall not not be compelled to give strict attention to what is distastful, not within his comprehension or above his capacity.

"Attention was also directed to the baneful influence of the use of tobacco on young men in the retardation of the proper growth and development of the mind, and its injurious influence on those who had been doing well, but were thrown back by its use.

"Reference was also made to the practice of other habits consequent on the character of the books furnished so generally for the young."

Dr. Benjamin Lee, of Philadelphia, submitted the following, which was directed to be published:

Resolved, That this society, after listening to the numerous able papers upon the proper care of the insane, which have been offered during the present session, in which this important question has been discussed from every possible standpoint with the utmost freedom of expression and in a truly scientific spirit, consider the following conclusions justifiable:

First. That the problems connected with this subject are of so intricate and delicate a nature, interesting in themselves on one side with the most sacred social and domestic interests of life, and on the other calling for the highest order of scientific attainments that only those who have made them the subject of careful and conscientious study are competent to attempt their solution or to criticise those who are endeavoring to work them out.

Second. That the attempt to create the imputation that the incarceration of sane persons in institutions for the insane from improper motives, is one of the dangers of the day, is an unworthy aspersion upon our profession, and should be frowned down by all reasonable persons, whether lay or professional, as utterly unsupported by evidence.

Third. That in the medical superintendants of our insane hospitals and their assistant physicians of both sexes, we recognize a body of workers second to none in our profession, in unselfish devotion to the interests of humanity, in elevation of motive and high standard of personal character and general attainment.

Fourth. That it is evident that, in order to place such institutions throughout our country in a position to properly fulfill their functions as hospitals for the treatment and cure of the diseases of the brain, our State Legislators must be made to feel the necessity for making such appropriations as shall greatly increase their medical staffs, and furnish them with all the necessary appliances for the investigation of disease. [Unanimously adopted.]

BRITISH MEDICAL ASSOCIATION.—Fifty-first Annual Meeting, Liverpool, July 31st, August 1st, 2nd, and 3rd—Section of Psychology—President, Thomas Lawes Rogers, M. D., Rainhill. Vice-Presidents, George Henry Savage, M. D., London, and David Yellowlees, M. D., Glasgow.

DEAR SIR:—We beg to remind you that the next Annual Meeting of the British Medical Association will be held at Liverpool, on Tuesday, July 31st, and the three following days. In the Section of Psychology, in addition to the usual papers, the following special subjects have been selected for discussion:—

1.—The Employment of the Insane. Introduced by Dr. Yellowlees.

2.—Bone Degeneration in the Insane. Introduced by Dr. Wiglesworth.

Cerebral Localization in Relation to Psychological Medicine. Introduced by W. Bevan Lewis, L. R. C. P.

4.—General Paralysis. Introduced (if time permit) by Dr. W. J. Mickle.

We venture to express a hope that you will be able to be present at the meeting, and to take part in the Discussions. Whilst it has been thought desirable to

introduce special subjects for consideration, it is by no means intended to exclude other topics, and we shall be happy to receive any communication which you may desire to bring before the Section. The titles of all such papers, and notices of intention to join in the debates on the first three of the special subjects above-named, should be sent to us not later than the 30th of June. It is necessary that abstracts of all papers to be read in the Section should be sent to us before the 15th of July. We are, dear Sir, yours faithfully,

GEO. E. SHUTTLEWORTH, M. D.,
Royal Albert Asylum, Lancaster.

WM. JULIUS MICKLE, M. D.,
Grove Hall, Bow, London, E.

[We are assured and can confidently assure our *confreres* that "American fellow-workers" will be cordially welcomed at this meeting.—Ed.]

THE AMERICAN NEUROLOGICAL ASSOCIATION held its Ninth Annual Meeting, in the Hall of the Academy of Medicine, No. 12, W. Thirty-first Street, New York, on June 20th, 21st, and 22nd, Dr. Robert T. Edes, President.

Communications were presented by Dr. W. J. Morton, of New York, on "Neuritis Following Dislocation;" Dr. C. L. Dana, of New York, on "Hydrobromic Acid as a Substitute for the Bromides;" Dr. T. A. McBride, of New York, on "Migraine; its Pathology and Localization;" Dr. C. K. Mills, of Philadelphia, on "A Case of Locomotor Ataxia Terminating as General Paralysis of the Insane;" Dr. E. C. Spitzka, of New York, on "Remarks on the Alleged Relation of Speech Disturbance and the Patellar Tendon Reflex in Paretic Dementia;" Dr. Robert T. Edes, of Boston, on "The Excretion of Phosphites and Phosphorus as Connected with Mental Labor;" Dr. R. W. Amidon, of New York, on "A Case of Tetanoid Pseudo-Paraplegia, of Interest from an Etiological and Pathological Point of View;" Dr. J. W. Morton, of New York, on "An Apparatus for Treating Scrivener's Palsy;" Dr. E. C. Seguin, of New York, on "The Insane of Spain, and their Asylums," a communication by letter. Dr. R. W. Amidon

gave a dinner to the President at Delmonico's. A reception was given to the members of the Association at the house of Dr. William J. Morton, No. 36 West Fifty-sixth street. On the second day the following papers were read: Dr. Burt G. Wilder, of Ithaca, New York, on "The Brain of the Cat, Lacking the Callosum," "On the Alleged Homology of the Carnivora Fissura Cruciata with the Primata Fissura Centralis;" Dr. E. C. Spitzka, of New York, "Lesions of the Stratum Intermedium, with Remarks on the Anatomy and Physiology of that Tract—Illustrated by Specimens;" Dr. W. J. Morton, of New York, on "The Treatment of Migraine;" Dr. C. L. Dana, of New York, on "Note on the Treatment of Chorea by the Sedative Galvanization of the Brain;" Dr. Burt G. Wilder, of Ithaca, on "The Removal and Preservation of the Human Brain," "On Some Points in Anatomy of the Human Brain;" and other papers and cases.

The Officers of the Society, elected for 1883, are: Dr. Wm. J. Morton, President; Dr. L. Weber, First Vice-President; Dr. Farrington, Second Vice-President; Dr. M. J. Roberts, Secretary; Dr. M. Putnam-Jacoby, Corresponding Secretary; Dr. E. C. Harwood, Treasurer.

HOSPITAL NOTES.

THE HOSPITAL FOR THE INSANE, at Topeka, Kansas, has lost a good medical head in the resignation of Dr. B. D. Eastman, whose resignation took effect June 30th.

THE DIXMONT (PENNSYLVANIA) HOSPITAL FOR THE INSANE has likewise suffered a loss in the recent resignation of Dr. C. C. Wiley, late Assistant Superintendent at that institution. We are gratified, also, to learn that the ordeal of a relentless legislative investigation, at Dixmont, is over, and the competent and accomplished superintendent, Dr. Reed, is unscathed in reputation or character.

THE INDIANA HOSPITAL has lost an excellent medical head in the late resignation of Dr. Rogers, and the place made vacant at Northampton by the resignation of the veteran Pliny Earle, can not soon be filled.

HARTFORD, CONN.—Fifty-ninth Annual Report of "The Retreat":

Total number treated during the year, ended March 31, 1883, 200: Males, 93, Females, 107. Of these 74 were discharged; 35 Males, 39 Females, and 9 died: 4 Males and 5 Females. The admissions during the year were 78: 35 Males and 43 Females. Number of recoveries, 26—a percentage of 33 on admission. Number remaining March 31, 1883, 126: 68 Males and 68 Females. The Retreat is essentially a hospital for the treatment of acute mental disorders, for, in three-fourths of the cases admitted, there had been no previous attacks of insanity. In twenty cases the disease had existed less than a month, and in thirty-six, less than three months, and of the remainder, none had been insane more than two years. The movements of patients is reviewed for a number of years, and it appears that there exists a consider-

able uniform average as to the ages of persons who become insane from twenty up to forty or fifty years, and that a larger number are affected between twenty and forty, and also during any number of these years, than there are during any equal number at other periods of life. We would like to give the views and conclusions of the caucus, and the curability of insanity, so lucidly expressed in the report by Dr. Stearns, but want of space deprives us of the pleasure.

PENNSYLVANIA.—Annual Report State Hospital for the Insane, Warren, 1882:

Total number under treatment during the year, 433: Males, 158, Females, 275. Admitted during the year, 234: Males, 119, Females, 115. Discharged during the year, 78: Males, 32, Females, 46, as follows: Restored, 17: Males, 9, Females, 8; improved, 23: Males, 11, Females, 12; stationary, 15: Males, 4, Females, 11; died, 23: Males, 8, Females, 15. The report is a detailed account of the hospital, its accessories and environments, with a dissertation on hospital management, including proper mental diversion and judicious employment of the insane; the difficult problem of securing the services of individuals whose duty it is to come in immediate contact with patients, and the relation of patients to attendants, and *vice versa*. Dr. Curwen enlarges upon the subject of reducing the rate of board from \$3.00 to \$2.50 per week, and justifies at length the action of his trustees, who, judging from their comments upon the subject, are less sanguine of the success of the movement than the doctor, who has entertained the idea for years, and believes it is the best method of inducing towns to elevate the condition of their indigent insane. We truly hope that the scheme will be successful, and that the doctor will realize all that his earnestness and devotion deserve. With pleasure we take this opportunity of congratulating the management at being able to command the competent and conscientious services of Dr. Morris S. Guth.

IN MEMORIAM.

HERVEY BACKUS WILBUR.—“Died suddenly, May 1st, 1883, at his home in Syracuse, N. Y., in the sixty-third year of his age, Dr. H. B. Wilbur, Superintendent of the New York Asylum for Idiots.”

We jostle one another along the crowded avenues of this passing life in our eager-pushing for wealth and place and hardly turn to see who has fallen at our side. The millionaire dies, there is a momentary ripple in Wall Street and the seething waters of that life close over again. But we, as philanthropists, may well pause a moment at the open grave of him, beside whose bier men prominent in church and state stood uncovered to do honor to a life which had been devoted to the training and development of that most pitiable of all God's creatures, the idiot. Dr. Wilbur was the pioneer of this work in America. In the article on Idiocy, in Johnson's Cyclopedia, written by him, he estimates the idiots in the United States at one for every thousand of the population. To him as a young man the parable of the ninety-and-nine in the wilderness found here a new meaning. To our young men, looking solely for fame and advancement, this devotion of his whole life to a being, who to untutored eyes appears only as a blot and a mistake in creation, may seem but ignoble work. Yet if he is rightly styled a benefactor of his kind, who makes two blades of grass grow where only one grew before, what shall we call him who leads forth the soul that, cramped and entangled in the swaddling bands of a defective organization, had else withered undeveloped in the chrysalis?

There is a story told of the princess changed by cruel enchantment into a repulsive creature, an object of loathing to the passer-by, but those who cared for and cherished her then, were rewarded by her, when disenchanted, the transformation came. Who will question that for loving service to such as these, Dr. Wilbur found his reward when the change came that fresh spring morning?

The salient points of his life are quickly given. It is the picture with which American biography has familiarized us; of a New England boy teaching and gaining an

education; entering Dartmouth at the age of fourteen to graduate from Amherst at eighteen; engaged in civil engineering under the shadow of Bunker Hill monument; studying medicine at Pittsfield and graduating at the Berkshire school in 1843. Then, passing beyond the New England hills, there is a visit to Richmond, Virginia, to Tennessee, and a sojourn of some months in Illinois, probably hoping to make a home, but his rest is not there. Back to Massachusetts in the practice of medicine, at Lowell, at Westford, at Dana,—and still the call to “arise and depart.” At last in 1845 he finds a home in Barre, Massachusetts. In 1846 he takes the partner of his life-work, and in July, 1848 he enters upon that work, receiving a few weak-minded children into his own family, thus opening the first school, distinctively for idiots, in America; a school which has since, under the care of Dr. George Brown, become a model private-home for this class. Three years later he is called to Syracuse to organize the New York School, and subsequently is appointed to the charge of the Asylum for Idiots, and thence forward to the day of his death his professional life is devoted to this work.

How well that work was done,—how, from schools which he had helped to found in distant States, at the tidings of his death, resolutions bemoaning the common loss, came to strew his hearse; how far his methods in training these unfortunates have been transmuted into common knowledge to stand as a memorial of him; how much of that personal power which no man can bequeath, is buried with him; all this, intimate, personal friends, his associates in this work, can say far better than I, and there will be no lack of eulogy.

One of these, who knew him intimately for many years, writes me: “His nature was generous beyond that of most men” I can believe it, yet there was another side to his character, which I think will be found to have had its origin, though I have not attempted to trace it, in some Presbyterian ancestor of Cromwell’s time, some sturdy old roundhead, whose blood may have flowed at Marston Moor, blood which coursing in the veins of his descendant two centuries later, made him a good fighter; those of us, who stood in the opposing ranks felt that there was no mistake about this.

This is a phase of his character which lay wholly outside of his work among the idiots, and will be differently estimated according to the standpoint of the one

making the estimate. I refer to his position on questions of social science, notably to what has been considered his antagonism in later years to the superintendents of American Hospitals and their methods. It was my misfortune to know mainly this side of his character and that almost wholly through his published writings and my occasional correspondence with him. Antagonists are apt to measure only swords. He knew how to smite unsparingly, but not always deliberately, hence his blows sometimes missed their aim; but his pamphlets and articles flew thick as arrows and they were always aggressive and vigorous. We felt that his criticisms of our methods were certainly not generous, hardly just, but the trouble was, there was too much truth in them. It was good, wholesome truth for us to hear, at any rate, for the Association of Medical Superintendents of Institutions for the Insane had become too much of a mutual admiration society for healthy growth. More than thirty years ago he had been introduced to the Association by one of its founders and welcomed by it, had amicably co-operated with us for many years, attending most of the meetings; and then becoming exclusive, we unwisely and rudely, as it seems to me, drove the superintendent of idiot asylums out of our synagogue. Was it to be expected that he would be very indulgent to our methods after that? Unregenerate human nature respects the man who strikes back, and for the blows which we bring upon ourselves we can expect small sympathy. Perhaps after all we were a little sensitive of comparison with the English, fearing that our methods might not be properly appreciated by an outsider, and so too easily we took offense where only fair criticism was meant. I at least am convinced by my correspondence with him, that his convictions were honestly held, and much as I may regret that he could not see some things differently, now that I can no longer join issues with him,—standing uncovered in the presence of that silence which has fallen over all our strivings—I feel it is due to him to say that he was more sinned against than sinning. I believe he went abroad to thoroughly inform himself of the most advanced ideas in the care of the insane in other countries; returning, he published his observations and would have instructed us; but we were not then asking advice, and we would none of his reproof,—we were more sensitive then than now. In 1881 he wrote me, “I am now contented to republish European opinions, thus

avoiding any personal controversy," but he was only partially successful in this. As he grew older and the gap between him and his former associates of the hospitals widened, I think he wearied a little of the fighting, although the last published article which I recognized as from his pen, the review of the Fortieth Annual Report of the Managers of the Utica Asylum, in the *Journal of Nervous and Mental Diseases*, for January, 1883, showed that his eye had not dimmed nor his natural force abated. But let his last words on the subject of his controversy with the hospital superintendents speak for him, he could hardly have covered the whole ground better had he known they were the last.

In a letter dated one week before his death, in referring to an invitation to escape the rigors of a northern spring, and come and see me, he says, "I thank you also for the kind expressions of the latter part of the letter, which are very welcome after the experience I have had the last few years. For years I have had the pleasure of frequent intercourse with many of the superintendents of American insane asylums, and with the most of them I have been on the most friendly terms. At the request of Dr. Anderson, of our Board of State Charities, I spent some time in visiting British and other European asylums, and made a report to that Board. From thenceforward, I found myself almost an outlaw—found myself attacked in various ways that seemed to call for a vigorous defense. Though I have never had the slightest ill will towards any of my old associates, I am a zealous advocate of anything in the line of my convictions, and so the tone of my papers has perhaps been an unfortunate one." Can we judge him harshly in the light of this?

But Dr. Wilbur was seen at his best outside of controversy. And here, too, let his latest words speak for him, written to me only two days before his death, a val- edictory worthy of him. It was a suggestion made in a direction in which he knew I was writing, in regard to expert testimony. It was hardly meant as a criticism, yet observe how like "the hand which came out and wrote over against the wall," it records its protest against much of the medical *expertness* which has been "weighed and found wanting" in our time:

"Expert testimony should be the colorless light of science, brought to bear upon any case where it is summoned. It should be impartial, unprejudiced. There

should be no half truths uttered, and suppression of the whole truth is in the nature of false testimony."

Dispassionately saying this, he went to his rest.

CLEMENT ADAMS WALKER.—"Died at his residence in Boston, Mass., April 26th, 1883, Dr. C. A. Walker, late Superintendent of the Boston Lunatic Hospital, aged 63 years."

How the cypress burgeons in these early months, while already a moaning as of the wind of Autumn is "calling for vanished faces" through all the empty pageants of these "lonesome latter years." Hardly has the grave closed over the fresh manhood of Dr. Beard, when, unannounced, the silent messenger enters, and almost together, Dr. Walker and Dr. Wilbur have gone away.

Dr. Walker early took high rank in his profession in the treatment of insanity. A graduate of Dartmouth in 1842, for thirty years Superintendent of the Boston Lunatic Hospital, President of the Association of American Superintendents of Institutions for the Insane, since the death of Dr. John E. Tyler, standing at the head of his specialty in New England, what was there left for him to attain? To what more could he look forward? Nothing, save age and its infirmities—ah, yes, the unfading crown. So death came, and not unwelcomed by that sad, sick heart, sitting in shadow.

There are life long friends to write his eulogy, who will pay him a tenderer tribute than mine. I only wish to drop one little sprig of green into that open grave, where, if each loving hand had cast but one, they would have filled it, so warmly was that man cherished in the hearts of "troops of friends." Eminent in much, he was preëminent in this, for the heart is stronger than the intellect. It was my good fortune for some years to have charge of a hospital for the insane in the same state with Dr. Walker, and so often came in contact with those who had been his patients, and their friends who had gone to him for counsel, for aid in their extremity. Some of these were wealthy, for insanity is an affliction which knocks at all doors alike; more often they were the humble poor, the friendless and the outcast of the streets of Boston, but they all told me the same story of that great, loving heart, which patiently counselled with them, which took them into its sheltering sympathy. His very frailties—

who of us has them not?—grew out of that genial, social nature. A warm heart makes friends everywhere, and friends were his abiding strength in every time of trouble. Yet he was a proud, and could be a stern man; but there was something within which mellowed that pride and softened the sternness.

He was often called in court, and the poor lunatics under indictment for crime found in him a powerful advocate. He was able to discern insanity, if it existed, even when it was unpopular to see it. In those last days of June, of a year ago, although confined to his chamber by sickness, he wrote a strong letter, and in spirit went shoulder to shoulder with us, as we stood vainly pleading to avert a nation's shame.

Like many men who have been born in Boston, his heart was bound up in that old town. He planned a magnificent lunatic hospital for her (the plan, somewhat modified but not improved, was afterwards made use of by the State of Massachusetts, at Danvers). He selected a site for it which looked out over the city and the ocean. He gave the best working years of his life to the careful elaboration of his plan, and made the most earnest and unselfish efforts to secure its embodiment in brick and stone. Year after year he saw that plan deferred, lived to see the one fond dream of his life fail, to find the whole work had been abandoned. And then he went back to that miserable, ill-constructed, half lighted and less than half-ventilated, old rookery at South Boston, which, even with all the admirable changes that have lately been made, is a disgrace to that proud city to-day, and with spirits crushed, and that great heart bleeding, took up those poor creatures and went sailing with them down the harbor, into the air and sunshine, cheered them in their sorrow, and with the warmth of his heart shining through smiles, lit up the dusky corridors of that prison pile, till, transformed by his presence, those low ceilings lifted, and the poor inmates felt while he was with them that they were dwelling in "kings' palaces." Said I not well that the heart is stronger than the intellect? That heart which at last was broken?

This was his work. I know nothing of his theology, but I do know that he kept ever in his life, if not in his mind, the words of the Master: "When thou makest a feast call the poor, the maimed, the lame, the blind."

And it is the garlands, which these poor ones bring

now to lay above his grave, that shall be his monument. Wilding flowers, withering yet renewed, till taking root they write an inscription in the dust to outlast the marble: "These cannot recompense thee, but thou shalt be paid."
W. W. G.

PROF. CHARLES LASÈGUE.—Charles Lasègue, the most brilliant pupil of the number that listened to the immortal Trousseau, was early marked by his master as his fit successor, and he became professor of Pathology in the Faculty of Paris when his master resigned the position. His interest in medical literature was manifest and he contributed no small part to it in his capacity as editor of the medical department of the *Archives Generale de Medecine*, a position he occupied from 1853 up to his death.

He was preeminently a teacher and devoted heart and soul to medicine. He often contributed to the *Annales Medico Psychologiques*, and among the principal ones connected with nervous and mental diseases are his notes and observations on hemicrania, on subacute alcoholism, on the legal responsibility of lunatics, on the delirium by accès in a medico-legal point of view, on cerebral diseases, on alcoholic delirium, on dipsomania and alcoholism, etc.

As a man he was universally respected and liked, his various attainments were admired, and his teachings were such as to be of the highest value to his students. As one of his admirers has said, nature seemed to have intended him for a teacher. His audience listened to him in rapt attention, and the value as well as the popularity of his lectures were attested to by the numbers who attended them.—*Annales Medico-Psychologiques*.

REVIEWS, BOOK NOTICES, &C.

INSANITY, ITS CLASSIFICATION, DIAGNOSIS AND TREATMENT.*—This is the first systematic treatise on insanity published in the United States since that of Rush, excepting the less extensive contributions of Brigham, Chipley and Fisher, and the cotemporaneous writings of Stearns, Hammond and others. The book opens with a discussion of that much-mooted question, the definition of insanity, and the following is the definition given: "Insanity is either the inability of the individual to correctly register and reproduce impressions (and conceptions based on them) in sufficient number and intensity to serve as guides to actions in harmony with the individual's age, circumstances and surroundings, and to limit himself to the registration as subjective realities of impressions transmitted by the peripheral organs of sensation; or the failure to properly co-ordinate such impressions, and to thereon frame logical conclusions and actions; these inability and failures being in every instance considered as excluding the ordinary influence of sleep, trance, somnambulism, the common manifestations of the general neuroses, such as epilepsy, hysteria and chorea, of febrile delirium, acute intoxication, intense mental pre-occupation and the ordinary immediate consequences of nervous shock and injury."

The chief criticism which could be passed on this definition is, that it is lengthy, and, to some, may seem diffuse. The clauses, excluding certain states, might be criticised as excluding the mental phenomena resulting from such states, as they are "common manifestations" of them. With regard to a definition of legal insanity, Dr. Spitzka very truly and pertinently says, "the best legal authorities have decided that what is fact in science cannot be a fiction in law." The chapter on delusions takes up the difference so infrequently recognized between the systematized and unsystematized delusions. Spitzka defines delusion as "a faulty belief out of which the patient cannot be reasoned by adequate methods for the time being." Since, as he says, Ray's definition fails to provide for the lunatics, correcting some of his delusions during his insanity, and all of them as he convalesces. The systematized delusion has a complex, logical organization of which the unsystematized is destitute. This chapter is a decidedly interesting and valuable résumé of the mechanism of insane delusions. In the third chapter he discusses imperative conceptions and morbid propensities, and shows that while both these may exist independently of insanity, other than, as manifested in them, they are often merely coexist. The fourth chapter discusses hallucinations and illusions. The first is defined as "a perception of an object as a real presence without a real presence to justify the perception." "An illusion is the perception of an object actually present in characters, which that object does not really possess." Both, hallucinations and illusions, are shown to depend upon cortical action. Hallucinations, Spitzka says, may originate from delusions, while

*By E. C. Spitzka, M. D. New York: Bermingham & Co., 1883.

the contrary is infrequent. In the first case, the occurrence is of grave prognostic significance. Emotional disturbance is discussed in the fifth chapter. While the legal misuse of the term is pointed out, the value of emotional insanity, as a useful designation for certain simple insanities, is admitted. Spitzka is of the opinion that insanity does not increase or develop the moral sentiments. The sixth chapter discusses the memory and consciousness in insanity. He defines healthy consciousness, as "that condition in which the individual, while registering the impressions of the outer world to which his attention is directed at the time, correlates these with the summarized observation of the past." The will in insanity is well analyzed in the seventh chapter. The physical indications of the acquired insanities are analyzed and described in the eighth chapter, and the positive statement often made on these points are shown to be partially erroneous. Othæmatoma is regarded as being of central origin.

In the ninth chapter the signs indicating the insane constitution are discussed. The chapter will not bear analysis, it requires perusal to do justice to it. The tenth chapter is devoted to the morbid anatomy of insanity, and calls attention to the fact that many forms of insanity depend on impalpable bio-chemical changes, undemonstrable by microscopic examination, or otherwise. The necessity of being more than a mere microscopist is shown by the unfortunate experience of two observers, one of whom found a flat sciatic nerve in progressive paretics, as he would have done in the rest of mankind. Another found "pathologically enlarged" cells in the parietal regions whose absence would be abnormal. The "miliary sclerosis," upon whose existence stress is laid by certain pathologists was shown by Spitzka (1877) to be due to manipulation, and this has been corroborated by Savage and Plaxton. Spitzka agrees with the continental authorities in finding no necessary changes in cases of (acute) mania, or melancholia. In monomania the changes are teratological in character, when they are found at all. In progressive paresis the most marked changes are found. The elements of error in pathology are analyzed clearly.

The next chapter is devoted to the classification of insanity. The principle adopted is the true one. An attempt is made, as elsewhere in science, to determine each psychosis before determining the relations of these to each other. The classification adopted is as follows:

GROUP FIRST—PURE INSANITIES.

Sub-group A.—Simple insanity, not essentially the manifestation of a constitutional neurotic condition.

First Class.

Not associated with demonstrable organic cerebral changes,

Division 1.—Attacking the individual, irrespective of the physiological period.

Order A.—Of primary origin.

Sub-order A.—Characterized by a fundamental, emotional disturbance.

Genus 1.—Of a pleasurable and explosive character; Simple mania.

Genus 2.—Of a painful character; Simple melancholia.

Genus 3.—Of a pathetic character; Katatonia.

Genus 4.—Of an explosive transitory character: Transitory frenzy (mania transitoria of authors).

Sub-order B.—Not characterized by fundamental emotional disturbance.

Genus 5.—With impairment or abolition of mental energy: Stuporous insanity (acute dementia of authors).

Genus 6.—With confusional delirium: Primary confusional insanity (incoherence, etc., of authors).

Genus 7.—With uncomplicated progressive mental impairment: Primary deterioration (primary incurable dementia of some authors).

Order B.—Of secondary origin.

Genus 8.—Secondary confusional insanity.

Genus 9.—Terminal dementia.

Division II.—Attacking the individual in connection with developmental involuntional periods.

Genus 10.—With senile involutions: Senile dementia.

Genus 11.—Hebephrenia (insanity of pubescence).

Second Class.

Associated with demonstrable active organic cerebral change.

Genus 12.—Paretic dementia (progressive paresis).

Genus 13.—Syphilitic dementia.

Genus 14.—Dementia from coarse brain disease.

Genus 15.—Delirium grave (acute delirious mania, typhomania, Bell's disease.)

Sub-group B.—Constitutional insanity; the expression of a continuous neurotic condition.

Third Class.

Dependent on the great neuroses.

Division I.—The toxic neuroses, alcoholic, etc.

Division II.—The natural neuroses.

Genus 17.—Hysterical insanity.

Genus 18.—Epileptic insanity.

Fourth Class.

Independent of the great neuroses

Genus 19.—Periodical insanity (including *folie circulaire*).

Genus 20.—Idiocy.

Genus 21.—Imbecility.

Genus 22.—Manifesting itself in primary dissociation of mental elements, or in a failure of logical inhibitory power, or of both: Monomania (includes manie raisonnant, moral insanity of some types, chronic delusional insanity, etc.)

GROUP SECOND.—COMPLICATING INSANITIES.

Cases, in which certain causes or associated affections give peculiar tinges to the psychoses, as Traumatic, Choreic, etc. This is scarcely an improvement on the much simpler classification, suggested by him some years ago. In my opinion, the last group is scarcely justified, nor is hysterical insanity; as he puts some cases of this type very properly under monomania. Syphilitic dementia and dementia from gross brain disease

scarcely differ so much as to require separate genera to include them. For clinical purposes the classification is well adapted, and were it generally accepted, would simplify matters markedly.

The second part of the work considers the special forms of insanity. Mania is defined as a psychosis, characterized by an exalted emotional state which is associated with a corresponding exaltation of other mental and nervous functions. The typical maniac has the checks or inhibitions of organic and mental life loosened. The varieties of mania are well discussed. Melancholia is a form of insanity, whose essential and characteristic feature is a depressed (*i. e.* subjectively arising) painful emotional state which may be associated with a depression of other nervous functions. In a similar, thorough and exact way the various psychoses are defined. The pathological details are clear, and, what is rarely the case, comprehensible by non-pathologists. In the chapter on differential diagnosis much valuable information is given. The question of simulation is discussed at length, and the simulation of insanity by the insane is considered in this connection. Attention is called to the fact that Dr. Hughes was the first American to direct attention to this important topic.

Under the question of therapeutics, asylum treatment is considered, and some of the readers of *THE ALIENIST AND NEUROLOGIST* will be surprised, and, perhaps, not displeased to learn Dr. Spitzka's sentiments on the subject. He says, page 399: "An asylum sojourn has in the vast majority of cases good effect on the insane. Curable patients are never injured in their prospects of curability in a medically well-managed institution and incurable patients should be there for practical reasons, and are usually better off in than out of the asylum." The advantages of asylum treatment are then given at length. He believes in furloughing patients and requiring bonds from relatives for their good behavior. His remarks on restraint will astonish those who have considered him a *doctrinaire*. He says, page 401: "That there are some subjects, who require restraint, who are better off with, than without it, there can be no doubt. The demonstrative feat of the novice superintendent, who burnt all restraint apparatus, as soon as he took charge of his asylum, was followed by the accumulation of black eyes, broken noses and other minor surgical accidents as well as several suicides. It is with this question, as with many others, relating to the internal economy of asylums; reform cannot be accomplished by watchwords or catch phrases, nor by arbitrary legislation. Scientific zeal and integrity within asylums will prove far better guarantees of humanity, than associations of dilettante and newspaper editorials. Let us hope that the scientific spirit which was breathed into American psychiatry by Ray and Rush, and which has been kept alive by their immediate followers, will gain that preponderance, which it merits, over an unworthy opposition." He has no sympathy with the "liberation epidemic," as he designates the sporadic attempts to manufacture sane men out of lunatics.

In common with the vast majority of English, French, German, Italian, Austrian, Dutch and Danish alienists, and in common with Ray, Rush, Nichols, Bell, Godding, Hughes, Workman, Howard and others among Americans, Dr. Spitzka believes that immoral manifestations may constitute an evidence of cerebral disease or defect; what is commonly

designated moral insanity of imbecility. He believes in the existence of transitory furor, although he has never seen a case.

He calls attention to the fact that there is much danger in the treatment of certain cases of so-called "mild melancholia" at home. He believes that the wonderful results of gynecological treatment in insanity are due to an imperfect knowledge of psychiatry; the cured lunatics entering asylums very soon after cure. There is much more quotation of American authors than is usual in a work of this kind. To a student desirous of understanding the present status of psychiatry at home and abroad, no better book can be recommended. There are some faults of omission and commission. The style of Dr. Spitzka is, as a rule, clear and comprehensible, but in a few instances some awkwardly constructed sentences are here and there to be found. Instances of heterophemy are sometimes noticeable; "doffed" is used in one place for "donned" and "subject" for "object" in another; but these blemishes are few and far between. The wood cuts are few, but relatively good. The typographical and bibliographical work is as good as can be expected. It has one virtue often wanting in English, French and American works, an excellent index.

K.

An unfraternal vein of sarcasm towards his confrères in psychiatry from whom he differs in some chapters, which we should consider as censurable in ourself and requiring emendation, appears in this book, but this critical feature of the book will probably lend interest to those who are of the author's way of thinking.

In some places the author is keenly satirical, as in the following censure of a sometimes reckless therapeutic procedure: "Those pretty cases in which a delusional insanity is instantly cured by restoring a retroflected or retroverted uterus to a normal position, do not seem to occur nowadays, and the gynecological epoch of psychiatry seems to have passed by, taking its adieu with the sacrifice at Blackwell's Island Asylum of Mary Ann Mullen, a sufferer from unrecognized katatonia, on the altar of Oophorectomy (the ovaries being perfectly healthy). It would have been as reasonable to extirpate the bed-sore of a sufferer from parietic dementia, and to cut off the hæmatomatous ear of a terminal dement etc."

Notwithstanding the objectionable personality which in some places in the book in our view, blemishes the author's style, the book possesses peculiarly interesting and unique counterbalancing features to commend it to the attention of the alienist and the general medical reader interested in psychiatry.—[*Ed.*

LUYS.—Contribution to the Study of the Statistics on the Weight of the Cerebral Hemispheres, in the Normal and the Pathological State. Luy's, for the purpose of his researches in the weight of the hemispheres, availed himself of the brains of individuals between 18 and 90 years of age, who had died from diseases which did not involve these organs; he always used the same method, that is, making a transverse incision at the level of the superior border of the protuberance, thus separating the isthmus of the encephalon from the cerebrum, and afterwards making an

incision which passed between the two mammillary tubercles and was directed straight for the antero-posterior fissure, thus dividing the corpus callosum, and with it the two hemispheres, which were weighed, the one after the other. The following are the results at which he arrived: asymmetry of the two cerebral hemispheres is the rule in the human species; in 32 brains there was inequality 27 times, and only 5 times equality; excess of weight of the left hemisphere is the rule, and was observed 21 times in 27 cases, that is 78 per cent.; the excess of the right hemisphere over the left was therefore 6 times in 27 cases, or 22 per cent. In the pathological state in the insane, the right hemisphere is ordinarily heavier, and therefore more active; he found that in 55 brains of the insane, 39 showed excess of weight in the right hemisphere, say 71 per cent., and only 16 showed excess in the left hemisphere, or 29 per cent. "It remains to be seen," he adds, "whether this abnormal development of the right hemisphere, which should conduce to changes in the harmony of the cerebral functions, is allied to hereditary influences, or enters into the facts of acquired order."

So much for and by Luys; but *audi alteram partem*, for doctors must differ, and it is wonderful how much men are able to see when they set out to find anything they earnestly desire to find. We know of but one exception to this rule, and that was given to us by a shrewd Yankee, whose question was, "did you ever earnestly seek, in the dark, for something you did not wish to find?" We failed to reply, and when he solved the problem, we did not deem it expedient to repeat the question to others, for the matter was of rather foul odor.

We give now the *pars altera*, which appears in the same number of the *Rivista Sperimentale*, under the following heading:—

"*Sulla in egualianza di sviluppo e di peso degli emisferi cerebrali, per i Dr. G. Galgì ed E. di Mattei*," which is, being interpreted, "On the Inequality of the Development and Weight of the Cerebral Hemispheres, by Drs. Galgì and E. di Mattei." Here it is:—

"Placing ourselves at an exclusively anatomical point of view, we have desired to study the relative weights of the right and left cerebral hemispheres. Normal anatomy, which has diligently weighed, in this way, all the organs of our body, the eyes, kidneys, testes, &c., has not sufficiently illustrated the weight of the two cerebral hemispheres, which though they are fused into one sole organ, by means of the corpus callosum, yet are they, by means of a section carried along the raphe, quite divisible anatomically, the one from the other.

The deficiency of anatomy, in this respect, is all the more felt, when we reflect that these researches might throw some light on the questions as to the independence of the functions of the hemispheres, and the localization of certain faculties in one or the other of them, and their relative physiological importance; recently M. Luys has succeeded in increasing our interest in this subject, by the applications of it made by him in the clinic of mental diseases.

Luys has come to the conclusion that the two cerebral hemispheres, though they are in unison in many functions, yet enjoy a certain independence of action; that the left hemisphere is normally more developed

and more weighty than the right, by five or six grammes; and that, on the contrary, in mental pathology, the right hemisphere is found to exceed in weight the left.

Crichton-Brown had before arrived at analogous results, respecting the weight of the cerebral hemispheres in the demented. He had observed the average weight of the right hemisphere, in 400 insane persons, to be greater than that of the left, but he adds, "the greater weight of the right hemisphere in comparison with the left, is in general still better observed in the mentally sane, and he infers this from the fact that he had met with it in 32 cases of insanity starting acutely, and of recent origin, in which cases it might be presumed that atrophic modifications had hardly yet commenced, or that they were totally absent.

Alienists have evidently occupied themselves in this weighing of the hemispheres more than anatomists; hence the necessity of collecting a large number of observations on normal brains. Luys, in his last work, reports only 32 cases of brains of the insane, in five of which the hemispheres were of equal weight, and 21 showed a preponderance of the left over the right.

We certainly could have desired to bring a rich contribution to these studies, but we have been obliged to content ourselves with 59 cases, the fruits of two scholastic years (1880-'81 and 1881-'82) which, if they may not solve the question agitated, may yet throw some light on it. The brains examined by us all belonged to subjects of sane mind, who had died from various diseases, chiefly pulmonitis, phthisis, valvular defects of the heart and cancerous neo-formations.

We proceeded in the division of the cerebral hemispheres by first separating the cerebrum, properly called, from the encephalon, by a transverse section made on the level of the upper margin of the pons Varolii, and then dividing the one hemisphere from the other, along the raphe of the corpus callosum, so as to carry the cut between the two mammillary tubercles. We understand but too well the small errors which may be fallen into in these researches; and if on the other part, we have scrupulously sought to avoid them, on the one hand we have confidence that a good number of the cases may compensate these errors, and cause them not to gravitate fatally to either side.

Our results, which are very different from those of Luys, are shown in the following statistical tables:

[The authors here present two tables, one showing the details of 30 brains of men, and the other, 25 brains of women. In separate columns are given the age of the subjects, the weights of the hemispheres respectively, and the difference, plus or minus, between the weights. They then proceed thus]:

"It results, then, from our observations, that in 55 brains, we found the right hemisphere heavier than the left in 39, or in 70.90 per cent., and in 16, on the other hand, found the left heavier than the right, say in 29.09 per cent. On the average of the whole, the right hemisphere was heavier by 4.01 grammes than the left.

"For the greater clearness and more easy understanding of the particulars observed, we present the following statistic summary:

	30 Men.	52 Women.	Total, 55.
	(No. 20.)	(No. 19.)	(No. 39)
Right hemisphere heavier than left....	66.66 per cent.	74.75 per cent.	70.90 per cent.
	(No. 10.)	(No. 6.)	(No. 16.)
Right hemispheres lighter than left....	33.33 per cent.	25.25 per cent.	29.09 per cent.
Mean of excess of right over left hemispheres	gr. 7.16	gr. 6.77	gr. 6.96
Mean of excess of left over right hemispheres	gr. 3.11	gr. 3.30	gr. 3.105
On the general average, the right exceeded the left.....	gr. 3.74	gr. 4.35	gr 4.01

"If we divide all our cases into two categories, one including the individuals between 25 and 40 years, the other, those between 40 and 70, it is seen that the young have, in proportion, presented inequality an equal number of times with the old, between weights of the hemispheres. But it is to be observed that the difference in weight of the right hemispheres over the left, is much greater in the old; and in them also the difference of the left over the right is the lowest. These relations obtain in both sexes, as will clearly appear from the following figures :

		Mean of the difference of weigh of right over left.	Ditto of left over right.
Men	{ From 25 to 40 years	6.27	3.44
	{ " 41 to 70 "	8.06	2.77
Women	{ From 25 to 40 years	5.27	4.16
	{ " 41 to 70 "	8.10	2.45

"These figures show us, that it is especially in the old, that the preponderance of the right hemisphere over the left is most evident; this cerebral asymmetry, as relates to age, permits us to see how interesting should be a long study of the different ages, more amply carried out than we have been able to accomplish. For the present it suffices for us to be able to conclude, that the cerebral hemispheres are rarely of equal weight; now one preponderates, then the other; on the average, the right is heavier than the left by about four grammes; the predominance, then, of the right hemisphere, far from being the index of a pathological state of the brain, is a normal fact.

It remains now to be seen, whether in the progress of these researches the grand averages will confirm our statements; whether the difference in weight of the hemispheres stands related to embryonic laws, and whether, concerning a viscus which ought to be modified according to intellectual exercise, nationality and social surroundings may have some influence.

[NOTE. — May there not be a radical difference of balancing in French and Italian brains? We presume the brains examined by Luys were all French, and those observed by Gaglio and Mattei, all Italian. The latter would seem to be all right, and the former all wrong. No doubt this accounts for the passion for extension of territory in the French, and for the stealings of Louis Napoleon. If so, it is certain that the brains of the Italians are not, as to the hemispheres, divided, as were those of their Roman forefathers. But time brings about wondrous changes.]

We extended the study of these weight relations of the right and left halves, to the cerebellum also; having, however, obtained but a small

number (18) of these observations, we cannot come to any conclusion: but up to the present we have observed that the relation of the two halves of the cerebellum does not in any respect correspond with that of the cerebral hemispheres, and that the left half is frequently more developed than the right.

“Confining ourselves to observations on the cerebrum, which were more amply made by us, we can securely conclude that the greater functional elevation, to which the left hemispheres would generally be destined, finds an anatomical basis in the greater development of this part.

“We admit, indeed, with Luys, as regards a certain independence of the functions of the cerebral hemispheres, that the difference of weight in one of these may throw light on the processes of mental pathology, but we cannot, with him, affirm that the brains of demented are characterized by a pathological hypertrophy of the right hemispheres.”

A TREATISE ON INSANITY IN ITS MEDICAL RELATIONS.—Dr. William A. Hammond has lately gotten out a new book on this subject (published by D. Appleton & Co., at 1, 3 and 5 Bond St., New York), for which he claims new features.

The author dedicates this book to Dr. J. S. Jewell, of Chicago, “whose learning has always commanded his heartiest admiration, and whose friendship is one of the greatest pleasures of his life.”

He points out in his preface what he thinks are “the distinctive features of the present production.” Having been “long convinced that the term insanity has hitherto been applied in altogether too limited and illogical a manner; he “does not see why all abnormal manifestations of mind should not be included under the designation of insanity,” as much as normal mental phenomena are embraced under the term sanity. He has thus marked out or rather taken down the wall of demarcation of a broad field, a field which, with such an elastic boundary line, the author has certainly failed to cover.

Such universal definitions of insanity have been made before, but mostly by the *literati*, notably among them Charles Lamb, who “characterized insanity as a straining or excess of one or more of the mental faculties,” and by an obscure alienist we once heard of, who coincided with Dr. Hammond exactly when he testified in court “that insanity was just the opposite of sanity, and sanity was just the opposite of insanity,” and nothing more could be got out of him. Medical men, before Dr. Hammond, however, save and except the aforesaid “expert,” have never been so comprehensive. The tendency has been to signify something definite in all medical definitions hitherto offered, so as to distinguish that grave malady which manifests itself mainly through mind deranged from those evanescent psychological changes, which in darker or lighter shade we see displayed in most diseases. The delirium of a slight fever for instance, the unnatural petulance or fretfulness of other physical sickness, and the irritability, changed demeanor and violence even, associated with certain painful affections, like adontalgia, cephalalgia or neuralgia.

It must be remembered, as Forbes Winslow has said, that “there

are few minds perfectly developed, balanced, disciplined, without some natural eccentricity or weakness, or in which some one or more are not prominent enough to exercise an influence incommensurate with their value," or as Jonson in his "Rasselas" observes in introducing the mad astronomer "there is no human mind in its right state, whose imagination and fancy does not sometimes tyrannize over reason.

With most men there are times when

"The unwilling brain, feigns often what it would not,
And we trust imagination with such fantasies
As the tongue dare not fashion into words."

But, if this be insanity, then truly are "All mankind insane, their insanity differing only in degree"—"Such thin partitions do our wits divide."

It is therefore a restrictive, not an extensive definition of insanity that is wanted for practical purposes.

Dr. Hammond is a fluent and voluminous writer. His pen is facile and fertile. It may be said: "No pent up Uteia contracts his powers," on the contrary Uteia seems to have stimulated them. The whole vast, boundless continent of medical literature is his, under this limitless definition, and perhaps, he aspires to traverse it and write upon it, and has given us this limitless definition of insanity in order that he may some day indulge an evident *penchant*, which he displays for discussing all pathology. For most diseases have some peculiar psychical display accompanying them if we scrutinize them closely. The very sick man seldom acts and speaks with all the sane characteristics of health.

Of course after so expansive a definition, our author must necessarily reach the conclusion that "legal insanity and medical insanity are very different things, and the two standards can never and *ought* never to be the same." "The law," he says: "establishes an arbitrary and unscientific line." But sometimes law has been as expansive as Hammond, and as futile in defining insanity, as witness the Solicitor General's learned dictum delivered in the case of Earl Ferrars, when he declared "all cruelty brutality, injustice and violation of duty is insanity." He like Hammond, would be comprehensive; but to what purpose except to defeat the very purpose of the definition of the disease, viz., to make it mean something.

Law aims to be logical, and if the legal line of demarkation between responsible sanity and irresponsible insanity is unscientific, the line ought to be extended so as to include the true scientific view, and sooner or later science will triumph on this question of what constitutes irresponsible insanity; just as it has always finally triumphed over all opposition of Church or State. True science is truth, and the truths of medical science must ultimately be accepted and conformed to by courts, as they are received by physicians. Scientific dogmas relating to disordered mind, if not fully accepted now, will yet prevail because truth will be as mighty in the future as she has shown herself to be in the past. If not now triumphant "the eternal years" are hers, and she will ultimately prevail, despite all forensic or other opposition.

The author weakly compromises with error in conceding the legal, "knowledge of right and wrong tests" of insanity to be "about as correct

a legal line as a due regard for the safety of society will permit," while many eminent jurists take a much more just, because more scientific view of those undoubted forms of morbid aberrant mental impulsions, associated especially with epileptic and epileptoid conditions, which impel resistlessly to acts of violence at variance with the normal abstract consciousness of right and wrong. As a learned judge lately said: "what is scientifically true should be legally true."

The author makes this unscientific and undefenseable surrender to the *policy* of the law, knowing it to be as he says: "absolutely untenable from his point of view." knowing that it is not a medical line, and that there are thousands of lunatics insane enough to believe themselves to be veritable Julius Cæsars, that come within it.

"There are few people," the author goes on to state in justification of his extensive and extensible definition of insanity, "who have not, at some time or another, perhaps for a moment only been medically insane." We concede that there should be a difference between this kind of insanity, and legal insanity. The history of the human race might be written under the caption of psychiatry so defined, and our author will have to do it, if he compasses the subject of insanity as defined in his preface definition.

The author, however, gives another medical definition of insanity.

It is but natural after such a comprehensive view of the subject, that the author should conclude that there are many varieties of mental derangement of which asylum physicians never see the beginning," and "others not requiring the restraint of an institution of any kind." But he does not concede that there are any forms of insanity in asylums with which he is unfamiliar. Under this expansive conception of insanity, it would be perhaps as well to follow the suggestion of a patient at Fulton, at the beginning of the war who thought in view of the fact, that the whole country had gone crazy, it would be wisest to send home the comparative few there restrained.

It is however, undoubtedly true that there yet remain many unwritten phases of prodromal mental aberration, quite unfamiliar to asylum physicians or to the profession generally. There is still room for many more books like the excellent treatise of Forbes Winslow on "obscure diseases of the brain and mind," and he, who, following in Winslow's illustrious footsteps, and in those of Mortimer Granville, rightly observes and faithfully makes further record of the precedent symptomatic features of final mental overthrow, will deserve well of the profession, and of humanity.

He who points out the way in which madness lies that we may shun it, is indeed the greatest of benefactors.

The author finally anticipates the objections that may be made that, not being the superintendent of a lunatic asylum, he has no business to set up as an authority on the subject of insanity, and proceeds to state his claims to be so considered, which are indeed not mean, he, by reason of the several positions he has held as teacher on the subject of diseases of the mind and nervous system for the last seventeen years, having had ample opportunity to familiarize himself literally at least on the subject, and to entitle him to a respectful hearing. But suppose he had seven-

teen years of experience as an asylum physician as well as teacher, would he have ignored that experience as valueless? We can not help thinking that it would have improved the author's qualifications for writing a book on insanity, if he had resided for a few years in a lunatic asylum. The logical blade he wields is double-edged, even in the hilt.

Having shown himself entitled to an audience, he concludes his preface with the following parting shot, showing that he holds a not very exalted estimate of such asylum superintendents, as do not consider him clinically qualified to write a treatise on insanity. "Though I cannot claim to have seen so many cases of insanity, as the average superintendent of an asylum with its thousand inmates (the average hospital for the insane contains not over half that number of patients), I do claim that a single case thoroughly studied is worth more as a lesson than a hundred that are simply looked at, and often from a far off;" and in comparison he likens himself to the medical student who, dissecting one human body is likely to learn more of anatomy than the janitor who sees hundreds of corpses brought to the dissecting room. This is rather a disparaging, if not modest contrast, between the author and the superintendents, though it indicates the author's exalted estimate of his capacity to write a book upon the subject he has chosen for the present treatise. The logic of the comparison will however be disputed, as notwithstanding the great distance between the author, and the asylum physicians, they are physicians, though the latter be ever so insignificant in comparison. He justly acknowledges his indebtedness to Dr. Ralph L. Parsons, late medical superintendent of the New York City lunatic asylum, but now the efficient superintendent of Greenmont on the Hudson, for the use of his voluminous case book of patients in that institution, while it was under Dr. Parson's charge. "The perusal of those records has been of great assistance to him in his description of the several forms of insanity."

Some time ago (1868) a prominent asylum superintendent expressed the hope that "the period might not be far remote when the medical profession will be as ready to treat insanity, as other nervous and cerebral disorders." The book before us is probably written in fulfillment of that desire and prediction.

Dr. Hammond's capacity to write a book is conceded. He can write entertainingly on any subject he chooses for his theme. He has written well on syphilis, military hygiene, anthropology, other medical themes and fiction. This apologetic and denunciatory preface is, therefore, while assertive of self-confidence, suggestive, also, of personal misgivings. It is a weakness in the bringing forth of a new book, as in the birth of a new being, to have to establish by argument and appeal to the record, its legitimacy.

In the initial pages of the book the subject of eccentricity, idiosyncrasy, genius, habit and temperament are briefly but not profoundly discussed, the subject of heredity is here, likewise, too cursorily, but more satisfactorily, presented. The interesting chapter on age, with which the readers of this JOURNAL are familiar, which might have been lengthened without lessening its interest, comes next. The subjects of race and sex

occupy the next twenty pages, and conclude the first section of the book.

The second section is devoted to the discussion of instinct, whose chief seat the author locates in the medulla oblongata and spinal cord.

The discussion of sleep, its cause and phenomena occupies the next section, and carries the reader to the two hundred and sixty-first page. The author, following Winslow and others, refers to the prognostic value of dreams, with reference to the approach of cerebral disease, and attempts to give to certain dreams a diagnostic value, but for every dream of definite character, followed by a lesion of the locality indicated in the dream, scores of dreams, equally definite, might be cited, followed by no such circumscribed encephalic affection or, indeed, by no encephalic lesion at all: nevertheless, the subject is not without interest and importance to the physician, though such a book in the hands of laymen would incline to develop hypochondriasis.

The author reiterates the anæmic theory of sleep which is only partly tenable as the favorable and usual condition of sleep, not as the essential cause always, as the phenomena of artificially induced narcosis, of hypnotism, asphyxiated and hyperæmic slumber prove, as well as the arterial excitation which accompanies the falling into sleep from hyosciamin chloral, etc.

The conditions of somnolency or insomnia are rather in the cerebral cell than in the calibre of cerebral vessels, whatever additional influence vascular states may exert upon the brain. Nevertheless long ago, Maenish overthrew the cerebral turgescence theory of sleep, and our own Caldwell, of Kentucky, disproved it in his day, while Playfair, in 1844, preceding Durham, also, demonstrated that less blood was in the brain, or needed there, during sleep than when it is awake.

The author not only adopts the exclusively somatic theory of mind, but maintains, without reserve or qualification, what might be called the somatic etiology of mind, the genesis of which he locates wherever there is gray matter. That is, "the brain is not the sole organ of the mind," but "the spinal cord is, likewise, the seat" (with the brain) "of certain elements of mind, or rather is capable of evolving them."

Discussing the size of the brain, relative to mind, he introduces Thurman's tables, but makes no addition to them. In connection with the statement that the size of the brain is well known to bear a "direct relation to the intelligence of the individual," it would have been interesting to hear the author's explanation of the relationship of the powerful, but diminutive brain of the great Gambetta, with its deep and complex convolutions, and Whitehead's great sixty-eight-ounce brain and well developed convolutions without intelligence.

In the subsequent chapters of the book the readers will find the features of insanity well portrayed, but the discriminating alienist of wide experience will not discern in what is written therein, the hand of a master in psychiatry. The book does not compare favorably with his treatise on the diseases of the nervous system.

The chapter on the volitional insanities gives just prominence to a feature of mental alienation, worthy of still more extensive consideration than has yet been given it. Dr. Hammond gives this mental condition the

uneuphonic name of *aboulomania*, which sounds, too nearly like a term which might be framed for a form of insanity displayed in morbid condition of the appetite. This new term will prove about as unacceptable as the unpronounceable name the author proposed to give to hypnotism. Terms, more pleasing to the ear, might be suggested for both. But why make a new form of mania out of this when the will is just as absent in hysteria, etc.

In discussing the prognosis of insanity he gives prominence to the views so well presented in these pages by the distinguished and venerable medical head of Northampton, Dr. Pliny Earle. Katatonia, so well described by Kahlbaum and Kiernan, is given due prominence, and four cases are recorded by the author.

The interesting case of juvenile pyrophobia reported in these pages by Dr. Willis P. King, of Sedalia, Mo., has not escaped the author's attention, while no mention is made of the most youthful case of mysophobia or toxiphobia on record, reported by the reviewer to the St. Louis Medical Society, and recorded in its proceedings, probably because it is not designated as mysophobia but toxiphobia. Mysophobia is not a new form of insanity, having been long recognized by all alienists as a symptomatic expression of cerebral disease, mainly under the head of toxiphobia, a fear of being poisoned being the underlying dread of most of these cases, and a very common form of dread among the incipient and confirmed insane.

Reasoning and emotional mania, intellectual monomania, dementia, acute mania, the epileptic, choreic and hysterical insanities, and their causes, treatment, and morbid anatomy are reasonably well presented and some of the descriptions are classical.

A morbid irritability seems apparent in the author, towards certain asylum superintendents, to whom some of his chapters seem especially directed, particularly those on the subjects of restraint and recoveries; and it is painful to see the bias of a personal grievance display itself in statements made under the head of treatment, calculated to intensify the already exaggerated distrust in the popular mind of American asylums for the insane. It is bad enough for the sensational public press to gloat over the outrages which are sometimes perpetrated by inhuman attendants upon the insane in asylums, but which do not compare with the inhumanity towards the insane, outside of the public asylums, but it is not pardonable in a medical author to give undeserved prominence to these exceptional abuses as if they were general and almost universal occurrences, no matter how great his personal grievances. Such degressions in a chapter on treatment will be noted to the author's disparagement, even by those of his own way of feeling; nevertheless, such attacks will not be without ultimate good in stimulating to greater vigilance in the protective care of the insane, by parsimonious managements of asylums, who, by confiding to the keeping of too few attendants and political appointments, make abuses in some State institutions still possible.

The reader will not be disappointed at finding nitro-glycerine among the author's therapeutics. Indeed with the feelings displayed in the chapter on treatment towards certain American hospitals for the insane, a

prescription of dynamite might be expected. He may be termed the "dynamite fiend" of "the asylum circle," for he loses no opportunity to blow the latter up.

What the author says about special non-asylum treatment, when means are adequate to provide all essential surroundings and care for patients under competent alienists, is worthy of consideration, and has been borne out in our experience, when we have been left untrammelled by friends and unrestrained in resources; but these are the obstacles. The alienistic physician, whose practice is not limited to a lunatic asylum, has peculiar facilities for studying insanity in its first and most curable stages, and for arresting its progress, and we hope the day is not far off, when the profession will recognize the fact generally, not by all physicians attempting to treat all cases of insanity out of asylums, but by procuring competent counsel among alienists and securing early judicious management including prompt removal to asylums of such cases as ought to be sent there.

The author's strictures on political management of State asylums, and the appointment of physicians for political reasons, and without knowledge of the human mind and its treatment to take charge of them, a little more temperately drawn, would be endorsed by the majority of asylum superintendants in the land, and the reduction of irritating mechanical restraint is nearer non-restraint in American asylums for the insane than would be inferred from the reading of Doctor Hammond's chapter on the subject.

The doctor seems to be not so cool as he might be on the crib, "that highly moral instrument of persuasion, so much liked by *certain* of our American superintendents," an instrument which if dispensed with in *certain* asylums, would not probably be objectionable to the doctor if used in certain others.

SULLA COMPENSAZIONI FUNZIONALI DEL LA CROTECCIA CEREBRALE. CONTRIBUZIONE SPERIMENTALE DEL PROF. L. BIANCHI. ESTRATTO DAL GIORNALE LA PSYCHIATRIA. Napoli, 1883. On the Functions of the Cerebral Cortex. An Experimental Contribution. By Professor L. Bianchi. Reprinted from *La Psichiatria*, 800 pp., 73.

This valuable brochure will be noticed *in extenso*, in our next number. We extract now, only the distinguished author's conclusions which are based on a series of seventeen satisfactory experiments :

1. There is a cortical zone on the anterior lobe of the brain, which has no definite limits, but which does not extend more than one centimeter backwards from the posterior limit of the post-crucial convolution of the dog, and which contains all the motor elements for the whole muscular apparatus of the opposite half of the body.

2. On this large cortical surface some points are alone excitable, and the remainder, although containing motor elements, are not.

3. Some groups of muscles are certainly represented in distinct areas within the limits of the zone, but they are also sparsely so in the whole remainder of the zone, in such a manner, that after a partial destruction, what remains of the destroyed zone, will in part act in a compensatory manner for the functions of the destroyed part.

4. It is only when the removal implicates a large part of the motor zone that the motor disturbance becomes permanent.

5. The motor zone of the normal hemisphere compensates to a certain degree the function lost by the mutilated hemisphere, not by assuming a new function, but from the pre-existence of anatomical relations with the muscles of the same side, and of homologous anatomical elements.

6. Locomotion is not a function of the cortex, like a mechanism or motor act, although like a motor impulse, being generated in the sensory and intellectual sphere.

7. Disturbances of tactile sensation when but a slight portion of the motor zone is removed, and not absolutely demonstrable in the dog.

8. On the brain of the dog there is a mixed motor and sensory zone, and this zone is the anterior branch of the second external convolution, which is either carried to the sigmoid gyrus, rendering the hemiplegia more grave, or is only extirpated, disturbing the motility of the dog; never the sight.

9. The center of sight is represented by a large extension of the cortex, which may be divided in three segments. The isolation of any one of these is equivalent to the extirpation of the whole, but with a temporary effect, and whatever remains of the whole center is sufficient to re-establish vision.

10. The extirpation of the entire cortical center of vision, as I have considered it, is equal to a section of the posterior segment of the internal capsule; it produces permanent visual disturbances. The compensation comes from the hemisphere of the same side if the lesion is circumscribed, and not from the opposite hemisphere.

11. The visual disturbances provoked by cortical extirpation are not amblyopia of the opposite eye, but always bilateral hemianopsia. Each eye is represented in the two hemispheres, more in the opposite, and less in that of the same side.

12. Vision is a complete function, resulting from more important elements represented in different cortical zones, which compensate for each other, when one or more of them are destroyed.

13. The conception of localization in general must not be assumed in the absolute sense of the word, but relatively, from the fact that some cerebral functions are positively determined and checked by anatomical limits, and, on the other hand, other functions normally complete in themselves, are not so in the presence of all the elementary processes, of which they are the ultimate expression as an apparent phenomenon; whilst similarly the anatomical area, by which it would seem to be explained and be the last station, to which normal functioning is referred and all that preceded, owes its primal matter or indistinct force, assuming new characters if it determines always more in what form the different gradations of life follow our senses and our intelligence, which analytic force remains very much inferior to the complexity of the phenomenon.

INSANITY; ITS CAUSES AND PREVENTION. A new book of two hundred and sixty-eight pages, published by the well-known publishing house of G. P. Putnam & Sons, which, from a cursory view of its contents and our personal familiarity with the qualifications of the author, Dr. Harvey Put-

nam Stearns, to write upon the subjects included in the title, favorably impresses us; a book suitable to the subject, the times and its author.

Without having yet given it a critical examination, we nevertheless commend it on the faith we have in the capacity and experience of its author. It will be reviewed in our next.

DISEASES OF THE NERVOUS SYSTEM, is the title of the second edition of Dr. Samuel Wilk's lectures, delivered at Guy's Hospital, London, and published in this country by P. Blakiston, Son & Co., which, like the preceding, has come to us too late for extended critical examination.

We have had time, however, to satisfy ourself that the present volume, like its predecessor, is an excellent practical contribution to the subjects treated of by the author in his lectures. It has the advantage, also, over some other similar treatises, of being more decidedly clinical in its features.

We are gratified to find a disposition in this book to give due credit to American investigators, as witness his just reference to Dr. Caldwell, of Kentucky, accrediting him with his part in exploding the hyperamic theory of sleep. The "matter" evidently got disconnected on the "form," relating to the subject of chorea.

This book will also probably be reviewed in our next number. In the meantime we advise those who have not the volume, to possess themselves of it.

HOW TO AVOID INSANITY. In the annual report of the Massachusetts State Board of Health is a paper by Dr. Charles W. Page, assistant physician of the Hartford Retreat, valuable for its treatment of the important question how insanity may be avoided. Dr. Page gives a plain, well-defined and easily comprehended description of the most prolific causes of insanity, and of the best methods of applying the laws of prevention, with striking illustrations of the ease and simplicity of these applications, and of the absolute necessity of a strict obedience of these laws, as the surest way to escape from the disease. The prevention of disease is a political and a social, as well as a medical study.

Taking the report of the Connecticut Hospital as giving a truthful measure of general lunatic hospital results, Dr. Page finds that in about half the 2,333 cases admitted, insanity was brought about by causes largely under the control of man. His comments upon these causes, and the best methods of their avoidance are interesting and instructive.

He justly regards hereditary tendencies as the bottom of most cases of insanity, the bad habits of one generation becoming diseased conditions in the next.

It is a good thing for state boards of health to put such papers before the public; but it would be still better if they would strenuously urge, until something is accomplished in the direction of the lawful debarring of matrimonial alliance among those who can only bring forth mentally defective offspring to burden human life with misery and woe, and commonwealths with demands on charity and reformatory and penal institutions.

INTRODUCTION A L'ETUDE DE L'ELECTROTONUS DES NERFS MOTEURS ET SENSITIFS CHEZ L'HOMME. Par Armand de Watteville—This, as the

author states in his preface, is intended to serve as an introduction to the more detailed and extended work, which he has undertaken with his friend, August Muller, and which has for its object, to establish an electro-physiology of human life.

The experiments on the electrotonus of the motor nerves by the unipolar method have been largely conducted by his confrère; the experiments by the bipolar method on the sensory nerves have been made by the author.

These experiments are exceedingly interesting, and will prove a captivating and instructive study to neurologists, and stimulate an eager desire to come early in possession of the promised larger work, notwithstanding the book before is quite complete and valuable. If space permits in our next issue, we shall favor our readers with some extracts and a more special reference to the contents of this original contribution to scientific neurology.

UEBER DIE SUMMIRUNG VON REIZEN IN DEN SENSIBILEN NERVEN DES MENSCHEN. Von A. de Watteville, A. M., M. D., B. Sc., in London. Separat-Abdruck aus *Neurologisches Centralblatt*.

AN ITALIAN QUARTERLY, devoted to psychiatry, which is making quite an enviable name for itself, is: *La Psichiatria; La Neurapatologie e le Scienze Affini*, which is published in Naples under the direction of Prof. G. Buonomo, and edited by Dr. L. Bianchi. The second number of the first volume contains the conclusion of a very interesting paper on the functional compensation of the cerebral cortex, by the editor. The brain in man, considered from an anthropological point of view, by Professor G. Nicolucci, is begun in this number, and shows great care and research in its preparation. These original articles are followed by abstracts from the different foreign and domestic journals, among which the ALIENIST AND NEUROLOGIST receives prominent mention. The abstracts are all carefully made by competent men, and the comments are of the highest value. The journal presents a good appearance and is sure to meet with success.

HANDBOOK OF MEDICAL ELECTRICITY. By A. M. Rosebrugh, M. D., Surgeon to the Toronto Eye and Ear Dispensary; Member of the International Ophthalmological and Otological Societies. We judge this little book is intended mainly to introduce a convenient modification of the McIntosh Battery, made by the author. As a treatise on Electricity in its therapeutic applications, it is quite incomplete and in some places misleading.

ON THE CHARACTER AND HALLUCINATIONS OF JOAN OF ARC. By Wm. W. Ireland, M. D. Read to the Branch Meeting of the Medico-Psychological Association at Edinburgh, November 1st, 1882. Reprinted from the *Journal of Medical Science*, April, 1883. This is the conclusion of an excellent psychological analysis of this remarkable historical character, who, herself deranged, turned the heads of all France in her day.

THE MEDICO-LEGAL JOURNAL. (Published under the auspices of the Medico-Legal Society of New York.) This is a new venture in a field that has not hitherto proven profitable in this country. This journal

starts under favorable auspices, and may be more fortunate than some of its predecessors.

Valedictory Address to Graduating Class, College of Physicians and Surgeons, Baltimore, March 1, 1883. By Richard Gundry, M. D., Professor of *Materia Medica, Therapeutics and Mental Diseases*, College of Physicians and Surgeons, Baltimore; Superintendent of Maryland Hospital for the Insane. Reprinted from the *Medical Chronicle*, April, 1883.

ADVANCED SHEETS from Dr. Ed. C. Mann's new book on *Psychological Medicine* are received late. They, however, favorably impress us with the belief that the forthcoming book will be especially valuable to those for whom it is designed—general practitioners of medicine.

The Opium Habit; its Successful Treatment by the *Avena Sativa*. A paper read before the New York State Medical Society, February 9th, 1882, with additions, giving a fuller description of its therapeutic action in different diseases, etc. By E. H. M. Sell, A. M., M. D.

The Official Correspondence Between Surgeon-General William A. Hammond, U. S. A., and the Adjutant-General of the Army, Relative to the Founding of the Army Medical Museum, and the Inauguration of the Medical and Surgical History of the war.

General Paralysis of the Insane. An Essay submitted to the consideration of the Medical Society of Morgan county, Illinois, April 13th, 1882. By T. Fletcher McFarland, M. D., of Oak Lawn Retreat for the Insane, Jacksonville, Illinois.

Hints on the Treatment of Some Parasitic Skin Diseases. By George H. Rohe, M. D., Professor of Hygiene and Clinical Dermatology, College of Physicians and Surgeons, Baltimore; Reprinted from *The Medical Record*, June 2, 1883.

Homicide and Suicide in the City and County of Philadelphia, Pa., during a decade, 1871 to 1881 inclusive. By John G. Lee, M. D., Coroner's Physician. Member of the Academy of Natural Sciences. Philadelphia, Pa.

A Case of Hemiplegia, with remarks on Secondary Degeneration of the Pyramidal Tracts. A paper read before the Ohio State Medical Society, June 14th, 1882, by Philip Zenner, M. D., Cincinnati, Ohio.

Microscopical Examination of Potable Waters in the State of Connecticut. By William J. Lewis, M. D. (Reprinted from the Proceedings of the State Board of Health, 1883.)

Experts and Expert Testimony. A paper read before the "Medico-Legal Society," on Wednesday evening, March 7th, 1883, by Ex-Surrogate D. C. Calvin.

On the Importance of the Early Recognition and the Repression of Mental Disease in its incipient stages. By Edward C. Mann, M. D., of New York.

The Insane Diathesis. By Selden H. Talcott, A. M., M. D. Medical

Superintendent, State Homœopathic Asylum for the Insane, Middletown, N. Y. *

Medical Notes on the Treatment of Mental and Nervous Diseases
By Selden H. Talcott, A. M., M. D.

Seventh Biennial Report of the Board of State Commissioners of Public Charities of the State of Illinois.

Aphasia, with Details of Two Interesting Cases. By Philip Zenner, A. M., M. D., Cincinnati, O.

Pemphigus, and the Diseases Liable to be Mistaken for it. Same author and source.

Report of the Committee on Ophthalmology, Ontario Medical Association, 1882.

Ocular Symptoms as Localizing Symptoms. By S. G. Webber, M. D., Boston.

The Treatment of the Various Forms of Acne. Same author and source.

General Paralysis. By Philip Zenner, A. M., M. D., of Cincinnati, O.

The Diagnosis of Insanity. By D. A. Morse, M. D., Oxford, O.

Report of the Proceedings of the Illinois State Board of Health.

Jequirity Ophthalmia. By S. Pollak, M. D., of St. Louis.

John Hopkin's University Circulars. Volume II. No. 22.

Weekly Health Bulletins.

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ORIGINAL CONTRIBUTIONS AND PREFERRED TRANSLATIONS.

The Mental Status of Guiteau--A Review.

By JAMES H. McBRIDE, M. D.,

Superintendent of the Hospital for the Insane, at Milwaukee, Wisconsin.

IN the April (1883) issue of this JOURNAL, there appeared an article on the mental status of Guiteau, written by Dr. J. J. Elwell, a member of the Cleveland Bar. It will be the aim in the following brief review of the doctor's article, to show wherein it appears to the writer that he errs, both in his argument and conclusions. The doctor treats of Guiteau's mental status under five separate paragraph headings, and in this review I shall consider his propositions in the order in which he has arranged them.

It is of course quite impracticable to quote the doctor fully; and in order that no injustice may be done him, all who read this review are recommended to first read carefully the excellently written article by Dr. Elwell. It is proper that I should preface this article with an apology for making such frequent references to myself. Having been one of that army of experts who so long besieged the court room during the Guiteau trial, it has been found quite impracticable to write upon the subject of the prisoner's insanity without making those frequent references to personal experience, which, if possible, I would gladly avoid.

First. "A person cannot be born insane."—During the past year this statement has been cried aloud from the housetops of psychological discussion with almost wearisome reiteration, and yet it is doubtful if there is any reason why the air should be so frequently rent in proclaiming an indisputable fact. It is unquestionably true that no person is born insane; and it is also true, though apparently forgotten, that *no person is born sane*. At birth a human being is but a mass of human possibilities, determined and limited by his inherited organization. No person can be called sane or insane, until he has developed mind in some degree, and at birth a person has no mind, because the organ of it is quite undeveloped.

"*There are no positive indications of the hereditary tendency to insanity being present in the Guiteau family.*" It is really strange how men differ. If the Guiteau family did not exhibit a predisposition to insanity—properly attributable to inheritance—then the meaning of the term inheritance is narrowed to limits that are quite insignificant. When we consider the number of cases of insanity occurring among the uncles, aunts and cousins of Guiteau; when further we consider his mother was for eighteen months previous to his birth sick and helpless from some form of brain affection; that of her two subsequent children one died of quick consumption in infancy, and the other was deformed and died soon after birth; when we consider the mental weakness of the father, that the assassin's only sister was insane some years ago, and has recently been declared insane by an Illinois jury, the wonder is not why Guiteau became insane, but how by any possible chance or accident a sound organization could come of such a union of mental and physical weakness and disease. During the trial of Guiteau, I saw much of his sister, Mrs. Scoville, and it was my opinion, as expressed at the time, that she was insane. John W. Guiteau was barely an improved edition of his brother, and I certainly never saw so strange a mixture of sanity

and folly as he exhibited. He was frantic, even unreasonable, in his efforts to save his brother, yet he retailed to every chance questioner the plans and secrets of the defense, and was a continual hindrance to Mr. Scoville. He said to me on one occasion that if he *knew* his father was insane, rather than have the fact proven, he would see his brother hung. There was a striking similarity of the mental traits of Guiteau and his father, with an exaggeration in the son of the eccentricities of the parent. Guiteau was a crooked limb of a tree that had few straight fibres in it, and because he was a little more degenerate in organization than his father, the cycle of his existence was briefer, and mental disorder came at an earlier period of life. Considering the eccentricities of the Guiteaus, the numerous cases of insanity occurring in the family, and in particular the weaknesses of the assassin's parents, we would naturally expect that mental disease and degeneracy would occur among their descendants; to expect sound organizations to come from such a source would be to seek for pure water to flow from a poisoned fountain. That the law of inheritance may help to explain the mental characteristics and life of Guiteau, it is not necessary that insanity should have been transmitted to him by a direct and unbroken line of descent. Family degeneracy may come from many and distant sources, from states of mal-organization in one generation that are not easily named, but which when further developed in succeeding generations exhibit themselves in various states of disease, and in innumerable forms of mental and physical deterioration. The offspring of parents who are merely of weak organizations may in one instance be consumptive; in another, cancerous; in another, epileptic, and in another, perhaps, insane; all, however, owing their diseased and degenerate organizations to a tendency to family deterioration.

When a medical man finds that a number of near relations are afflicted with insanity or consumption, or any other disease that is known to be hereditary, he

is justified by every rule of logic, and all medical experience, in concluding that a disease affecting so large a number of persons who are related, must have had its origin in peculiarities of constitution of ancestors. Insanity occurring in three brothers and three sisters and in certain of their children, and consumption occurring in other members of the same family, did not, probably, occur because of the special circumstances of life of each individual independent of any form of inheritance. Every medical man who considers such a family history will properly conclude, that the disease thus occurring has been derived by descent in some form—the expression in diseased descendants of conditions of degeneracy existing in ancestors. It is an unquestionable fact, that insanity and other diseases may have their origin in conditions of ancestral life, and organizations; although, in those ancestors these conditions may not develop actual disease, they may be exhibited in forms of disease and degeneracy only in descendants. A large proportion of the insanity that occurs is due to direct and positive transmissal of the insane temperament, and another proportion is attributable to the inheritance of organizations that are simply weak and degenerate. This second proportion is as much due to inheritance as the first, and it is not to be ignored because disease in the ancestors was not fully developed and active. If all the insanity existing at the present day could be swept away, and with it all the hereditary tendency thereto, insanity would continue to occur, and a proportion of it would be attributable to a form of inheritance. That is to say, insanity so occurring would be attributable to the transmission, from the previous generation, of conditions of organizations favorable to degeneracy. Guiteau, it is plain to me, owed his insanity not necessarily to his insane father, nor to his diseased mother; but to a distinct and positive and common tendency in the Guiteau family to mental and physical degeneracy. If evidences of family degeneracy ever justified the conclusion that

there is hereditary predisposition, this conclusion is surely justified by the history of the Guiteau family, in two generations of which there were many individuals who were either defective, consumptive or insane.

That Guiteau's alleged good health was inconsistent with the existence of insanity in his case is a claim that is not well founded, as every-day experience with insane persons shows. Insane people are frequently physically diseased, independent of brain disease, but they may also be physically sound. There is now a man in this institution who has been insane for about twenty years, and who has no discoverable disease of any organ, and who has never been seriously ill in his life, so far as it is known. In this institution of over three hundred inmates, there are a number of persons who enjoy excellent health aside from their mental disease, and it is not probable that the proportion of those who enjoy good general health is greater here than in similar institutions.

In relation to the autopsy, it is not probable that there will soon, if ever, be a unanimity of opinion regarding the significance of its revelations. Yet it would seem that those who insist that insanity is always a symptom of a pathological state, should be slow to cast aside as worthless the evidences of disease revealed in the examination of Guiteau's brain. Here was a man who was believed to be insane by his own relatives; who years previously had been declared insane by an intelligent and experienced physician who had abundant opportunity for observing his mental condition; who was also considered insane by a number of persons who had seen him at various times; who was regarded as insane by a number of medical gentlemen who had made insanity a special study. This man is executed and his brain is examined by microscopists, who are disinterested and scientific gentlemen, and they discover evidences of diffuse chronic disease. All this, and much more, has appeared to me to be strong evidence of this man's

insanity, and yet some of those who have written in support of the idea of Guiteau's sanity have tripped over these matters with a jaunty air that is quite discouraging to one who is disposed to regard them in soberness. The careless ease with which such facts have been tossed aside, in the discussion of this subject, is shown by the reference in the article of Dr. Elwell, to the evidence of disease as reported in the examination of Guiteau's brain.

It seems to me, however, there is here a failure to interpret correctly the meaning of the pathological appearances in this case. As an architect can with the same materials construct buildings of various shapes, according as he fits those materials together, so the conclusion at which one may come from a consideration of certain facts will depend upon the way in which he regards those facts, upon his manner of fitting them to each other. If we accept it as a truth needing no qualification, that serious brain disease may exist without producing insanity, then of course the demonstration of the existence of disease in the brain of Guiteau is of little value in determining his mental condition. But to stop with such a statement is to consider the subject quite imperfectly. It is not sufficient to say, that because men have been known to remain in a state of sanity with serious disease of the brain, that, therefore the existence of *diffuse chronic disease* is without special signification. In our study of this question we should take into consideration certain distinguishing features of the morbid conditions, which we attempt to compare. The trunk of a tree may be struck by lightning, and a large portion of it be destroyed, and yet, the part remaining uninjured may take on the function of the part that has been destroyed, and the tree continue to grow, and to present the appearance of health. If, however, the tree is attacked with a form of decay that diffuses itself throughout its structure, its growth may be so seriously impaired that it will wither and die, and yet, the most careful examination may be necessary to dis-

cover the disease that destroyed its life. A man may have a large abscess of his liver, and yet wholly recover from it, and the function of the organ afterwards be properly performed. If, however, his liver be attacked with cirrhosis, though a microscope be necessary to detect the morbid growth of connective tissue, yet we know that the disease will slowly but certainly strangle the little liver cells, and finally destroy the function of the organ. A bullet, or even a crowbar, may pass through the brain, and yet, after the immediate effects have been recovered from, the mind will remain in the normal condition; a large abscess may form in the brain, destroy tissue, and yet the person recover without any observable loss of brain function.

Experience teaches us that these things do occur, and our knowledge of physiology and pathology would lead us to conclude that they might occur, even without the lessons of experience. There is, however, a different and special significance in those forms of cerebral disease which are diffused and chronic, which are not localized and isolated in centers of healthy tissue, but in minute masses and microscopic colonies of degeneracy, are found scattered in various regions of the brain. When we discover evidences of this form of disease, we are justified in concluding that this wide-spread and serious impairment of nutrition implies a like serious impairment of function. The function is not only lost in those parts destroyed by disease, but the undiseased portions of the organ, through contributing to the maintenance of a morbid process, lose to some degree in vigor of function.

In the case of Guiteau's brain, we are informed that in all parts of the organ examined by the microscope (more in some parts than in others) the nerve tissue was seriously diseased, the blood-vessels were diffusely and chronically degenerated, and other evidences of cerebral degeneration were discovered.

Our knowledge of the pathology of insanity justifies

the conclusion that the existence of diffuse and long-standing brain disease, such as was shown to have existed in this case, has a special significance, and it seems to me that the reasonable and inevitable conclusion from the examination of Guiteau's brain must be that the character and extent of disease shown to exist, was wholly inconsistent with mental health; that it compels us to conclude, that there could not have been in his case anything short of long-standing and serious mental derangement. This opinion is not expressed hastily, but after careful and impartial study of the case during life, and of the reports of the post-mortem examination; and in the light, dim though it may be, of nine years of patient investigation, which I have devoted to the microscopic pathology of the brain in insanity.

Second. No one, perhaps, has claimed that a motiveless crime is necessarily an evidence of insanity. There is, however, much evidence of insanity in Guiteau's reasoning regarding the consequences to himself of the shooting of the president.

His whole scheme of taking part in the presidential campaign, with a view to subsequent political reward, was conceived in insanity and grew to its absurd and colossal extravagance through the continual help of progressive disease. A man without even medium talent who has attempted to speak in public a hundred times and always failed, proclaims himself a political orator and asks for assignments to speak in a presidential campaign; to the prospective president from whom he would expect reward, he hands a copy of a wandering, empty and incoherent speech, which of itself would destroy all possibility of political preferment. He attempts to deliver this speech to a colored audience in the Bowery, but quits before he has completed it, because, as he said, he "didn't like the crowd." He subsequently claimed, and doubtless sincerely, that this speech elected Garfield president. Then he is seen in Washington seeking an appointment to a foreign mission as a reward for his imaginary political services.

He had not even one friend anywhere, was ignorant, penniless, ragged, bareheaded and without shoes, wandering about the streets of Washington, asking strangers to recommend him for the position of minister to Austria. Then his contemplated visit to Europe after the shooting, his expected triumphant return and welcome by the nation, a reward for his crime, and an immortality as a nation's deliverer. All this, we are told, was seriously entertained by a sane man, but to me it would seem to be the plans and conduct, possible only to a person who was positively insane.

In regard to the question of immorality it would seem that very much depends upon what men mean by immorality. When Dr. Beard says that all insane people are immoral, he doubtless has a different standard of morality from Dr. Elwell, who says that insane persons are not generally immoral, for it can hardly be that phenomena, which are every day being carefully studied by physicians, would be so differently interpreted. While it is probably not true that all insane persons are immoral, yet it is true that conduct which is regarded in sane persons as immoral, and certainly which is a violation of that which we regard as the moral law, is not only observed (as a symptom) in insanity, but it may be an early symptom of the disorder. A minister of the gospel stole books and surgical instruments, though he continued to perform the duties of his profession. Other evidences of insanity soon appeared, his thefts at the same time becoming more frequent, with finally no attempt at concealment. The pilfering was evidently the first symptom of the attack of insanity, which, after having lasted several months, ended in recovery. Another minister, as the earliest observed symptom of insanity, becomes intoxicated and at various times commits gross immoralities. A gentleman of wealth, during the development of general paresis, and as the first indication of the disorder, stole silverware and other articles that attracted his attention by their brightness.

That the most tender, kind and affectionate persons

become in consequence of insanity suspicious, unkind, cruel and even murderous; that they become untruthful, treacherous and grossly immoral all this is well known—and finds illustrations in every insane asylum in the world.

The moral perversion of general paresis, puerperal mania and other forms of insanity has been widely observed, and the literature of the profession abounds with illustrations. We would, indeed, expect that a loss of the moral sense would necessarily result from insanity, because it is one of the latest and highest acquisitions of the race in the course of its development, and in accordance with the law of retrograde degeneration it would be one of the first to fail.

Third. That no amount of deliberation is inconsistent with insanity is a statement which is supported by an abundance of testimony. The insane man may be hasty, rash, impetuous and abandoned to some controlling idea that hurries him without reflection to the commission of a crime; but he may also be calm, shrewd and deliberate, and plan with all possible skill and foresight. The following is a forcible illustration of deliberation in the commission of a crime by an insane person, and which was hardly excelled by the much talked of deliberation of Guiteau:

Mrs. Josephine A. Willner was for a number of years a resident of Milwaukee, and during that time was a patient of Dr. G—, a prominent physician of the city. In 1874, her husband having died, she removed to Geneva, Ohio, where she continued to reside. For a year or two previous to her leaving Milwaukee, her acquaintances observed that she acted very strangely and by some was regarded as an insane person. After having lived in Geneva for some months, she wrote to Dr. G—, demanding that he quit poisoning the air, as this conduct on his part was injuring her health, and demanding also that he quit interfering with her affairs in Geneva, through atmospheric influences. Finally, to avenge her imaginary

wrongs, she decided upon a plan of action and proceeded to carry it into execution with all the care and deliberation conceivable. With "excellent judgment and care" she selected a pistol, carried it home and attempted to shoot with it at a target. It did not act to suit her, however, and she also states that she did not like the appearance of it, as "it had a rough, unladylike handle, and that she wanted a better-looking pistol." She exchanged it for another pistol, and with this she practised shooting at a target in her back yard during the period of four weeks. She then started for Milwaukee, distant seven hundred miles. She changed cars at Chicago, and during the ride to Milwaukee, of one hundred miles, was noticed to be quietly reading a book. At Milwaukee she took a carriage, drove to the residence of Dr. G—, called him to the door and shot him dead. As she had not been satisfied with one or two chance shots at a sapling, she did not need to shoot but once, and sent the bullet to a vital spot. She says that she purchased the pistol and practised with it, with the distinct intention of going to Milwaukee and killing Dr. G—. She was found insane, and is now held in this institution by order of the court. There is not now, nor has there ever been since the time of the homicide, any reason to doubt her insanity.

Fourth. It is not probable that Guiteau was the originator of the plea of insanity in his case. Not that it would be inconsistent with the existence of mental disorder, but from my acquaintance with him I do not believe that such a plan of escape would have occurred to his weak and chaotic mind. That an insane person may plead insanity as an excuse for crime, finds an illustration in a case now in this institution. Mrs. Crocker, a lady who had been well educated and who had studied law, had resided in Milwaukee for many years, but had latterly been a resident of Washington City. Because of certain differences between herself and her stepmother, she came from Washington to Milwaukee, appointed an interview with that lady at the office of a lawyer, and,

without any immediate provocation, shot at her step-mother. When the case was called for trial, she put in the plea of insanity, claiming that she did the shooting in obedience to a command received at night from the spirit of her dead father. She insisted that at the time of the shooting she was insane, exhibited much interest in the trial, and suggested to the attorneys questions to be put to experts. Being put upon the stand, she claimed under oath that she was insane at the time of the shooting, and underwent a long examination without any apparent inconsistency or contradiction in statement. She was acquitted on the ground of transitory mania, and was set at liberty. She was soon after arrested for another offense, and upon trial, being declared insane, was committed to this institution, where she now is. She was undoubtedly insane at the time she attempted to shoot her stepmother, the insanity having existed for a number of years previous to that time. She states that the *plea* of insanity at the time of the first trial was false, that she did not entertain the delusion which she claimed to have entertained, and that she only entered the plea to escape punishment. There is no doubt in my mind that her statement is true, and that her claim that she was influenced to commit the deed through the commands of her father's spirit, was entirely false. Such a delusion would not be in keeping with her other mental symptoms; it is totally unlike those she is known to entertain, and a belief in the communication with spirits is one which she is now, and always has been, prompt to ridicule. She is shrewd and intelligent, but entertains many wild and extravagant ambitions which remind one of Guiteau, though, intellectually, she is far his superior.

On Thanksgiving Day (Nov., 1881), Guiteau said to me in the presence of another physician, that he had never read any works on insanity or on the jurisprudence of insanity. When I asked him the general question, if he had read works on the subject of insanity, he replied

that he "supposed he had and thought he knew something about it," and was evidently anxious to impress me with the idea that he was acquainted with the literature of the subject. When, however, I mentioned the names of the various prominent authors on insanity, he said that he was not acquainted with what they have written. He admitted his ignorance of this subject with evident reluctance, and as I pressed him with questions regarding his knowledge of works on the subject of insanity, he became excited and impatient, and dismissed the subject with his favorite phrase: "I know nothing about it, and I care nothing about it." That he had a scrappy knowledge of the cases of Sickles, McFarland, Freeman and Coles-Hiscock, is probably true, for a person could not read law, even in the superficial way in which he read it (and certainly he could not read the daily papers), without being informed somewhat regarding these cases. There is no evidence with which I am acquainted, however, that he understood their legal and scientific bearings; he simply may have known the plea in each case and the result of the trial, and this is knowledge which many an insane man might acquire.

Fifth. Notwithstanding the medical talent which arrayed itself on the side of Guiteau's sanity, it does not necessarily follow that he was therefore a sane man. In matters of science neither majorities nor minorities are to be considered, but opinions are to be valued according as they harmonize with experience and scientific knowledge. On the question of Guiteau's sanity we know the doctors were divided, unequal though it was.

After as careful an examination as I could give to the mental condition of Guiteau, I believe that he was an insane man at the time he shot the president, and that he had been insane for many years. From my observation of him, it appeared to me, that prominent mental characteristic of the man was that of *congenital defect of organization*, and to this had been added mental degeneracy.

I am aware that he was regarded by some as a man of talent; yet to me his positive and serious lack of sense and judgment was the first thing that impressed me, and the more I studied him the more was I impressed with the belief that, mentally, he was by nature and disease weak and degraded. He had a certain amount of superficial cunning, as persons of a certain grade of mental defect have—he would occasionally say a smart thing or make a witty sally, but the imbecile “court fools” of old could do this and they were laughed at by royalty. Guiteau was one of the class of persons whom we meet in asylums and out of them, who though congenitally mentally defective, are cunning, restless and wayward, occupied for a time with strange and impossible schemes, who are interested in everything by turns and nothing long, pursue senseless and impossible ambitions for a time and then tire of them one by one, like a boy with his tops and hoops and marbles, and devote their senseless enthusiasm to some other chimera. The peculiar memory which Guiteau exhibited, appeared to some to be inconsistent either with insanity or congenital defect. It may be confidently stated, however, that his memory was one which persons who are congenitally mentally defective may possess. There was not an incident of his life which was too trivial for his microscopic recollection; his memory was stored with the petty incidents of an existence that was pitiably dwarfed and inferior in all its possibilities. It was the memory of a savage of an inferior mind, taking account of the trifling events of a life that was itself trifling, because it was that of an inferior organization working out its own poor and mean salvation. It was a memory which sensible people do not have, which in fact they cannot afford to have, for it would be like filling the valuable space of a warehouse with the garbage and rubbish of the street.

Superior minds remember prominent incidents or general principles, but they do not stop to treasure the trifling and trivial occurrences of each day. Guiteau, with

all his Indian-like memory, was doubtless quite incapable of committing to memory a page of printed matter or of comprehending general principles of law, or indeed principles of anything. He was as superficial as he was quick; his mind was wandering, restless, and his ideas on all subjects quite chaotic, and the mind he possessed was but the miniature of sense and sanity.

During repeated interviews with him, I questioned him on the subject of the history of this country and of Europe, the history of political parties, and also regarding his knowledge of the history and principles of the Christian religion. When asked the general question he would assert in his egotistic way his familiarity with a subject, but upon further questioning it would appear that he was ignorant of it. He was, in brief, an ignorant man, because he was incapable of acquiring knowledge, and because his mind was dwarfed by nature and hopelessly disordered by disease.

In concluding this paper there are two considerations suggested by this discussion which may be briefly alluded to here. Space will not permit of the elaboration of an argument sustaining these propositions, and I will content myself with a hasty statement of my conclusions concerning them.

"The only line that science can draw upon the definite knowledge as yet acquired of the human constitution, is that which defines insanity to be a positive pathological state, a physical disease which forms the underlying basis and cause of all the complex mental phenomena by which chiefly its existence as disease is popularly recognized."—*Am. Jour. of Insanity*, Jan., 1882, p. 306 and 307.

Our accepted definitions of insanity are based upon the assumption that the disorder is always the product of disease; that however badly organized one's brain may be, he cannot be technically insane except his brain is diseased.

It is R. W. Mackey, I believe, who says that

definitions are less exact as human knowledge progresses. As man advances in knowledge and in his ability to comprehend laws that are more and more general, he learns that nature nowhere in all her infinite varieties makes sudden leaps nor draws sharp lines of distinction; and, therefore, his definitions which artificially separate and abruptly limit and demarcate, do gradually and inevitably lose their value. Mr. Curdle was applauded for his definition of the dramatic unities as "a sort of a general oneness," a specimen of word-jugglery equally applicable to the universe or a housefly. Bichat, was it not, defined life as the "totality of those processes by which death is resisted." In this definition, it was thought he expressed a great truth of nature, yet he taught men nothing by it; he simply turned an intellectual hand-spring and came down in his own tracks.

Let anyone read the thousand definitions of insanity that have from time to time expressed men's knowledge of morbid mental states, and he will observe that the meaning of the term insanity has been continually changing, and he will observe also that the boundary-lines of the disorder have, as expressed in definitions, become more extended and more indistinct. Compare the technical insanity of the time of Coke or of Hale, with the technical insanity of the present day, and behold the change!

Definitions are indeed fascinating things, and in a measure useful, but they are continually misused. They are but expressions of a temporary phase of knowledge,—they are at best but rude approximations to the truth, and are destined to endless change and re-arrangement. It is doubtful if the present definitions of insanity, which assumed that the disorder is the expression of disease, are consistent with medical experience, or with the teachings of modern science. It will doubtless be considered quite unorthodox to detract from this time-honored dictum of alienists; we all have a fondness for it from long association, it being the bottle from which the new-comer in the nursery of psychological science is first fed.

It should not be forgotten, however, that error is of all things positive, and contented with herself. Science—that embodiment of knowledge—has come, in part at least, through doubting that which was regarded as unquestionable, and through consequent change and reconstitution of human knowledge. To question the correctness of accepted theories may be a means to progress; scepticism, therefore, in matters of science is to a degree desirable, and it is this day helping to turn the wheels of human progress.

It is admitted that the force called mind, if not produced, is at least made manifest through the agency of the brain cells, and it is also admitted that through disease of these cells, or certain clusters of them, mental disorder may result. Many, however, who accept these as just conclusions, deny that through an originally faulty arrangement and association of these same cells, there could result mental disorder. To the minds of some there appears to attach to the word "disease," a sort of magic by which nature accomplishes very strange results, and results too, which she cannot imitate by any condition or process that is not essentially morbid. It is true, however, that there are conditions of mental unsoundness which are not produced by disease, but which are due to malorganization of brain; and if we observe the conduct of those who are unsound from defect of brain organization and those who are unsound from brain disease, we find that distinctions which we attempt to draw are quite unwarranted.

An idiot boy who has seen his father kill a sheep, concludes that he will imitate him, and kills his little brother; but no one would believe it just to punish the idiot. Please remember that this idiot's brain is not diseased and he reasons too, but because of inborn twists of organization he reasons badly, and acts badly.

A mother, who when mentally sound is kind, tender and affectionate, has an attack of melancholia, and during the continuance of the disorder, kills her three children;

but no one, perhaps, would believe it just to punish her for conduct which was the result of disease of the brain. Then disease cannot be the only test in such cases, for surely the idiot's mind is not less unsound in every sense of the word, than the mind of the mother.

Keeping this in mind, let us go a few steps further, and consider a person who is not an idiot, and yet whose brain is badly and imperfectly organized. This man, in consequence of his defect, reasons badly about everything, he is incapable of applying himself except in a profitless and paroxysmal way which only emphasizes his degenerate state, and his life is utterly worthless and aimless, though it is the best that he can make it. Finally, in a time of political excitement, he conceives the idea that he will do a patriotic act by killing the ruler of a great nation. He reasons so badly that he believes that in place of being shut up as a lunatic, he will be considered the great man which he conceives himself to be; that he will be hailed as a deliverer, and rewarded for his act. So he kills the president, and he is so unreasonable as to suppose that if he can only conceal himself for a few days, the public, which without understanding his patriotic motives may at first feel disposed to punish him, will after having had time for reflection, conclude that his act was a meritorious one. Now all this reasoning, if such it can be called, is the work of a disordered mind, and his thoughts run in this channel because the only existence of which his poor dwarfed nature is capable, forces his thoughts so to run. Though he be several grades higher in organization than the idiot who killed his brother, he certainly is several grades lower in organization than any man who can properly be called sane; and if we fail to recognize this slighter degree of defect, it is probably the fault of our methods, certainly not the fault of him who is defective. Therefore, if we have in our possession a poor old definition, the requirements of which are that this man shall be hung, the question is whether we shall execute the man or the definition.

Reason would seem to suggest, that we should save the man from judicial murder and hang our definition, which, though it may have done well in its time, is old and useless.

It would seem, therefore, that the distinction which our definition of insanity attempts to make is one which cannot properly be made; it is a definition which does not define, and no amount of metaphysical gymnastics which may be performed about it will conceal its conspicuous imperfections.

The weakness of this definition may be made more apparent by a further consideration. In studying the methods by which nature works out the problems of organic life, we find that without invoking the aid of disease, she yet departs in many instances from her general rules of work, and produces every possible degree of defect and deformity. She gnarls and twists a tree and causes it to grow crooked, yet the tree is not diseased; she bends the bones of a human limb; she constructs a defective heart; she makes defective muscles for the eye, yet in neither case is there disease. We find, also, that in the construction of that most complicated of organs, the brain, that nature's architecture is sometimes faulty, and that there is every degree of structural defect in cerebral organization. The most serious defect in brain organization is called idiocy; a less serious, imbecility; and a less serious still, has not been named or classified. The subjects of this slighter degree of defect are left to drift about the world at the mercy of their senseless vagaries, to curse society with their useless and annoying liberty; and when following the evil but irresistible impulses of a bad organization, they kill some one, then we rise up in virtuous indignation and choke them to death.

The question occurs then, does it necessarily follow that before a person can be considered insane, there must be a change of mental character produced by disease; may not insane beliefs and conduct be the natural product

of a bad mental organization? One man may entertain a false belief because his brain is in a morbid state; he arrives at his conclusions not from choice and correct reasoning, but because of the action of a diseased brain. Another may entertain a precisely similar belief, because there are wanting in his brain certain parts essential to proper reasoning, or because of a bad arrangement of existing parts. He, therefore, arrives at his conclusion not from choice, nor because of a morbid process, but because of the chance suggestions, the wayward and imperfect logic of a defective mind. If in the first instance, there is insanity in consequence of *disease*, why is there not insanity in the second case resulting from *bad organization*? A human brain may, in fact, be so badly organized, that in its evolution there is not only defect of mind but *disordered* mental action; so badly organized, indeed, that deranged action may be its only form of activity.

If nature in a certain case organizes not only a bad brain, but certain other parts of the system, which determine the preparation and assimilation of nutritive material, so that the nutrition of the brain fails to be what it ought—so that the individual thinks imperfectly and incoherently—surely the individual cannot be considered responsible for his conduct which results from his defective organization. While, therefore, it may be allowable in the two cases mentioned, to make a distinction in names and to say that one is insane and the other is an imbecile or something else, so far as their responsibility is concerned there would surely be no difference. The true test in each case should be the reasonableness or the unreasonableness of the belief considered in connection with the condition and life-history of the individual. One entertains the belief in consequence of disease, and in the presence of his belief he is helpless; the other entertains the belief in consequence of malorganization, and so, in the presence of his belief, he too is helpless.

In the view here taken, therefore, insanity is not

necessarily and always a symptom of disease; it may be so, and it may also be an indication of a badly organized brain. In the case of Guiteau the difficulty of reconciling his mental characteristics with that iron-bound requirement that one must have changed through disease from his normal self before he can be considered insane, was a difficulty that was serious with certain gentlemen. They could not see that he had "changed," and, therefore, they could not consider him "technically" an insane man. If Guiteau, however, with all his wild and strange delusions, and his utter unreason was not, "technically" insane, then it is only the worse for the technicality.

Bellingham, an insane man, killed Prime Minister Percival, but he was hung because he happened to know enough to be able to distinguish "right from wrong." He was not, according to the accepted ideas of the time, "technically," an insane man; and, therefore, because he could not be handsomely fitted with a definition, he was taken out and executed.

"When science cannot speak definitely and with authority, it is her duty to be silent."—*American Journal of Insanity*, January, 1882, page 306.

The scientific man is entitled to give definite and positive opinions, if he but remembers that his most cherished laws and highest principles must in the inevitable progression of human thought be subject to ceaseless change and rearrangement. As nature in the procession of the seasons forever renews, unfolds and advances in her forms of life, so must the laws and principles of science in the evolution of human knowledge be forever modified and revised. The scientific man, while he uses every fact for its full worth, knows that the time will come when it will be laid aside as an outworn garment of the mind, and its place be taken by those that, having a higher and a better meaning, answer to new and advanced conditions of development. Therefore, every fact or principle is to be used for a time, its enduring parts assimilated in human knowledge, and then its

identity will be lost in facts and principles that are higher.

The scientific man, for the sake of being authoritative and definite, does not cling to the remains of principles that human thought has outgrown, neither does he despair because in his intellectual advancement the horizon of human thought stretches wider and wider about him. Being himself in intelligent harmony with nature's law of progress, he gladly welcomes this rapid growth of knowledge and this perpetual rearrangement of the forms of thought as the prophecy and promise of an unlimited development, and of which the science of the present time is but the first faint rays of the coming day. To the man of science human knowledge is always readjusting itself to the ever-renewing conditions of mental progress; to him each principle is but a temporary formulation of human knowledge, each fact is but an outpost beyond which there looms a vast and untrodden region of higher facts which forever multiply as he advances, and yet forever lure him on.

The medical expert may be positive in his opinions, in so far as positiveness is warranted by facts, if he bears in mind the necessity for this occasional revision of his beliefs and definitions in order that they may harmonize with the inevitable progress of science. There is, however, on the part of psychological expert witnesses, a tendency to an unwarranted positiveness of statement. The temptation for the psychological expert to be positive in his statements is great; for then he can more easily sustain himself as a witness, and he is less liable to be entangled by questions that are suggested when doubts are expressed. Hence the expert witness in cases of insanity is usually positive, and exceptionally admits having a doubt.

It is a fact, however, that in quite a proportion of cases upon whose mental condition experts are required to give an opinion, the insanity, if it exist, is not fully developed—it is in the formative stage.

Indeed it is in these obscure cases that the services of experts are most needed—these cases that occupy the doubtful region between sanity and insanity. Yet it is, perhaps, just to say that experts in their testimony seldom appear to have discovered these cases; every case is placed clearly upon one side of the line or upon the other, and the transition period would appear to have no existence.

In reading much of expert testimony one would suppose that in developing insanity nature departed from her wise rule of passing from one extreme to another by imperceptible gradations, and that she passed from sanity to insanity, not over a debatable region, but by a sudden bound. Definitions are hence unconsciously framed, so that doubtful cases are excluded and the definitions themselves tend to support the experts in an unwarranted positiveness.

The harm of being uncompromisingly positive is, however, witnessed by a thousand errors that such positiveness has bred in the past, and by a thousand crimes committed in the name of unquestioned beliefs. The stake and the thumbscrew were positive, and they were the natural products of faiths that would not submit to be questioned, and which silenced the consciences of those, who working towards mental freedom, were inclined to listen to the whisperings of doubt. Yet all experience teaches us that it is right to doubt, and that an honest doubt has as much right to its existence as has an honest conviction.

The law tells us that the reasonable doubt of one man can outweigh the positive convictions of eleven men and any array of evidence; nor does the law say that this doubt should be concealed, but rather that it should be expressed. If the psychological expert entertains an honest doubt he will only entertain it as the result of intelligent reasoning. Pray, why should he not, like a brave man, give expression to that doubt, and bravely also give his reasons for entertaining it?

Changes in Handwriting in Relation to Pathology.

In review of the works of the following authors, viz: Marcé, Poincaré, Charcot, Buchwald, Erlenmeyer, Vogt, Swortzoff, Grasset, Ireland and Durand. 1863—1882.

By A. BIANCHI, M. D., Italy.*

THE study of the alterations observed in the handwriting of different individuals, is useful in the diagnosis of some maladies which have their origin in alterations in the nervous centres, and may guide us in their diagnosis and treatment. Varied as the diverse customs of the peoples, stand the written signs in their form and their groupings, to denote the different degrees of the civilization of man, and following them up from the cuneiform and hieratic characters of the ancient Asiatics and Africans to the sculptured signs of the Indians and the Mexicans, from the written words of the Thibetans and the Chinese, numberless as the ideas and objects, to the forms of the alphabet of our times, we see that, along with the development of civilization, there is to be observed a gradual and progressive perfectionment of the written speech. This has led to the endowment of man with the power of presenting, by means of a few letters, so many combinations as, by their varied groupings, suffice to represent the names of the various objects he may desire to indicate, and to evolve his own ideas.

But, if the study of the various and progressive improvements of written language is important in ethnology and anthropology, it may well have some importance for the physician who must occupy himself solely in the alterations, psychical and mechanical, which may be met with in the actual mode of writing of different individuals,

* Translated by Joseph Workman, M. D., Toronto, Canada, from *Il Pisani's Gazzetta Sicula*. Palermo, 1882

especially in certain morbid movements. All the observations hitherto made relate to the common English characters, and only a few have been accomplished, in Germany, in the Dutch characters, which are, however, pretty near those of the English; only a few have been obtained in the Semitic, Arabian and Indian. We are not at present aware of any study of this sort made by our physicians in the diseases of China and Japan, though it would certainly be important to see whether, with these people, who for every idea have a distinct written sign, the diseases of the nervous system always effect the same alterations in their written language, as are observed among us.

However, limiting ourselves to the simple observation of facts made by the physicians of those countries in which written words consist in the union of the letters of the alphabet, we must make a few distinctions in order to render the subject more clear.

1st. Physiology of Writing.—When we examine the method of writing, it is seen that every people traces the characters with the right hand, whether from preponderance of structure, result of habit, or education; it is observed that, whilst the Asiatics write from above downwards, and from left to right, the Semites and the Arians trace their writings in lines one below the other; but the former from right to left, and the latter from left to right, the one presenting the centripetal and the other the centrifugal course.

The psychicho-mechanical act of writing is, according to the majority of physiologists, executed by a reflex mechanism, similar to that of oral speech, with the sole difference that the acting muscles are those of the hand, on which the reflex act, and that the sensation comes, for the most part, through the organs of sight, although the auditive sense also takes a notable part. Hence, in order to learn to write, it is necessary, not only that the pupil shall see the signs, but also that, being heard, he should understand what is intended to be expressed.

An optic impression is therefore requisite for learning to write, and for the awakening of the activities of the motor cells which are in relation with the muscles of the hand; and those cells are probably located in a given centre, which, according to some, is one and the same with the centre of oral language, but according to others it is quite different. The former authors base their assertions on numerous pathological cases, in which both the written and the spoken language were lesioned at the same time; the latter, on the other hand, rely upon cases equally numerous, in which the spoken language was lesioned and the written not affected, or *vice versa*, and upon the aptitude shown, for example, by deaf mutes (individuals in whom vocal impressions awaken no reflex action on the centre of speech), to learn to write and to converse by different movements of the hands. The opponents of these authors adduce, as an example, individuals born blind, who, although they have never received a visive impression, can yet learn to write, under a patient system of education; they are habituated to receive the tactile impression of the various letters of the alphabet, and to join them in such a manner as to compose the diverse words expressing the objects touched by them, the ideas which they adopt, or the words heard by them.

(A diagram is here presented for the purpose of more clearly representing the author's "scheme of the probable mechanism of language," the eye and the ear being the receivers of impressions. From the eye the impression is transmitted to the "visive nucleus of the optic thalamus, thence to the related cortical cells, then down to the corpus striatum, which acts on the medulla, so as to put into motion the muscles of the fingers. As to the aural impressions, they are figured as going into the auditory nucleus of the optic thalamus, thence to the cortical cells, and thence down to the bulb, which excites the vocal muscles, or to the medulla, which puts into motion the muscles of the hand. Having thus, to his own satisfaction, disposed of the navigation of sights and sounds, the author proceeds):

“Furthermore, instead of auditive and visive sensations, there may be intellective currents, which, carried to the medullary centre, may give place to motions of the fingers for writing. The results of the impressions which may be transmuted into written language are therefore three,—the visive, the auditive and the intellective. The tactile may supply the part of the visive, in exceptional cases, after long habit; the intellective are indispensable to good, regular and sensible writing. The collocation in the cerebrum of a centre for the co-ordination of the motions necessary for writing, is a reasonable thing. Woroschiloff believes that this centre is in the medulla, near its cervical swelling, because he saw that, in a dog, here was the centre for the associate motions of the fore and hind limbs. But, in order to explain well the mechanism of writing, we cannot bring to our aid the experiment of comparative physiology, as this is powerless in presence of this phenomenon, which is the exclusive faculty of man, and hence man alone can be the special study relative to the psychical mechanism of writing. It is not, then, comparative physiology, but truly the physiology of man, or better, the exact clinical study of cases of central lesions, with alterations of written language, which can throw sufficient light on this phenomenon, and instead of hypotheses, more or less reasonable, may substitute a theory safely founded on an unassailable basis. But as yet this is difficult, since the patients met with in clinics and hospitals are mostly ignorant of writing; and, therefore, whilst we are able to recognize the varied series of alterations in spoken language, we cannot, with equal security and frequency, study those produced in written language by central lesions.

That the difficulties of observation are great, is a fact proved by the limited bibliography which, up to the present, the subject exhibits; and it is exactly for this reason that we have been induced to press it on the attention of physicians, in order that, from multiplied observations, truth may emerge. Attempts have been made, and are

still made, but hitherto the result has been certainly only little encouraging to him who would occupy himself on the alterations of written language, unless he starts with the conviction that only by persevering and daily fatigue he may reach a fortunate result. In this way the legal expert has so far succeeded, that from macroscopia and microscopic study of various writings he is enabled to distinguish alterations introduced into them, artificially, from those made by the original writer. I need not say how much psychiatry may be benefited by the study of the psychical composition of the writings of the insane, enabling us at such times to judge, from the simple examination of them, as to the intellectual lesion which has fallen on a given individual, and to form a prognosis sufficiently secure.

In the meantime, from the divers observations of physiologists, it may be concluded that writing, a most complicate muscular art, is a truly marvelous thing.

For the purpose, first of all, the instrument with which the written signs are to be made, must be firmly fixed by the flexors of the first three digits; next, the whole hand has to join in the action of the flexor and the interosseous muscles, and finally a regular precise motion must be required of the hand itself.

This motion, among the Arians, proceeds from left to right, by means of the extending of the wrist and forearm, and a rotation and abduction of the arm. By this mechanism a right line only can be traced, and it is requisite, in order to effect the writing, that, during the tracing of this line, the pen shall describe a series of right and curved lines and points, by alternate contractions of the flexor and extensor muscles.

Buckhardt has, with a miographic apparatus, explored the three groups of muscles which are in operation in writing. They are the interosseous and the long extensors and flexors. He saw that the interosseous can hold the pen and trace the letters; that the long extensors aid them in the more extended motions, and maintain

the semiflexions of the hand; and that finally, the long flexors, with the muscles of the hypothenar eminence, are the antagonists of the interosseous, and act only in the fixing of the hand and the formation of the letters which are prolonged below the horizontal line on which the others are traced. But, according to the individuals, there are modifications of this mode of action, and we see some using one muscular group in preference to another. Hence, the act of writing presents a tonic action (fixation of the hand and the pen), and a clonic motion (formation of the letters). In order that the writing shall be normal, there must be regularity in the transmission of the psychical impressions, a uniform distribution of the nervous excitations in the muscular groups, and precision in the relation of these muscles.

In conclusion, the formation of a written letter supposes that the motions of the fingers and of the hand, together with the psychical excitation, form in the brain a figurative impression, which, being often received by the memory, diminishes, each time a little, the time necessary for the production of an action which finally becomes unconscious.

But it is certain that the mode of tracing characters, so varied according to different peoples and different tissues, must not have as cause any specific conformation of the brain, but must rather be the result of primitive habits and external causes observed in every people, and which, by inheritance and education are transmitted, and afterwards necessarily retained. It is thence a fact well known, that all peoples, with the exception of some Orientals (Mussulmans, Buddhists, Semites), trace their characters from left to right, and centrifugally as regards the axis of the body, and all write with the right hand. This fact, explained by some as depending on hereditary transmission, education, and also the more precocious development of the left hemisphere of the brain, is yet involved in darkness.

2nd. Classification.—Erlenmeyer has recently divided

alterations in writing into *mechanical* and *psychical*. He distinguishes the former as *ataxic* and *tremulous*; the second, as *conscious* and *unconscious*; and the *psychical* alterations he designates by the term *disgrammatographia*.

The ataxic writing, like the ataxic gait, is characterized by excessive exaggerations of the movements necessary for the formation of single letters; therefore the ascending lines are within their limits, whilst the descending are grosser and longer than necessary, the curves are angular and large, the form of the letters is irregular, the words are not in a right line. In short, this is the sort of writing which is observed in children who are learning to write, and in which uncertainty and irregularity predominate. The tremulous writing presents, instead, an undulating contour of ascending and descending tracts, so that the vertical lines and the curves are converted into finely serpiginous or broken lines; this is the writing we have seen, in the last periods of life, in the physiological state, and in it weariness and tremor predominate.

To these two varieties of writing should be added the so-called *reverse chirography*, which is also called *lithographic*, *spectral* and *letter-copy*. This is the left-hand writing observed in some patients; it may be produced by sound persons; it consists in tracing the letters from right towards left, with the upward slope to this side, so that in order to read it, we have to hold the sheet before a mirror, whilst looking in, or to turn the paper over and read by transparency. This sort of writing, which Erlenmeyer considers as pathological, but Buchwald and Vogt as the normal writing of the left hand, has only of late been the object of special observation. In fact Buchwald described it in 1878, as present in three right hemiplegics, and he ranked it at first among the varieties of aphasia, but he was finally led to the conviction that it obtains also in the healthy, and especially in children. Erlenmeyer, of Coblenz, in 1879, as has been said, believed the lithographic form to be

only pathological, but Vogt admits it as a normal fact. The studies of this sort of writing since 1880 have been few; we know of only the memoir of Ireland, who oscillates as to its pathological importance; and of that of Durand, who regards the reverse writing as normal, and only sometimes to require for its development special cerebral lesions.

A curious fact has enabled us to learn that the reversed writing, as a pathological phenomenon, has been found in some manuscripts. In the *Codes Atlanticus*, of Leonardo da Vinci, preserved in the Ambrosiana di Milano, all the writing is of the left hand, reverse sort; and though it has been believed that Leonardo adopted this form, in order to prevent his writings being read by the importunate, it seems, on the contrary, that it was simply the consequence of a paralysis in the right hand, which also impeded him in painting. This is revealed by a diary which was found in the national library of Naples, in which it is recorded that one De Beatis, who, in 1517, followed the Cardinal of Aragon in his travels through Germany, Flanders and France, visited Leonardo in the vicinity of Ambroise, in a villa given to him by Francis the First, and he observed that he could no longer expect valuable paintings from Leonardo, because his right hand was paralyzed. It was therefore but the necessary consequence of writing with the left hand that obliged Leonardo to execute the reversed form of writing.

We have lastly the agraphia, which consists in the traces made by the diseased, merely of right, straight, undulating, or circular lines, instead of the customary letters. This agraphia may be quite complete, the patient being unable to trace any letter.

True paraphasia consists in writing ungrammatically, whilst the patient is aware of his errors. In this it differs from another sort, that observed in general paralysis, in which the person is ignorant of his errors. Patients under this disease always leave out some necessary elements of

language, and letters, syllables, or whole words may be passed over unheeded; the writing may also exhibit the mechanical alterations above described, especially the tremulousness.

The alterations in writing may then be physiological or pathological: we shall speak of the former before calling the attention of the reader to the latter.

3rd. Physiological alterations in writing.—It is natural that the handwriting of a child who is commencing to write, should be different from that of a practiced penman. This diversity is observed, not only in the mode of formation of the various letters, but also in the grouping of them, and in their disposition. Hence, we see that the vertical lines are rather prolonged, or they are exaggerated; the curved lines are replaced by pieced ones, or by acute angles; the transverse lines are wanting, or they are too much extended, and finally, all the writing shows trembling and uncertain turnings. This obtains as respects the formation of letters and words; but when we come to the disposal of them, according to the rules of syntax, we see numerous errors, whether proceeding from the suppression, or the addition, of letters in various words, or from neglected or mistaken punctuation. Finally, there may be observed in individuals who are beginning to write, errors in the construction of phrases or propositions, or errors (and not rare) in the exchange of one word for another. All these phenomena, which may be called the physiological errors of writing, go on, more or less slowly vanishing, according to the greater or less aptitude of the individual to learn, and in the well-instructed adult we find they have totally disappeared; but in the adult who has not sufficient capacity, or but little practice in writing, they remain.—Towards the decline of life, the writing, for the most part, tends to resume the primitive form, which was observed in early youth at school; it becomes tremulous and irregular, with frequent mistakes in syntax, and the exchanging of one word for another is here

specially accentuated. Physiologically then, the writing may present to us alterations in the mechanical execution alone, or in its psychical elaboration.

In analyzing the different parts of a writing, we see that it presents vertical lines of various lengths, united to curved lines variously disposed, and that by the union of these right and curved lines, all the several words are formed, composed from the alphabet used by us. Although it is the habit of the Latin people to write from left to right, yet there may be cases (and this is observed, as has before been said, in children and in inexperienced persons), in which, when the paper has not been ruled, the words are disposed in a line variously oblique, or from above downwards, instead of in a right line across. This fact is observed even in persons who write well, when they are obliged to write in the dark, and it is more frequent than is commonly believed.

In our common use, the writing has a leaning from left to right, from below upwards; but, this is not constantly followed, in various individuals, because it depends on the varying mode of obliquity of the paper written on, and the different habits of the writers; so that we may see some writings quite vertical, and others, though more rarely, with the slope from right to left.

The lines traced have, for the most part, neat turns, but frequently they present to the naked eye some irregularities, depending either on a little cutting off, or on an irregular distribution of the ink; hence, we sometimes see that the letters preserve the thick and the slender lines, according to the established rules, or sometimes they all present, instead, a uniform coloring, without any increase on one side more than on the other.

Next, as respects their distribution, it is known that the letters forming a word should be either united or collected side by side, and that between word and word a certain space should be left. This also may be found

physiologically neglected, and there may be seen too, often extensive areas between words, or even between letters in the same word, and some words may be united without any intervening space.

Lastly, the letters, instead of being kept of equal dimensions and heights, may be seen irregular,—extraordinarily elongated, or sweepingly rounded, or one more, and another less elevated.

These are the mechanical alterations which may be found in the writing of the sane man, and which it is important for us to know, for the successive studies which we shall report on the writing of the diseased man.

The psychical errors depending, in the sane, for the most part, on ignorance of the established rules of good writing, are still more numerous in the insane, and consist in errors of orthography, grammar and syntax. Of these errors, the appreciation of which is easy of accomplishment by the man in a state of sanity, and well instructed, we shall merely intimate the name.

Summarising, we shall say, that, taking as a type the writing of the instructed adult man, we see that the child and the aged man are two physiological termini, which have, as to the writing, much pathological relation. In fact we have centres which preside over the psychical function of writing, but do not yet act in a complete manner, and therefore, have need of perfectionment; whilst in old age the centres themselves and their paths of conduction are lesed and wearied, and are no longer fitted either to respond with sufficient energy to external stimuli, or to send back the sensations received, unless with ever-increasing difficulty.

We have then two different modes of behavior of the centres presiding over writing; in the child, an action of them progressively increasing, but in the aged, their progressive enfeeblement. We shall see that these two facts are frequently met with in pathology, in various central lesions, some of which are capable of altering the

writing, but of having a progressive amelioration, whilst others bring only successive and continuous diminutions of the intellectual power that presides over writing.

4th. Pathological alterations of writing. Ataxic writing.—The ataxic writing, which, as has been said, is observed in children who are learning to write, is found in pathology in cases of central or peripheral lesions of the nervous system, which impair the coördination of the motions of the different muscles that accomplish the act of writing. It is observed also, in cases of convalescence from grave maladies, as typhus, and especially in cases of sclerosis of the posterior cervical columns, and diseases of the cerebellum. Charcot says he could not assign special characters to the writing of patients under disseminate sclerosis, because he first saw them with the disease far advanced, and then the writing was reduced to disconnected marks, without the possibility of normal arrangement. However, in one case of this sclerosis, though the patient presented writing almost unintelligible and ataxic, after treatment with the nitrate of silver she was able to write in a much more regular way.

The ataxic writing is sometimes also observed after fatigues, and in poisonings by alcohol or chloral. In these cases, however, it is purely functional, and it ceases with the cessation of the causes that had provoked it. In the cramp of writers ataxic writing is very usual, and it is conjoined with the tremulous and paralytic types.

Tremulous writing.—The tremulous handwriting, which is especially presented in paralysis agitans, may really be of great aid in the diagnosis of this incipient malady; in fact we may, with a lens, see, in the writing of these patients, parts very accentuated and large and tremulous, which finally we can observe with the naked eye, as in the case observed by Charcot in the Salpetriere. This writing is further observed in disseminate sclerosis and general paralysis; and here it may be

noted that Erlenmeyer himself is not able to judge of the difference between the tremulous writing of incipient paralysis agitans and incipient general paralysis.

This writing is momentarily found also in the sane, in cases of severe cold or of poisoning by alcohol, morphine, nicotine and chloral. But it is to be observed, in this relation, that in alcoholism the patient writes ataxically when he is in the period of excitement, through the influence of ingested alcohol, and on the contrary, he writes tremulously when this influence has passed off. It is also seen that in these cases a little alcohol can for some time give sufficient force to the muscles to write without tremor or ataxia.

Agraphia.—Writing reduced to mere broken and irregular lines is observed in the last stages of paralysis agitans and disseminate sclerosis. There are some cases in which the handwriting of these patients has been reduced solely to lines irregularly disposed. The same fact is observed in cerebral lesions which cause right hemiplegia, and are capable of bringing alterations of the writing in the most varied manner, and of thus presenting both the tremulous and the ataxic writing, and that of difficult execution as well as complete agraphia, and psychical alterations as well as material.

Hence agraphia, which is the complete impossibility (material or psychical) of tracing written signs, may originate either from paralysis of the muscles which serve in writing, or from destruction of the cerebral centre or centres that preside over the execution of writing. Agraphia and difficulted writing are, for the most part, united to aphasia, though there have sometimes been cases in which the aphasic was able to write, or the agraphic to speak.

In aphasia there may be not only disturbance of the speech, but also of the other manifestations of thought, as writing, imitation, drawing, music, etc., and yet the intelligence in some cases remains sound, but in others it is changed.—In aphasic diseases there is observed not only the common phenomenology of the patients being inept

to express in words the image presented by external signs (logoplegia), but also the other, of integrity of the intelligence, and of the visive and auditive organs, conjoined, with impossibility of comprehending the written or articulate signs, just as if they were those of another language, unknown to the patient. The conventional written or articulate signs do not then awake any recollection of the image, in the mind of the patient, who ignores the relation that exists between the word spoken or written and the object it should indicate, and he has thus lost the remembrance of the symbol which gives to thought determinate and precise form,—the internal language,—presenting thus verbal amnesia.

In these cases there is deafness to words and blindness to writing, yet the patient hears the noises and has perfect sight, but the sounds do not awaken any recollection, and the written signs do not summon any image in his brain. If, however, we present to the patient the object named, or written, he recognizes it, because the notion of it has not passed away.

Aphasia then comprehends not only alteration of the passage from the idea to the expression of it, but also the loss of transmission of conventional sounds from outside to the brain.

The cerebral lesions that give place to this aphasia are diverse; thus, while lesion of the centre for the formation of words (3rd frontal or the insula) maintains in the patient the motion of the object and of its uses, but not of its name, lesion of the apparatus of transmission, conjoined with integrity of the centre for the formation of words (lesion of the centrum ovale under the 3rd frontal) gives to the patient the notion and the name of the object, but does not permit him to give to it the appropriate name: hence he often changes it for another, though knowingly. Further, a partial lesion of the visual centre (*piega curva*), or a destruction of the paths of transmission between this centre and that for the formation of words, will allow, in the patient, the notion and the visual image of letters, but

he will be unable to give the true name to the letter which he sees. Finally, a partial lesion of the auditive centre (superior spheeno temporal convolution), or a destruction of the path of transmission between this centre and that for the formation of words, will carry in the sound produced by the pronunciation, and he will understand it, but it will not make him lay hold of the relation between the sound and the word which it represents. Many cases, however, favorable, and many adverse, have been marshaled to uphold or to deny these diverse localizations, and the cerebral lesions capable of giving origin to such disturbances of written and spoken language.

Lithographic writing.—Among these aphasic disturbances, mutable in diverse diseases, in a curious way, and strangely conflicting with one another, a special position ought to be given to the lithographic writing, which, as we have before said, has been specially studied by Buchwald, in 1878.

He, we repeat, in 1878, observed in three hemiplegics, a special lesion in the handwriting, which he called spectral, or reflex, because the patients, writing with the left hand, carried the words from right to left, so that it was necessary to turn the paper over, or hold it before a mirror, or by means of transparency, to read it. He attributes this mode of writing to a variety of aphasia, from the perplexity of written language; but on the other hand he was aware that it was not present in all cases of right hemiplegia with aphasia, but only in grave cases. Further, he observed even in the sound, and especially in children, some who wrote better from right to left than from left to right, when they were caused to write with the left hand. He considered this writing as a pathological thing corresponding to a special cerebral disease; but Vogt, in 1880, believed, on the contrary, that this writing is normal when it is done with the left hand. Swortzoff has made merely a short allusion to this special writing, and has erroneously attributed its first observance to Erlenmeyer. Finally, if we except a few other authors who have mentioned this mode

of handwriting, we reach the end of 1881 without seeing any new work on it. At this time Durand occupied himself in an analysis of the works above cited, and he has made an ample contribution to the clinical importance of this writing, which he proposes to call lithographic, or the letter-copying form, because lithographers write thus on the lithographing stones, and merchants obtain a similar form when they take copy of letters written with a particular sort of ink. The conclusions of this author are in accord with the opinions expressed by others; and though he thinks that the lithographic handwriting is the normal writing of the left-hand, he does not deny that it may sometimes be due to lesions of the encephalic central organ.

The experiments made, in order to be able to see what muscles were more or less used in writing, were restricted to those accomplished by a localized interrupted current, in each of them, on sound persons. It was afterwards pathologically seen that there is a difference between the vertical and the lateral tremor, because the former is due solely to a lesion of the musculo-spiral group of the several muscles.

It was seen, in analyzing the psychical fact of writing, that the image of the form of the letters and the words is received by the brain along with the impression of the motions necessary for the formation of the letters, and that by little and little there is established a quasi solidarity between these two facts; in fine, by exercise and use we may virtually see the figure of the word before tracing it on the paper with the hand, and in the person writing, this image is united to the remembrance of the muscular contractions whose co-ordination reproduces the figure determined at pleasure of the will.

Thus, in the child, we see that he attentively fixes the model, in order to impress the image on his brain, and to constrain the muscles of his hand to follow the given direction; sometimes, instead, he does no more than pass with the ink over lines (letters) traced in pale color on the

paper, and thus he obtains that the unconscious impression of the motions executed by the hand, is imprinted on the brain along with the image given by the sight, and by many times repeating the same impressions of images and muscular motions associated with the image, it happens at length that they obtain such close association that, in the adult, it is impossible to distinguish the two phases of the phenomenon. But the same impressions are always produced, and their imprint is preserved in the memory, becoming finally so profound that the practiced man succeeds in writing with the eyes shut, as well as with them open, presenting at such times, only some disorder in the distribution of the words, in the horizontal lines, and the punctuation. Experiment therefore tells us that, for the act of writing, we require the impression of the image of the words and the disposition of the words, and further, the impression of the motions necessary for their formation. This last fact seems to have its seat in the left hemisphere prevalently, but a little in the right also, for it cannot be admitted that the binocular impression transmitted from the eyes, and producing equal images on the hemispheres, calls forth only on the left the muscular contractions necessary for the external impression of the image.

In a hemiplegia of the right side it will therefore happen that the image, not calling forth, on the left hemisphere, any centrifugal motion in the muscles of the right hand, will oblige the extensor cellular groups in the sound right hemisphere to write from the left, because of the preserved remembrance of the muscular combinations associated with the image of the word. Hence there will be an identical centrifugal motion and the reversed lithographic writing. The same contractions preside over this writing as over common writing, and it is as symmetrical, as respects the axis of the body, as the other. In reality, if experimentally, the eyes of an individual be bandaged, and he is made to write with each hand, we shall see that he almost always writes reversed with the left hand, and with a little practice it will succeed that the two writings, being

superimposed, are exactly equal. If, instead, the individual writes with the left in the common mode, there is a centrifugal form on one side and a centripetal on the other, but the muscular groups which enter into action are antagonists, and they give an insupportable contraction. According to these experiments, repeated by Vogt and Durand, the centrifugal writing is the normal of both hands.

Dr. Ireland advances the hypothesis, that the image, or the impression, or the change in the cerebral texture, by which the image is produced, is formed in the mind of the lithographic writer, reversed, like the negative of a photograph, or if the usual centre forms a double image, the right and left; they are in opposite directions in the two hemispheres. We might then believe that the image of the left, having, from disease, disappeared, the reversed one of the right remains, and is capable of tracing the characters from right to left, and in the centrifugal direction, because it is easier. Further, in those who write with the left, and not reversed, it may be that there is a greater facility in copying the image of the right side of the brain.

The experiment that has most aided this study, has been that made on children in the German and American schools. Ireland informs us that in a school of one hundred pupils of both sexes, only five were found, who, in writing with the left hand, gave the lithographic form, and these were all who used the left hand instead of the right. It was observed that they seemed unaware that they were doing anything abnormal, and they wrote fast and better than the other pupils. In another school of one hundred and thirty-four individuals, only three, in the same condition, wrote reversed.

Vogt, in experimenting on many hundreds of persons, saw that the ordinary writing was done well with the right hand and the eyes shut, and almost as well as with them open, in 98 per cent., if the person wrote often and at different times, but if performed with the left hand,

in the same conditions, it approached to that with the eyes open in 16 per cent. On the other hand, the reversed writing, done with the right hand, and the eyes closed, did not resemble that made with the eyes open, and frequently it could not be read, whilst if done with the left hand, it resembled more that done with the eyes open in 92 per cent. From these experiments it seems that the reversed writing is the writing of the left hand, and all the more so since it becomes very difficult if it is desired to execute it with the right.

Durand observed besides that among intelligent persons, or those who write much, they are seen to do the writing with the left almost as well as with the right hand, and they cannot write reversed,^o because in them the image of the word is so fixed in the memory that they cannot conceive it in another way, and they constrain the muscles without knowing it, to trace the image as they have it in the brain.

But in persons of little intelligence, and who seldom write, there is an aptitude to write with the left hand in both ways, and the reversed letters are better formed than those carried from left to right.

The study of the diseases in which this mode of writing is observed, is but recent, and the cases are therefore few which have been reported by authors. Buchwald relates, among others, three observations, one of a man of forty-five years, with hemiplegia on the right side, combined with aphasia; he wrote with the left hand centrifugally, tracing the letters and numbers well, excepting the 8. By long education he was enabled to write some phrases centripetally with the left hand. After six months the lesions of speech disappeared, but the tendency to lithographic writing continued. However, the cases may be divided into two groups;—those with perfect intelligence, right hemiplegia and slight aphasia, and those in which all the morbid phenomena are very accentuated.

Buchwald observed that, the hemiplegics, or the slightly aphasic, did not present the lithographic writing;

Swortzoff observed the same, but Vogt tells us of a Swiss who, during twenty years, wrote in the non-reversed way with the left hand, the right being paralyzed.

Among the grave cases Swortzoff places that of a florist of thirty-three years, who was struck with logoplegia, from blindness to speech, with right hemiplegia and contracture. Having improved, she re-acquired, in some degree, the faculty of speaking, and of writing, with the right hand, her own name reversed; but her memory of words had disappeared; she could not read, but could write pretty well with her left hand, in the lithographic form, though readily mistaking one word for another.

Durand has a case of a man of thirty-five years, aphasic in a slight degree, from syphilis; by little and little he saw his right arm paralyzed; he wrote with the left easily, and in the lithographic way, but he wrote in the normal form, with the same hand badly and with difficulty.

Ireland relates the case of a girl of seven years, paralytic and imbecile, hemiplegia on the right, from birth, quasi aphasic, epileptic and active, but timorous. After eighteen months of education, she learned to write, but in the lithographic way, as has been seen in the example reported further back. The same author states the case of another girl of fourteen years, imbecile, but more intelligent than the other; she used the left hand, and wrote well reversed, better than in the normal way.

Ireland relates the following additional cases: That of Millard, who, in an imbecile boy of twelve years, who learned to read, observed that the writing done with the left hand, required the paper to be reversed, in order to read it. Next, that of Nibar, who observed a man who wrote well with both sides, tracing with the left hand the letters in the lithographic form. From these few cases we may conclude, with reason, that the reverse structure, although it is the physiological of the left hand, yet it obtains more specially in cases of lesion, of the left hemisphere, and in aphasia, because then the

normal writing of the left is liberated by external circumstances, by education, by remembrance of the figures traced from the right, and by the influence, of the sight and the will, leaving thus only the remembrance of the impressions of the muscular motions, united to that of the impression of image. This writing is therefore due, on the one side, to aphasia, and on the other, it is a thing purely physiological, and it would be only accidental to see an organ re-acquire its normal functions under the influence of a pathological part.

Writing of the demented.—Finally, it seems useful to say, in a little space, how profitable it may be to the physician to examine the writing, when it is presented in a case of real or supposed mental alienation. Without in the least invading the field of the medico-legist, it is only for the diagnosis of the clinical form of the intellectual lesion that we think these principal points should be placed in assemblage. Here are observed all the so-called disgrammato-graphias, conscious and unconscious, in union with the diverse mechanical alterations of writing corresponding to the various lesions of the peripheral nerves, and of the encephalic and medullary mass.

Thus, in maniacs, the handwriting runs rapidly and boldly, but slowly and hesitatingly in melancholics, who have brief and incomplete thoughts, whilst those of maniacs are prolix, incoherent and oft-repeated.

Simple dementia presents want of association in the ideas, repetition of the same words and phrases, omission of words or of parts of the phrase, and numerous orthographic errors. In general paralysis, in addition to these facts of dementia, there is the true tremulous writing, and in the last stage of the disease the true handwriting disappears to give place to marks and lines unintelligible to us, but with which the patients believe they are able to communicate and express their ideas.

In monomania there are observed written signs, corresponding to the variety of the psychological alterations. The attentive observation of these signs is of great

importance, as a diagnostic and prognostic element, since from their disappearance we may infer recovery or a diminution of the intellectual lesion.

In mania, the writing is always tremulous and irregular, with extensive tracts difficult to be read, sometimes quite illegible, and with oft-repeated lacunæ; when this writing resumes, or tends to resume, its habitual form, we may with security promise an early recovery.

In maniacal excitation and monomania, the writing is often full of capital letters, in the beginning, the middle and the end of words, and the words themselves are often underscored, in order to draw the attention of the reader to an idea or a phrase. These two characters of the handwriting of these insane persons are useful in diagnosis and prognosis, because from them a certain return of the malady may often be predicted.

From the study, then, of the writing of the insane, not only may we know the exalted or depressed forms of the malady, but we may also, from them predict its early arrival, and our prognosis will be easy. Thus, in patients with general paralysis, when as yet all the symptoms are silent, and the writing presents neither tremor nor irregularity, nor forgetting of words or letters, nor repetition of phrases, or omissions of entire parts of the discourse, there may be found in the writings of these persons phrases which show a weakening of the reason, a hesitancy, risky projects, and a different form in the letters.

It is, however, a fact that the intelligence has not altogether disappeared in cases of abnormal writing in the insane; rather, indeed, it may still yet exist, when speech and writing are abolished.

[Either this looks close akin to mystery, or I have failed to render correctly the author's language, or the printer's devil has been indulging in barbarous vivisection. —TRANSLATOR.]

Prognosis.—When we find that we have in hand a patient who can write, it is highly useful to get him to

trace some characters in the commencement of his case, that we may see whether they are altered; this may be of great assistance in the prognosis of a nervous disease. If, for example, in chronic alcoholism we see that, after treatment with strychnine, the writing resumes its neat turns, and is no longer tremulous, we may be quite sure of a favorable prognosis; but if we see it remain stationary, or the tremor in the lines increase, we may securely anticipate a malady quite incurable. The same may be said as regards the prognosis of incipient, or advanced general paralysis, and paralysis which has for its cause a syphilitic process. In the latter case the prognosis is more easy when we see, in the progress of the specific treatment, the writing slowly becoming more regular, and finally reaching a point of real improvement, characterized by the return of the handwriting to its normal form. This fact is realized in cases of amendment in mental diseases, when we see disappearing the special signs described by us, which characterize the different forms of alteration in the writing of demented. It will therefore be useful to examine the writing of these persons, that we may be able to judge when a probable recurrence of their primitive mental malady may happen.

Treatment.—Erlenmeyer speaks of the benefit from galvanization of the brain in general paralysis. He saw that under the use of the current there was an amendment in the psychical and mechanical alterations in the writing, and besides, that it was executed with greater rapidity. But similar effects were not always obtained in the alterations in the writing resulting from general paralysis. On the other hand, in cases of paralysis from syphilitic lesion, successive amelioration and absolute recovery may be obtained from the specific treatment. And in cases of alcoholic tremitus, under therapeutic measures and appropriate diet, the tremulous character of the handwriting may be made to disappear.

In the forms of dementia the treatment will proceed with profit to the patient, when we shall see, even before

the disappearance of the phenomena of the malady, the writing return to its ordinary forms, and the disgrammatographia altogether, or partly, disappear.

But the therapeutic criterion should be deduced from the probable seat of the disease. Thus, in cases in which, whilst the formation of ideas and their perception are yet unimpaired, the writing is difficult, because of lesion purely mechanical of the right limb; galvanization of this member, and the employment of those means which may restore to it force and co-ordination of the motions, will be useful. If the lesion is of the senses only, as for example, loss of vision, we may by a well-directed method, teach the patient to write in the dark, and this will be so much the easier the better the patient has before been instructed, and if he had before enjoyed the faculty of sight.

On the contrary, in cases of central lesion which has destroyed in part the cellular mass, or the means of transmission for written language only, treatment will be of little use; but if the lesion is on one side alone, we may hope, by a special education, to be able to make amends for it. Cerebral galvanization, as Erlenmeyer employed it, may, according to him, be useful. Every sort of treatment for restoration of the writing will be useless in cases of complete destruction of the centres assigned for written language, and of the means of transmission.

5. *Conclusions.*—We may, from the exposition of facts, just now completed, draw, with sufficient safety, some conclusions, provided we content ourselves with the study of the clinical part only, omitting altogether the physiological investigation:

1st. The study of the mechanical and psychical alterations of writing merits special attention, and may be of great utility in diagnosis, prognosis and therapeutic direction.

2nd. The reversed writing, it seems, may in future be studied with real advantage. Up to the present time it may be said that it is observed in many cases of right hemiplegia and idiocy.

3rd. In mental diseases, especially, attentive examination of the psychical and mechanical alterations of the writing, may notably clear up the diagnosis of the disease.

4th. In prognosis, whether relative to an improvement or a relapse, examination of the handwriting may afford notable aid.

5th. The best treatment in cases of mechanical alteration of the writing is galvanization of the brain, good intellectual exercise, and a well-directed education of the hand.

6th. The specific treatment, in cases of altered writing, from syphilitic cerebral lesions, and that of strychnine in those from chronic alcoholism, give the most benefit.

Reciprocal Insanity.*

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WHEN friends of the insane are advised to place the patient under special care, away from home, the question is sometimes asked, whether association with other insane patients may not be in itself injurious; whether insanity may not be in some way a contagious disease, so that even sane persons who are in constant association with the insane are on this account liable themselves to become insane.

The answer is that as a rule, insanity is not contagious; that insane patients do not often adopt the delusions of their insane associates, but on the contrary recognize them as delusions no less clearly than any other persons would; and further, that attendants in charge of the insane do not show any greater liability to insanity than persons who are engaged in ordinary occupations. When insane patients do adopt the delusions of their associates, as is sometimes the case, they usually accept the false beliefs on testimony precisely as false beliefs are accepted by many sane persons. Hence, the adoption of these delusions in such cases is not a symptom of insanity, save in so far as it denotes the existence of an already impaired intellect; nor do the adopted delusions materially affect the mental condition of the patient, or the probabilities of recovery. To a certain extent and in various ways, an insane patient may sometimes be benefited by being judiciously associated with other insane patients. On the other hand, annoyances may arise from such association which are injurious, precisely as any other annoyance would be injurious, and not at all on account of the contagiousness of the disease to the influence of which they are exposed.

*NOTE.—Read before the American Neurological Association, June 22nd, 1883.

In some cases and under certain conditions, however, two or more persons do sometimes exert an adverse reciprocal influence upon each other, tending to the production of insanity in each, or to its development in succession from one to another.

Insanities may arise reciprocally in various ways, as:

First.—From identical causes acting at the same time and under similar circumstances on individuals of like susceptibilities, who are in close sympathy and intimately associated. The mental disturbance excited in each immediately reacting upon, and increasing the mental disturbance of the others.

Second.—From insane delusions being entertained by one of two or more predisposed persons, in intimate relation with each other; and the deluded person acting as a cause of the development of similar, or identical insanity in the others; and mutual reactions taking place.

Third.—Through emotional influences; as when one subject of a convulsive form of nervous disease, or of a form of insanity characterized by emotional disturbance, is intimately associated with persons of similar temperament and susceptibility.

The following cases will serve to illustrate these insanities:

In the spring of 1865, twin sisters, about nineteen years of age, were admitted to the New York City Lunatic Asylum as patients, in a state of acute mania. The manifestations of insanity were so nearly alike in the two as to be practically identical. The language, appearance and actions of the sisters were the same. They were so similar in person that it was difficult to distinguish the one from the other. They had always been together, and had become insane at the same time, under the influence of the same causes on similar physical and mental organizations. It is quite possible, and even probable, that either of the young women would have become insane under the same influences, if she had had no sister, or if she had been a long time separated from her

sister. There can be little doubt, however, that the beginnings of insanity in each were stimulated by the disturbed mental state of the other. It was quite evident that in the result they were mutual causes of mental disturbance.

Only a few weeks ago, all the members of a whole family, including a father, mother and several children, residing in the interior of this State, were reported to have become insane at the same time, through the influence of fear; the mental disturbance of each reacting upon the others as a cause.

The following case is narrated at length, in order to present a more complete picture of the disease than a brief abstract would have done:

On the 7th of May, 1870, a woman named Margaret C—, was admitted to the New York City Lunatic Asylum, as a patient. No positive evidences of insanity, either in appearance, conduct, or conversation were observed at the time of her admission. She made the statement that a certain man wished to marry her younger sister Julia; that her sister did not wish to marry the young man, and that he had procured her commitment to the Asylum, because she had reproached him for pressing his attentions on Julia. On the 9th of May, Julia visited her sister at the Asylum, and corroborated her statement in every particular. Julia was evidently insane; but it was then thought that Margaret's notions were founded entirely on the testimony of Julia regarding her own troubles; and hence, that her beliefs could not properly be considered as insane delusions. She was allowed to leave the Asylum in company with her sister Julia.

On the 9th day of July following, both Margaret and Julia were admitted to the Asylum as insane. The statements made by these sisters were identical in every particular. The delusive ideas, however, all had regard to the younger sister. During their examination at the time of admission, and indeed on all other occasions when both patients were together, they talked with

great volubility and earnestness. One of them would begin a statement of their troubles; after a few moments the other would take up the thread of the narrative, as though by a sort of common consent, and after continuing a few moments the story would again be taken up by the first, and so on, until the close of the interviews. In their ideas and feelings, each seemed to be the counterpart of the other. They had the idea that a certain teacher in one of the public schools was enamored with Julia; that in fact, there was an understanding between the gentleman and Julia, that they were to be married, although he had never spoken to either of the sisters, nor had any communication in writing ever passed between them. He, on his part, as they said, *looked* and *acted out* that he would marry Julia; but in what these looks and actions consisted they were not able to explain. On their part Julia had *chosen* the gentleman for her future husband, and this seemed to them a satisfactory and definite settlement of the question. The statement that she had *chosen* the gentleman was often repeated in explanation, or as a proof of the engagement; and they seemed to think that Julia's choice having been once made, the acquiescence of the gentleman would be a matter of course. Still they repudiated the idea that the engagement was in any sense compulsory on his part. On the contrary, although Julia was willing and even anxious to marry the man of her choice, she would scorn to accept him save as a willing suitor. She would rather remain unmarried through her whole life.

All the trouble of the sisters had arisen from this engagement. Their father and mother did not understand them. When on one or two occasions they spoke about the engagement in the presence of their parents, both the father and the mother remonstrated with them for entertaining such foolish notions. They never afterwards mentioned the subject in their presence. Still they felt assured that their parents knew all about the affair, quite

as well as they themselves did. Their parents, they said, had other and more ambitious views. They wished Julia to marry the son of a wealthy builder, who lived in the neighborhood. They never said anything about their ambitious wishes, but *acted out* what they thought; they treated their daughters coldly and sometimes did not give them enough to eat. So too, the builder's son pressed his suit, by his looks and by his actions, with great persistence. This was their greatest annoyance. Julia, who was the less demonstrative and the less energetic of the two, simply expressed her displeasure to her sister in mild terms of indignation. Margaret, however, went to the young man and bitterly reproached him for his cruel conduct. Not only that, but she attempted to break the windows of his house with a stick. Through the connivance of their parents and the builder's son other people also annoyed the sisters. Tradespeople would charge them more for articles they wished to buy, than they charged other people. Such was the history given of themselves, by these two patients at the time of their admission on the 9th of July. Although the impression was at first gained that the delusive ideas originated with Julia and were simply accepted as true by Margaret, through faith in Julia's statements, a further inquiry served to remove this impression. On the contrary, it became a serious question, whether the delusions had not really originated with Margaret, and afterwards been adopted by Julia. There was no evidence to show, however, that the delusions had originated with the one rather than with the other.

Since it seemed evident that the influence of each was but to fix the delusions of the other, they were placed in separate wards at the asylum. Julia was quiet and made no especial complaint. She was allowed to leave the asylum on the the 13th of July, in care of her father, with the understanding that she was to engage in some occupation away from home, and that when, after a little time, Margaret should be allowed to leave they were

to live apart. Margaret was irritable and abusive in language. She was indignant that she should be separated from her sister, and complained that Julia was abused and starved, although she had no evidence of any kind on the subject. When told that Julia had been allowed to leave the asylum, she would give no credit to the statement, but expressed the belief that she had been choked. Margaret was allowed to leave the asylum in care of her father, on the 18th of July, and was advised to live apart from her sister.

On the 12th of February, 1873, Margaret and Julia were again admitted to the asylum, as patients. Their delusions were essentially the same as before. On the second day after their readmission, the following note was made at the time of the morning visit, both the sisters talking alternately, as above mentioned. The notes are recorded under Julia's history, and as though she only had made the statement, since each said the same things in regard to their troubles and used the singular pronoun in her narration.

The notes are as follows, viz :

Says now, that at the time she was here before, she was laboring under a misunderstanding in regard to the young man named Tracy: Says, Tracy did wish to marry her, but did not persecute her, as she formerly supposed. Has since learned that her parents were her persecutors, in connection with the Devlins. Did not know of this until two weeks ago. Now knows that her parents wished her to marry John Devlin. Found this out by the way in which her parents and other people *acted* and treated her,—had herself *chosen* to marry first one and then another gentleman; but obstructions were placed in the way. Sometimes the priests *acted* instead of her parents, and prevented her marriage with the persons she had chosen. Means were taken to prevent them from making the acquaintance of Julia. Has never spoken with any of these men. The men *acted* to her that they would not be allowed to speak

with her, until they were allowed by her parents. The parents *acted* that they wished her to marry Devlin, but never spoke on the subject. Devlin was in the habit of following her about, and she used to do the best she could to avoid him. Did not think until two weeks ago that her parents annoyed her on account of Devlin. Thinks now that if she would return home her parents might let her marry whomsoever she chose, but is determined never to return home, on account of the ill-treatment to which she has been subjected. Her parents, she is persuaded, would be willing to have her marry some other man than Devlin, if they could make the selection; but she objects to any man of their choosing, and now entertains very strong antipathies against her parents on account of their persecutions. Her parents interfered with her by their actions, and without seeing her, or speaking to her. Found this out entirely by the results, by reasoning from what she considered to be the facts. Went in company with her sister to Devlin's house, and tried to break the windows with a stick, on account of his actions. Her parents had chosen Devlin for her, but she does not want him. Has insulted him publicly and privately, but he will not notice her insults. Hates him because he is so little. Does not care for his riches, but wishes to marry the man of her choice. Wishes to remain here until Devlin and her parents are willing to let her alone. Her parents have *injured* her for two years, but she did not know it was they who injured her, until recently. Went with her sister to Judge Bixby, and made a complaint against Devlin, when she was arrested and sent here. Did not live apart from her sister after leaving the asylum, as she had promised.

The sisters were allowed to leave the asylum in care of their father, on the 27th of February. On the 27th of March, they were again admitted, having been arrested and sent to the work-house, and from thence to the asylum. Their mental condition was the same in all respects, as before. About one month afterwards,

however, Margaret for a few weeks entertained ideas in regard to herself, which heretofore, she had entertained only in regard to Julia. She too had *chosen* a husband for herself. Said that when she was ready the man she had chosen would be compelled to marry her.

Julia was allowed to leave the asylum, in care of herself, on the 21st of April. She was so undemonstrative when not in Margaret's company that there seemed to be little liability of her getting into trouble when apart from her sister. Margaret, however, was at times exceedingly vehement in her expressions. She at times threatened to take vengeance on her supposed persecutors. At about this time she began to entertain a strong antipathy against Dr. H., one of the assistant physicians at the asylum, saying that he also was one of her persecutors. She had previously *chosen* him as her future husband. She afterwards became quiet and orderly, and was allowed to leave the asylum. Julia had proposed that she would go to Philadelphia, where she had formerly resided, while Margaret should remain in New York, and they were advised to carry this project into effect.

The following letter, postmarked at Philadelphia, was subsequently received from Julia :

“DR. PARSONS:—I understand that Dr. H. has spied and watched me to this city, and what a cheek he had and what mean principles, for he has seen plainly and publicly in New York City, that I was true to another gentleman, for when I left the city, how dare he follow me? He certainly must have a singular appetite for me when he watches me, and I false to him and true to another. Why it was like following me from Egypt's fire to the north pole. It was ill-bred and impolite in him to dare it. But I suppose he did not care, through his impudence. I do not thank any one to spy or watch me, and I true to another. Therefore, Dr. Parsons, stop him immediately, because I am not true to him and never shall be. How dare he watch me coming to this city? Besides I was always true to this gentleman, even while I was over there, but I thought it was he who put

us there, and persecuted me. I found out since what an impudent, dirty, ill-bred, know-nothing my wicked parents had for me. None but an impudent wretch wants me against my wishes. Stop him quick, for he shall never come within my door, nor none but whom I am true to publicly. I never intend to accept of Dr. H., nor do I ever mean to change to him. I am already pleased and satisfied, and Dr. H. knows it. Therefore, he had no business to follow nor spy me, coming here. I should rather die. I was surprised, for I never thought about him in the least. I never expected any one to spy me here, but the gentleman I was true to, and left the city for. Stop watching me immediately, or I shall write more scandalous.

"JULIA C."

About a month afterwards, another letter written in the same strain was received. This letter was mailed in New York City. It was subsequently ascertained, that the young woman remained only a few weeks in Philadelphia. During the latter months of the year, Margaret wrote several letters to Dr. K., who had been formerly assistant physician at the asylum on Blackwell's Island. She complained that Dr. K., Dr. H. and certain other parties, came to the city, and annoyed them by their interference and importunities. She threatened to shoot them unless these indignities were stopped.

On the sixth of January, 1874, the sisters were again admitted to the asylum. Margaret acknowledged having written the threatening letter to Dr. K. She averred that Dr. K., Dr. H., Mr. Tracy and Mr. Devlin had followed them to Philadelphia; also that Dr. H., had procured her commitment to the asylum, for the purpose of compelling her to marry him. Julia made statements that were nearly identical. They were placed in different wards. Julia was quiet and agreeable in conversation. She urged that she was now *enlightened*, knew that she got into trouble on account of her notions, and promised in future to avoid the expression of her peculiar ideas, so as to prevent further trouble. She very often urged the plea that she had been *enlightened*, and hence should be discharged.

Margaret was irritable, and abusive in language. On seeing the physicians of the asylum, she would often become greatly excited, upbraiding them on account of the indignities she had suffered, and on account of her unjust detention. At times she would expose her person in the presence of the physicians, in a defiant manner, intimating that since she was kept here for an improper object, she might as well show that she knew what the intentions were regarding her. She did not appear to expose her person through any impulse to commit an indecent act, but rather through a sort of bravado, and to express her defiance. Her animosity was expressed more especially towards Dr. H.

They left the asylum in care of their father on the 9th of May, 1874.

Nothing further was heard from either Margaret or Julia, after the date above mentioned until January, 1875, when, on the 16th, 17th and 20th, of the month, Julia wrote long letters to the resident physician of the asylum, complaining of her persecutors, and asking him to stop them. One of the letters reads as follows, viz:

“Saturday, January 16th, 1875.

“DR. PARSONS:—K. is the most treacherous rascal that ever existed, and hanging is too good for him, through the wicked advantage he is taking of me through my parents being wicked. My wicked father has me beat and starved to death, because I would not destroy my future happiness by accepting of K., to accommodate him; and what a mean brute K. is to accept of me under the circumstance that I liked another, but accepted of him because it pleased my wicked parents. K. is a murderous ruffian. Doctor, I have written three or four shocking letters to the Commissioners, about K., and the murderer would not stop, through my parents hating me and through their trying to starve me to death. How dare my wicked parents be opposing any one I choose, to get me to marry Dr. K. They know right well that K. dare not come face to face to me; that I would have him arrested instantly and imprisoned for life. Through all the gross, insulting letters I have written to him, and through the letters the Commissioners have received from me about

him, K. should not dare to watch me, after such shocking insults, except to murder me, either this way or that way. But the ruffian knows that I cannot get work, and my wicked father is asking of the parish priests and of his neighbors for charity, and I am starving with them during the last four or five weeks. Since I would not accept him, he wants me starved to death for spite, the rowdy, for he is a rowdyish professor when he dare take advantage of me through my parents being my greatest enemies. What does my father mean by choosing a rake like K. for me? It is because I hate K., and like another, and since it is so that he used me cruel all my lifetime he also wants my future life to be unhappy. I would rather beg than spend my future life with such an unmerciful infidel as K. is; even if he would not murder me. I could not enjoy such an unmerciful, unprincipled slop.

"Doctor, don't you remember what you told Mr. Coleman on the 17th of last March, about the terrible letters I had written to him? How dare he expect me, after all those fearful letters, as you called them?"

"Doctor, please do go and stop the murderer, immediately, because my wicked parents are very cross and stubborn to me through him, and I am living on bread and tea and cold water, by them, through K. opposing the gentleman I have chosen and am true to. How dare K. be trying to pull and drag me to him against my wishes, from the gentleman I like? Hanging is too good for him. It would be a charity for you to stop him quick.

"Doctor, please excuse this writing, because if my wicked father saw me writing it, he would kill me, he is so guilty. Respectfully. "JULIA C."

The whole letter (with the exception of the postscript) is given, for the purpose of showing the general current of thought, more clearly than extracts would do. The other letters are similar in character. One of them also contains a tirade against Sal Devlin, "the low wretch of a wanton widow, who aided her outlawed robber of a father in his persecutions."

It is pertinent to mention that Julia had seen neither Dr. K. nor Dr. H. for a long time previous to the writing of these letters, the former being in Europe and the latter in Virginia.

At the date of admission in 1870, Julia's age was stated to be *twenty-four* years and Margaret's age *twenty-six*. When last admitted, Margaret said she was *forty* years of age, and that her age as formerly given was incorrect. She did not appear as old as forty years, but is probably more than two years older than Julia.

Both Margaret and Julia were in what would generally be called good health, although each lacked the bodily vigor and elasticity of mind that result from perfect physical health. They were rather thin in flesh, and had an appearance of physical depression or weariness, such as might arise from overwork, too great confinement, or trouble.

No very marked hereditary influences could be traced. A cousin, however, was said to be insane. Their parents who are well advanced in years, are in a fair state of health. Their father appeared to be a man of good judgment and fair intellectual capacity, but the mental powers of their mother were of a low order, although she had never manifested any symptom of insanity, or even of what might properly be called imbecility.

No especial peculiarities in the natural characteristics of either of the patients were observed, or could be ascertained. Margaret, however, was rather inclined to be irritable and aggressive, while Julia was of a milder temperament, and more easily influenced and controlled.

No objective cause, or causes of their insanity could be ascertained, other than their associations, or rather lack of associations, and their habits of life. Up to the period of their first admission to the asylum, they had always lived at home, with their parents. They were industrious women, and occupied their time in the manufacture of men's clothing, for wholesale dealers, one of them operating on the sewing machine and the other fitting and finishing the work. Through this division of labor, each finally came to consider the aid of the other, in the light of a necessity. Neither of them thought she could work apart from her sister. They

were always together. They never visited, they had no friendship with other women. Their only acquaintance with men was in a purely business way. Each was all-in-all to the other—companion, fellow-worker, friend.

They did not even associate with their parents, but in all that related to their plans, or to their feelings, they were strangers to them, as to all the world beside. Thus in the midst of a great city, they lived a sort of dual hermitage. They were occupied with the same work; they conversed about the same things, for they conversed only with each other. They finally came to think and feel almost as though they had been one person, instead of two. And this mutual influence had been so gradual that it is difficult to judge which was the leading factor in the development of their belief, their feelings and their aspirations. If Margaret was the more positive and aggressive in temperament, Julia, on the other hand, had more of imagination and spontaneity. After a careful study of their history and characteristics, the conclusion was reached that their delusive ideas had been of very gradual growth, taking their rise, first in an undue activity of the imagination, then in the indulgence of unfounded hopes and aspirations, then in the conviction that these hopes would one day be realized, and as a final result the notion that some one had interfered to prevent the realization of their beliefs. Their delusions finally became of such a character that there were unmistakable indications of the existence of insanity. Throughout the whole of this process the change in mental state in each appears to have progressed *pari passu* with the change in the mental state of the other; or, in other words, under the influence of mutual reactions and of causes common to both, they became insane at the same time.

The following points in connection with these cases are especially noteworthy:

The efficient causes of their insanity seem clearly to have been moral instead of physical. Neither of the

patients had ever complained of serious illness of any kind. They had sufficient exercise, both at home and in the open air. They were not overworked, and they had a sufficient supply of nutritious food, at least until troubles arose by reason of their insanity. These moral causes acted at the same time on similar temperaments, and not unnaturally produced similar results in each case. In saying that the causes of their insanity were mental, as contra-distinguished from physical, it is not meant that no changes had taken place in the brain as the cause of the insanity; but simply that the molecular change in cerebral structure, which was the immediate cause of disordered mental activity, was itself brought about by moral instead of physical causes.

None of their relations were known ever to have been insane, with the exception of one cousin. But still, although there had been no insanity in the direct line of ascendants, as far as could be learned, there can be little doubt, that they were really predisposed to insanity. Indeed, it is doubtful whether moral causes ever produce insanity unless a predisposition exists. Their mother was a woman of limited mental capacity. The mental faculties of the daughters were of a higher order than those of the mother, but yet they undoubtedly inherited from her an instability of cerebral organization that amounted to a real predisposition to insanity.

The exciting causes of the insanity of the two sisters would seem to have depended chiefly on their habits, and on their mutual influence.

Since they associated only with each other, their notions were not corrected by a comparison with the views of other people. Hence, the first beginnings of extravagance in their ideas were unchecked. They continued to indulge in their unfounded notions, until what was at first a mere wish or hope, finally became, through force of habit, a firm belief. Not only did they lose the benefit of a comparison of their beliefs with those of other people, but each acquiesced in, and thus confirmed the beliefs of the other.

Hence, hereditary predisposition, lack of occasion for properly exercising the faculty of comparison, and thus correcting their false judgment, and a mutual confirmation of their false beliefs, finally eventuated in delusions, which are characteristic evidence of insanity.

If the last factor mentioned, that is, their mutual influence, had been wanting, it is not at all certain that either of the sisters would have become insane. On the contrary, it is not unlikely that both would have escaped the disease.

Cases not unfrequently happen in which the insanity of one member of a family becomes an immediate exciting cause of the insanity of another member. The simple fact that one member has become insane is in itself presumptive evidence, that other members of the family inherit the insane diathesis; and hence, that they are in danger of becoming deranged, through association with their insane relative.

The following history, transcribed from the Records of the New York City Lunatic Asylum, and furnished through the courtesy of Dr. T. M. Franklin, the Medical Superintendent, is similar to the preceding in all essential respects:

Three sisters, Mary K., Catharine K. and Anna Theresa K., respectively forty, thirty-seven and thirty-five years of age, were admitted to the New York City Lunatic Asylum, as patients, on the 21st of August, 1877. These three sisters had lived together for many years, supporting themselves, principally by sewing. They appear to have been feeble-minded, credulous, impressionable people, over whom their imaginations had more control than the exercise of their reason. They heard the vague statement that a relative had died, leaving them a large amount of wealth, and they conjectured that it was some one on their mother's side of the family. Talking this over among themselves, they persuaded each other that it was actually the case, and that they were in reality heiresses to a large estate. They then began to

fear that people were laying obstacles in the way of their ascertaining the locality of this fortune. Finally, they feared that every one was trying to cheat them out of their inheritance. This fear occupied their minds night and day, and the delusion of immense wealth, of which they were wrongfully deprived, became the center about which all their thoughts revolved. The little intelligence they naturally possessed, became impaired, their vague suspicions extended to every one about them, and a morbid dread took possession of their lives. The strangeness of their actions excited remark, and they were several times dispossessed by landlords, without any given reasons. They were said to have become abusive on several occasions. The suspicions of their neighbors were aroused, so that they were arrested, when they were found to be insane, and sent to the asylum. After some months they were all discharged, in care of a relative, as improved.

The following cases are instances of the reciprocal influence of emotional states in the causation of insanity :

A. B., a subject of chorea, had attended a small private school, for one or more years, associating freely with the other pupils. One of her schoolmates, C. D., a girl of especially unstable, nervous organization, became insane, the symptoms partaking of the nature of delirium, of hysterical insanity, and of epileptic insanity. It was diagnosed as a case of choreic insanity. E. F., a cousin of C. D., attended the same school, having her seat next to A. B. During the early part of the illness of her cousin, C. D., she often remained with her as a companion for several hours, or a day. A few weeks after the commencement of her cousin's illness E. F. suffered a similar attack, the symptoms being equally severe and differing mainly in the fact that motor symptoms of chorea were manifested in the latter case. It was not ascertained that either of the girls had practiced self-abuse.

A lady in affluent circumstances, suffered an attack

of insanity, with emotional disturbances. After a time her daughter, who was making a visit to the mother, was suddenly attacked with a similar form of insanity, without any other evident exciting cause, than the influence of the mother's emotional state.

Among the inferences which may be deduced from these and similar cases, are the following, to wit :

First.—That, although under ordinary circumstances the contagion of insanity does not extend from one person to another, the influence of the insane on persons inheriting similar faults of constitution, or a known predisposition to a similar form of insanity, should be avoided as dangerous.

Second.—That the conditions favoring contagion are most likely to occur among blood relations, who are intimately associated.

Third.—That emotional forms of insanity are especially liable to extend from one child to another; and also in a lesser degree among women.

Fourth.—That when two or more persons thus become insane, through similarity of predisposition, sympathy and intimacy of association, they usually exert an adverse reciprocal influence upon each other, both as cause and effect of their insanity.

Fifth.—That the contagion of insanity under the influence of sympathy, predisposition and intimate association, is most likely to occur during the inception and developing period of the disease; and that this liability ought to be taken into consideration, among other reasons, in determining the question whether it is advisable to treat insane patients at their own homes, during the early stages of their insanity.

Insanity from Quinine.

By JAS. G. KIERNAN, M. D., Chicago, Ill.

IN 1881 I reported* the following cases of insanity resulting from the use of quinine:

CASE I.—T. P., American, single; grandfather, uncle and brother died insane. Patient had, however, been in very good health up to about three months before admission, which occurred during the year 1874, when he was attacked by headache, for which, on the supposition of its being malarial, three grains of quinine were prescribed three times a day. After taking three doses of this, the patient was seized by a violent attack of lypemaniac frenzy, with marked hallucinations of hearing of a depressing type, and considerable dimness of vision. These phenomena persisted for three months, as the quinine was continued, and the patient treated with morphia subcutaneously. On admission to the asylum, which was at length rendered necessary, the patient was in the condition already described, and was placed under chloral and hyoscyamus as a hypnotic, and conium to quiet motor excitement. Under this treatment the patient was in fit condition to be discharged within six weeks after admission. He manifested, a day previous to discharge, some slight evidences of malaria, whereupon quinine was administered, which had the effect of bringing on a fresh attack of lypemaniac frenzy, with the same symptoms as previously. The quinine was stopped, and the same treatment as before resorted to, when the symptoms disappeared. The patient was discharged, fully recovered, four months after admission, but returned within a year in the same mental condition, from the same cause, to recover and relapse under the same circumstances.

* *Journal of Nervous and Mental Disease*, 1881.

CASE II.—P. J., Irish, æt. thirty, married, brother insane, sister epileptic, uncle afflicted with shaking palsy, was admitted to the New York City Asylum in a condition of extreme dementia, being able to utter but few words, and being very neglectful about himself and his surroundings. He had been in relatively good health up to about three weeks prior to admission, when he was attacked by a slight chill, for which he was given ten grains of quinine; in three hours after he sank into the condition in which he was on admission, but from which he recovered after three months' treatment in the asylum. In 1875 he was admitted in precisely the same mental condition from the same cause; was treated much the same, and had apparently fully recovered, when, manifesting some evidences of malarial infection, an assistant physician, who was ignorant of his history, ordered him five grains of quinine, which had the effect of producing a relapse, the patient returning to much the same mental condition as he was on admission. He, however, at length fully recovered.

To these cases I am now able to add a third case:

CASE III.—R. B., æt. thirty-eight, has a sister epileptic; a maternal grandmother and a maternal aunt died from "rush of blood to the head." The patient resembles the maternal side of the house in appearance and disposition. He has never been able to take even a small quantity of beer for fear of it affecting his head. Having recently come into a malarious district in Chicago, he was attacked by fever of a quotidian type. Upon the advice of a fellow workman, he purchased and took ᠑i of quinine sulphate at a dose. In an hour thereafter he was violent and destructive, smashing furniture purposelessly. His friends called me at this stage. There was a wild, purposeless violence, but no delusion or hallucination present. He was very incoherent and hilarious. This condition disappeared in two hours, he having meanwhile been given a hypodermic of conine, which controlled his movements. A second dose of the quinine led to exactly the same results, and its ætiological influence was therefore

clear. Since disuse of the quinine there have been no further psychical phenomena.

I have been able to find but one case in literature, that of Dr. Delafield,* who has reported a case of transitory fury due to quinine.

Such cases as these are likely to become of medico-legal importance. I have heard of three instances in which the use of quinine has been alleged as an excuse for certain escapades seemingly the result of intoxication. In one case, that of a Catholic clergyman, the man had suffered from vertigo, but was not addicted to the use of alcoholic beverages. The second case was that of a Washington lawyer, who, however, had been clearly insane and an inebriate previous to the use of quinine. The third case was that of a Presbyterian minister, of unblemished character and an abstainer on principle, who suddenly became violent, angry and destructive after taking five two-grain quinine pills. This violence lasted less than an hour, and the man was himself again. As these cases and others are becoming newspaper topics, it is exceedingly probable that some criminal may, as was said to have been Sergeant Mason's intention, plead the use of quinine as an excuse for crime. From the cases reported, it would seem that the administration of quinine might test the validity of this claim. It will, however, be obvious that quinine can act only as an exciting cause, and that, at the time of the second administration, some of the predisposing causes might have ceased action. A fairer test would be the character of the insanity alleged to have been produced; since, from the nature of the cases cited, it is clear that a deliberate crime would be inconsistent with any of them.

* *New York Medical Journal*, October, 1882, p. 406.

Report of Cases of Trifacial Neuralgia.

*TREATED BY REMOVAL OF MECKEL'S GANGLION; ALSO BY
THE SUCCESSFUL INTERNAL ADMINISTRATION OF ACONITIA.*

By A. VAN DERVEER, M. D., Albany, N. Y.,

Professor of Principles and Practice of Surgery and Clinical Surgery, Albany Medical College; Member British Medical Association; Attending Surgeon Albany Hospital; Consulting Surgeon St. Peter's Hospital, etc., etc.

THE causes that produce such dreadful suffering as neuralgia are so very different that medical treatment, or rather, the use of medicine, alone, is not always able to afford relief; and yet it is well known to all of us that there are certain conditions, due to the weak and enfeebled state of the system, that may be reached in this manner.

And then again it may be stated as a positive truth that in some cases actual surgical interference becomes necessary. The cases I am about to report will, I am sure, substantiate the statements I have just made. In this I do not know that I present anything especially new or original, and yet it seems to me the cases are worthy to go on record as illustrating the good resulting from operative surgery when medicine has failed to afford that relief sought by suffering humanity.

Mr. S., aged fifty-eight, came under my observation May, 1870. He gave the history of having suffered for over ten years from severe neuralgic pains about the right side of face, along the alveolar process, upper jaw and right side of tongue; also in the track of the inferior dental nerve. In the preceding five years Dr. Detmold, of New York, as well as the late Dr. Alden March, of this city, had

*• Portion of this paper was read at the meeting of the American Surgical Association, held at Cincinnati, May and June, 1883.

each operated twice by loosening the attachment of the cheek from the alveolar processes, affording a few months' relief each time to the patient. I did the same operation with equally good effect; but in September, 1870, the pain returned with as much earnestness as ever. I now made use of a very thorough treatment of iron, arsenic, Brown-Sequard neuralgic pills, injections of chloroform, and every remedy known to me, but with no especial benefit.

March, 1871, I made a section of the infra-orbital nerve, which resulted in affording great comfort to the patient, and for two years he remained quite free from pain. It then returned, more especially along the course of the inferior dental, and I suggested the removal of Meckel's ganglion, but his health was such that neither he nor his friends thought it safe. The old gentleman has lived on however, and though yet in great pain for months at a time, he will improve occasionally, and is alive at the present time.

Between the time of having Mr. S. under treatment and the care of the following case, I was so impressed with an operation I saw Dr. Thorndike, of Boston, perform on an exceedingly feeble gentleman, aged sixty-five, consisting in the removal of the infra-orbital nerve with Meckel's ganglion, in a case of long standing trifacial neuralgia, right side of face, that I determined to try it with my next similar patient. I would state here that I have since been informed by Dr. W. G. Wheeler, of Boston, that this patient remained well for two years; that the pain then returned in the left side of the face, and, after suffering a long time, he entered the Massachusetts General Hospital, had another operation like the former, and died a few days afterward from exhaustion.

Miss B., aged forty, first consulted me July, 1875, giving the following history: For three or four years previous she had suffered from neuralgic pains in right side of the face, differing as to length of time and degree of severity. Her general health up to this time had been good. No serious sickness, and family history clear. Passed the menopause

about two years before. Since that time she had had little relief from pain unless under the influence of medicine. All her teeth had been removed (one or two at a time) from right side upper jaw, and some from the lower jaw that side, with but little, if any, relief resulting. Had taken medicines almost constantly. For the previous six months she had had no remission of pain, though taking large doses of morphine, chloral and bromides. Was at times stupid from effect of these drugs, and yet complaining of pain. Countenance sallow, pale, and features expressive of great torture. Unable to do any work, or read or become interested in anything. The pain would start in the upper jaw, extend over the face, pass down, around and through the lower, to chin and along right side of tongue, also penetrating the temporal region, leaving a heat or inflammation in the mouth, very severe.

At times she would be unable to take a drink without having the pain aggravated for hours. Was thoroughly miserable, and despaired of ever getting help. An examination of urine showed kidneys to be in a healthy state. Was unable to give a satisfactory reason for development of original trouble, except that she had for the most part of her life been confined indoors as seamstress or forewoman in a large store, getting little outdoor exercise or fresh air.

I gave her large doses precip. carb. iron; also Brown-Sequard neuralgic pills, but with no apparent benefit. Gave hypodermic injections chloroform with a few moments' respite from pain, but the inflammation following was very severe. Also gave morphine in the same manner, but so little good followed that she readily consented to an operation.

On September 5, 1875, assisted by Drs. W. H. Bailey, N. L. Snow, Lewis Balch and F. C. Curtis, and my two medical students, ether being given, I proceeded to remove the infra-orbital nerve and Meckel's ganglion in the following manner: Making an incision from the inner angle of the eye, down to the bone, along the nose, for a distance of little more than an inch; then another

incision, similar in length, at right angles, under the infra-orbital ridge, raising the flap and periosteum, I exposed enough of the anterior wall of the antrum to admit the application of a good-sized trephine, removing a button of bone, so that the upper edge, opening, exposed the infra-orbital nerve and its canal. Lifting the nerve from its bed by means of a bone chisel, grooved director and probe, I followed it until the posterior wall of antrum was reached, where, by means of a smaller trephine, another button of bone was removed, and the sphenopalatine fossa reached. The ganglion was now lifted from its bed, and, with curved scissors, the nerve and it were severed and removed. This was followed by a sharp hæmorrhage, at first somewhat alarming, but controlled by portions of sponge, firmly applied, to which a silk ligature had been tied. The wound in the face was then closed by interrupted sutures, a drainage tube, with ligature from sponge, being placed in most dependent point. The patient rallied nicely from the anæsthetics, and was immediately relieved from all pain. There was considerable trouble in removing the sponge, and the parts supplicated quite a good deal, but ultimately healed kindly. From that time on she has been in perfect health, increasing in flesh, attending fully to her work, and a more grateful patient I have never seen.

Mrs. T., widow, aged thirty-seven, no children. Excellent family history. When two and a half years old she suffered from perforating ulcer of the right eye, resulting in the loss of sight and the partial flattening of the cornea. At about the age of fourteen she began to wear a simple cover, she and her people thinking it improved her appearance. This she continued to wear for seventeen years. During this time she did, in addition to her ordinary school work, a great deal of fancy needlework, such as embroidery. Always felt very proud of the sight in her left well eye; could see fine print at a greater distance than could many of her friends. During the latter part of the period of wearing the cover, she occasionally

noticed that a strong light would give the eye a tired feeling, followed by a slight pain at times, and then she would remove the cover for a little while. The ball did not shrink in any way perceptibly until some time after marriage.

After the cover had been out for a short time, it would give, for a few minutes, a slightly increased pain on re-introducing it. Six years before my seeing her, when in her usual health, she caught a bad cold by being out in the chilly night-air, and then the eye began to pain her severely. The spasms of pain would be only four or five daily, at first, confined mostly to the eye-ball, and compelling her to leave the cover out most of the time; but there was really no rest for any length of time. She now consulted the late Dr. Robertson, of this city, who advised very positively to let him remove the eye at once, believing it would stop the spasms of pain, and prevent any injury occurring to the well eye. This she most decidedly declined to have done, and contented herself by using a soothing eye-wash.

During the fall of 1877 and winter of 1878 the pain was yet confined to the eye; but in the spring of 1878 it began to extend out over the cheek, down along the lower jaw and right side of tongue, and back over the temporal region. For the next two or three years she consulted a number of physicians, both at home and in New York, some of whom advised the removal of the eye, some an operation on the nerve, and some thought no operation would do any good. All gave her a thorough course of medicine, which she tried faithfully; also, the use of electricity, and many outward applications, no permanent good resulting. She would be better, but the pain would always come on, more or less severe, just before her menstruation. She was referred to me by my friend, Dr. D. H. Cook, of this city, in the spring of 1881. I advised her to see Dr. Merrill, of this city, and learn, as near as possible, how much the eye had to do with the trifacial neuralgia, and whether its removal was not

now the best treatment. She saw Dr. Merrill, who advised the removal of the stump, as the eye had now shrunken to quite an extent, but again she positively refused. The Doctor fitted her with another cover, but no marked benefit resulted. She could wear the cover but very little.

I now gave her a very earnest and careful treatment with quinine, iron, Brown-Sequard neuralgic pills, arsenic and aconitia, but with only slight improvement. The aconitia was Merck's make, and never given in more than one-eightieth of a grain doses, three and four times daily, which would produce marked physiological effects, such as dryness of the throat and tingling of the fingers.

The spasms of pain were agonizing to witness, returning every one, two or three minutes. At last she got no rest even with large doses of morphine, by stomach or hypodermic injection. I also tried chloroform by the latter method. Her life was becoming a burden to herself, and one of intense sorrow to her friends. She got no rest during nearly the whole month of July. August 2, 1881, I consented to remove Meckel's ganglion, though feeling firmly convinced that the proper thing to do was the removal of the eye. The operation was done in the same manner as described in the previous case, assisted by Drs. Snow, Merrill and Warden, and my medical students. For a few days after she suffered occasional spasms of pain, but on the sixth day she was entirely free from it, and slept for the first time a quiet, restful sleep. She remained in a comfortable condition, improving in general health, not taking any medicine until the last week in November, 1881, when the pain returned along the course of the inferior dental nerve, the spasms being very intense, and coming on so rapidly as to prevent any rest. I tried faithfully aconitia (Merck's), but with little, if any, good resulting. Again she could not bear it in larger than one-eightieth grain doses three to four times daily. On January 2nd, I trephined the lower jaw, and removed, as I thought thoroughly, a section of the inferior dental nerve, giving her almost immediate relief. From this time on she remained in excellent health,

gaining in flesh and strength, feeling very happy, but gradually losing the sight in her left eye, until the last week in December, 1882, when she suddenly had a spasm of pain along the lower jaw and outer portion of the temporal region. This was followed, next day, by two or three spasms; then, the next week, she had five or six daily; then the pain came on as of old, except over the cheek. She was now very much discouraged, and refused all medicines. Her sufferings became so great, especially along the course of the inferior dental nerve, that, at the urgent request of her family, she finally consented to the removal of the eye, which was done by Dr. Merrill, April 3, 1883. After this operation the pain lasted for ten days, then ceased, and since she has been very comfortable. Occasionally she feels a weak sensation about the face, peculiar and difficult to describe, especially just previous to her menstruation. She says her face feels as if it would fall to pieces. At the present time it is difficult to believe so many operations have been performed about her face, so perfect has been the healing process. In considering this case, I am strongly impressed that the diseased eye was the cause of the reflex irritation.

The next case coming under my observation was that of Mr. H. N. Farmer, aged sixty-eight, married; referred to me by Dr. J. J. Buckbee, of Fonda, N. Y. He was admitted into the Albany Hospital March 20, 1882.

About thirty years before, while working with some machine, he received a severe blow from a stake, just over the left Malar bone. This he thought to be simply a bruise, and it did soon pass away. A few years after he had a number of ulcerated teeth on the same side. About fourteen years ago he noticed a dull, heavy sensation in his forehead, on the left side, and this was followed, in a short time, by sharp, darting pains, just under the eye, which could be started by merely touching the part. He dreaded wiping his face with towel or handkerchief, as it would result in spasms of pain. The pains would begin with a jerk, sometimes starting at the angle of the nose,

and again near the eye. Later it would come on of itself, and was more severe in cold weather. About ten years ago he began to be treated, and received no relief. Five weeks before he entered the hospital, I saw him first with Dr. Buckbee, and advised a thorough course of treatment with aconitia, it never having been used with him; which was tried, beginning with one-hundredth grain four times daily, increasing until one-twentieth grain was given as often, but no benefit whatever resulted, patient noticing only slightly the physiological effect of the drug. Merck's make was used. Why the aconitia was tolerated in such large doses, and producing no more toxic effect, I am unable to explain. It was prepared by the same druggist I am in the habit of getting it from, and he cannot offer any explanation. Mr. N., like Miss B., had had one tooth after another removed, no relief being afforded by it, March 21, 1882, assisted by Drs. Snow, Ward, Hailes, Mosher, Wood, Kennedy and Schofield, I did the same operation as in the last two cases, and with immediate relief. After recovering from the anæsthetic, he did not have a single spasm of pain. It was pleasant to witness his surprise and comfort. So rapid was his recovery, that he left the Albany Hospital six days after the operation, with the parts nearly healed. Dr. Buckbee has since informed me that the wound was entirely healed in a few days, and that he has been free from all pain since. His only regret was that he had not had the operation done many years sooner.

When we contrast the treatment of the cases of Miss B. and Mr. F. with that of Mr. S., we can come to but one conclusion,—that the removal of the ganglion and nerve is really the only true operation to do, and that the manner of making the incision in the natural curves and folds of the skin, leaves so little cicatrix as not to deter any patient.

In doing the operation, a good direct or reflected light is necessary. As regards the danger from hæmorrhage, I am sure it is possible to avoid it entirely.

By taking out a good-sized button from the posterior wall of the antrum, and watching carefully, the internal maxillary artery can be seen pulsating, and thus avoided, while a most excellent view of the ganglion can be obtained. As with all operations upon the nerves, I am convinced the operation needs to be done very thoroughly; if not, failure is likely to result, as it will, in cases where the pathological lesion is still more central and the cause not peripheral. In lifting the infra-orbital nerve from its bony canal, I found, in my last operation, the instrument here shown figured of great service, as by its use the operator is not so likely to tear or separate the nerve—something very important to avoid, for, by keeping the nerve in its continuity, he has a sure and safe guide to and along the ganglion.

That aconitia is of service in treatment I think the following cases very well illustrate:

Mr. B., aged forty, merchant, good family history of health, consulted me in June, 1880, for severe neuralgia in right side of face, having come on a year previous, after exposure in a long ride, to cold. For six months the pain had been almost constant, much as in the history given by Mr. N. Had been under medical treatment, with very little benefit. Was not anæmic, and of good habits. I gave him in solution one one-hundredth grain of Merck's aconitia three or four times daily for four weeks, when he reported himself well. One year after there was no return of the pain. In taking the medicine four times daily he felt only slightly the physical effect.

November 8th, 1880, I was requested by my friend, Dr. T. D. Case, to see Miss K., aged fourteen, excellent family history, who had been



suffering severely for two years from trifacial neuralgia, right side of face. In that time she had been mostly under the care of a specialist, who had been trying to cure her by the use of prisms and the wearing of glasses, but with little, if any, permanent good. Under the use of aconitia, as in the former case, she made a most excellent recovery, as I am informed by Dr. C.

Mrs. L., aged thirty-three, married, no children, first consulted me about two years ago. Had suffered for a number of years from trifacial neuralgia, right side of face, which was liable to be brought on by over-exertion, or any mental strain or excitement. The attacks would last from twenty-four to thirty-six hours, and the suffering be intense. By use of good tonics and the aconitia in one-eightieth grain doses, given when the attack was coming on, every three hours until four doses were taken, she has quite recovered.

Other cases I might mention convince me that in aconitia (not always relying upon Merck's make) we have a most excellent remedy for treating this very formidable disease or train of symptoms.

[SECOND PAPER.]

GUITEAU.—A Case of Alleged Moral Insanity.

A REJOINDER, BY J. J. ELWELL, TO REPLY OF
E. C. SPITZKA, M. D., N. Y.,

Professor of Medical Jurisprudence and of the Anatomy and Physiology of the
Nervous System in the New York Post-Graduate Medical School;
Physician to the Department of Nervous and Mental Diseases
of the Metropolitan Throat Hospital; President of
New York Neurological Society; Member of
the American Neurological Association: W. and S. Tuke Prize
Essayist; William A.
Hammond Prize
Essayist,
Etc.

Ut Sementem feceris, ita et metes.—A rude âne, a rude âiner.

WHEN my article on Guiteau was printed I had no thought of appearing again so soon, or at all, on this or on any other subject. I am compelled to do so by a bitter and unprovoked personal attack by a writer whose name I mentioned but once in my paper, and then with perfect respect. When a doctor administers to you a good round dose of wormwood, gall and grimstone, in a mixture of Hammond's nitro-glycerine, it is about time for the patient to call his family together, and see to it that his house is set in order; for there is something serious, real or imaginary, the matter. If the doctor is particularly smart—knows every thing, as in my case, and is never for a moment troubled with a doubt on any subject, however complex or completely hid to others—then the emergency is the greater. Hashish may also have been in the dose—for it was fearful—and should the

next page or two seem a little wild, it must be attributed to the medicine.

On opening the last ALIENIST, I saw, or thought I saw standing before me, a vast pyramid, with the base towards the heavens, and the apex lost in the sands of an all-comprehensive, "*etc.*" This colossal pile was covered from top to bottom with eulogistic hieroglyphics, inscriptions, titles, badges, records of the most marvelous exploits in psychiatry, neurology; and in fact in all departments of science, outnumbering the deeds of the most noted Pharaoh. High on the broad base of this lofty monument stood the figure of what seemed to my heated imagination, the Prophet of Truth, wrapped in the comfortable robes of perfect assurance and self-satisfaction, proclaiming in a loud voice, "*It is the duty of those who know the truth to correct error!*" What I saw, I have since learned was the apotheosis of a "Scientific Alienist." (This sounds like "shallow rhetoric without reason," babbling over the cobble-stones of a disturbed and unsanctified temper. Permit me, however, to try again with my hook baited with a little fish from the prolific, rhetorical pond of this great prophet; and if no better luck attends the effort, I will at once come down from the dangerous and cloudy region of metaphor, to the solid *terra firma* of facts, figures, and common sense.) A "scientific" gladiator appears upon the scene, stripped to the loins, with twisted hair and painted body, and comes bounding into the arena of discussion and strife, "like a prognathous African, howling and yelling in ignorant glee, with arrow and spear, to hew off" my "head, and drag the mutilated symbol home in triumph." (This is much better "rhetoric"—nothing "shallow" here—"symbol" is good, but "hewing off heads with arrow and spear," is about perfect.) I now see the folly and shallowness of such sentences in my poor little article as these :

An impartial discussion of the matter is not to be expected, until a sufficient time has passed to allow the sediment of popular indignation and professional zeal to fall to the bottom. Truth will then reveal herself, and not till then, for she shuns excitement and prejudice.

Mind, sound and unsound, with many-sided and ever-changing phenomena has escaped the grasp of language, and no satisfactory definition, has ever been formulated of these terms. No standard of measurement or court of appeals has been erected by which the issue of sanity or insanity can be measured or decided. Each case is *sui generis*, and encompassed by its peculiar difficulties, and must be judged by its own characteristic phases for which no precedent can be found. An examination of mental questions, therefore, is much like a voyage of discovery on an unknown sea, without chart, beacon-lights or headland.

I promise, if I get through safely with this job, to avoid hereafter all vain efforts of the like shallow rhetoric; for I will take no more risks of having my "head hewed off with arrow and spear, and the mutilated symbol dragged home in triumph"—or of having it kicked off by a rhombo-cephalous mule.

All this uproar and fury is over an unpretentious paper of mine, prepared in response to an invitation of the editor to write something for his JOURNAL, and almost forgotten, which has, to my great surprise attracted much more attention for and against, than its merits deserve. It pretends to speak for nobody but the writer, and to give his views in the briefest possible manner. He makes no pretention to being "a scientific alienist," or "a practical neurologist;" but he does claim to have taken for many years, a deep interest in all psychological, physiological and kindred subjects—keeping well abreast, as he thinks, of the best and latest thought on these important questions, in his studies and reading—now and then writing a magazine article, without contributing specially to the literature of the subjects involved. He holds with Dr. Dalton, that some things have been settled in the past.

One would think that a great light had suddenly burst over the field of psychological and neurological science, and that the fathers knew and did but little. He is conservative, and holds to the old landmarks. Dr. Dalton in his Cartright lectures says:

However much we may pride ourselves on the advance made during our time, we may be sure that *by far the greater* part of our *actual* knowledge is a legacy from the past. It has been winnowed in successive generations from error and imperfections, which *always* accompany its

first acquisition; and it is probable that many of our own discoveries will require a similar depleting treatment in the future.

This corresponds with what Dr. Hack Tuke said in his address to the Medico-Psychological Association in London, "that progress in this direction had been principally made by *clearing away* former errors, rather than by developing new treatment."

Confessing, then, our utter ignorance of the mysteries of brain action and of the brain itself—which Prof. Hamilton, of Aberdeen, in one of his Morrison lectures on insanity, says, "is the most complex of all organs"—let us hold fast to the old creed, that the brain is simply an organ attuned by immaterial and immortal forces.

Judge then of my astonishment, and indignation as well, to find myself unmercifully and personally assailed in a great JOURNAL, and charged with having been "guilty of manufacturing facts," "misquoting others," "misquoting testimony," "omitting essential facts," "using sophistry of speech" and "shallow rhetoric without reason," of "being a mere echo," who "has not even elementary knowledge of medicine," and as having "quoted himself as authority" for what I said, and "ought to be disbarred," etc. Having exhausted his own stock of English epithets, he calls out a German doctor, to denounce me in Dutch; which he proceeds to do in the following "scientific" style, on account of my *North American Review* paper, which he says is an illustration of "*glänzende Unwissenheit*." It is no relief to me that I find Mr. Blain charged with having denied what he had before stated as a fact; and that half a dozen government witnesses—"to call matters by their right names—*told a falsehood*." If this is not a case where the stern old rule, "an eye for an eye—a tooth for a tooth" is in order, I see no use for the rule. The language applied to Mr. Blain, and to the witnesses and to myself, is shocking, and such language as one gentleman never applies to another. He seems to be an old offender. I find in the *New York Record* (p. 687, vol. xx.) this language: "It is difficult to feel great

sympathy for a witness who is so inconsiderately aggressive as Dr. Spitzka. He made the surprising statement that whoever took a different ground from himself was either incompetent or dishonest."

The defence, with the subpoena of the government in its hands, could find in all this country but one professional medical witness who would go upon the witness stand, and under the rules of evidence swear squarely to the insanity of Guiteau. That solitary witness was Dr. Spitzka. He even boasts of the fact. "The only opinion given by a physician called in as an expert witness, that Guiteau was insane, was my own"! Four of the distinguished experts who swore to the contrary "are convicted as liars and ignorami out of their own mouths," and the balance of the thirteen able gentlemen who believed Guiteau sane, and said so, "to call matters by their right names—told a falsehood." Some lied, the others told a falsehood.

I am wholly unconscious—in the article aforesaid—of having misstated, misrepresented, manufactured or suppressed any material thing whatever; and have done nothing of the kind, as I will attempt to show. In my paper, I took it for granted that so intelligent a constituency as I was addressing through the ALIENIST, knew all the elementary facts of the Guiteau case, and that they were just as familiar with the evidence bearing upon its main points, as myself; for such evidence has been printed and published, as the London *Lancet* says: *ad nauseam*. My paper was necessarily very brief, covering only eight pages. I said, "the writer proposes, as briefly as practicable, to group the salient points of this remarkable case, which, *as he understands* them, establishes the proposition of the entire sanity and consequent responsibility of this homicide, on the 2nd of July, 1881." These propositions are given as briefly as possible, with my reasons therefor. I said, "the exigencies and limitations of journalism demand brevity." I had no desire or right to occupy valuable pages, to which others had better claim than I. It would be as impossible to misrepresent or

suppress the main points of testimony in this world-wide case known and read of all men, as to misrepresent or suppress the alphabet or the multiplication table. Nor had I any object to do so. I took no special interest in it, only as a leading one. Had I been an inconsiderate rampant witness somewhere, and then and there have made a fool of myself, then I might have been glad to have seen the evidence of my folly suppressed.

It so happened that in the number of the *ALIENIST* in which my little eight-page article appeared, and immediately following it, there was printed an eighteen-page paper of a very pretentious and exhaustive character, from the pen of Dr. E. C. Spitzka, M. D., etc., etc., on the very question I had discussed, from the opposite stand-point—that of Guiteau's insanity. On reading that article—though full of errors of fact, and bad in spirit—it never occurred to me that I ought to return to the field and abuse him for differing with me; yet, I had good grounds for doing so, for he floundered fearfully through the muck and mire of his own testimony, when on the stand—exposing himself at every point to ridicule and criticism. In this article he says: "Guiteau exhibited indications of theomania, *Querulantenwahnsinn*—erotomania or simple megalomania." In this article he says: "I made what was considered then and there *as the hit* of the day." "There was laughter and applause." He was undoubtedly very smart while on the witness stand, or we should not have "the hit of the day" and "laughter and applause." He prints it himself, and it must have been so. (It is in another paper given hereafter, that he says, "Command me as to any scientific advice that you may need. I have received more than two hundred letters of commendation," etc.—Letter to Scoville.)

I had presented my reasons for Guiteau's sanity in eight pages, Dr. Spitzka had given his reasons for believing him insane in eighteen. There the matter should have rested so far as we are concerned—at least until others had been heard.

Now for the main specific charges.

First.—"One naturally wonders why Dr. Elwell should take so much trouble to sustain the justice of Guiteau's sentence, by endeavoring to prove his sanity, when he already stands committed to the doctrine that if Guiteau was *insane*, then there would have been the greater reason for punishing him." Let us see if I stand committed to the doctrine that the *really* insane should be punished. I do not. In the *North American Review* paper, to which my critic refers as the foundation for this charge, I use language not easily misunderstood. Here it is:

That no confusion of ideas may arise—no misapprehension of the points at issue—and that the field of discussion may be properly circumscribed and defined, and no words wasted, *let it be said at the outset, and distinctly understood, that there can be no dispute as to the entire irresponsibility of that class of insane criminals coming within the famous rule of the English judges—those not knowing the difference between right and wrong. A person utterly unconscious of the distinction between good and evil, justice and injustice, right and wrong, at the time of committing the offence, by the common consent and judgment of mankind, is not responsible for his act.—Not influenced by fear or favor, by punishment in this life or in another, without forethought or calculation for the future; he is completely wanting in every element of character and faculty of mind necessary to fix responsibility for personal conduct or accountability to human tribunals.*

That is the record where "Dr. Elwell stands committed to the doctrine that if Guiteau was insane there would have been the greater reason for punishing him," if anywhere. No. To these stricken and desolate lives, and to their unfortunate families, Dr. Elwell would extend all the patience and all the skill of a great profession—the resources of the nation and the sweet and beautiful charities of a gracious Christianity.

I do stand committed in the *North American*, as follows:

On the other hand, to the punishment of that large class of *alleged* insane, thrown to the surface as the emergency requires, for whom the defense of irresponsibility is so constantly interposed in courts of justice—composed of the weak-minded, the evil-minded, those more or less disordered in mind, but still know right from wrong, the "odd" and the "singular" people; and, lately have been added to these, the eccentric; and still later (see *London Lancet*), "those of bad memory;" have been made to swell the list. *This is the class* whose position as to

responsibility is here under discussion; and *these* are the persons who are spoken of in this article as *the insane*, and not those who come under the rule of the English judges. (See *North American Review*, for January, 1882.

This language is plain, and correctly defines my position on the question of responsibility of the insane; and there is not the least excuse for the man who has misrepresented me. It is, however, a fair sample of his entire article.

Second.—"Dr. Elwell's paper chiefly consists of a peroration, laudatory of the government experts, and a foot-note, referring to his own medical jurisprudence as *authority* in moral insanity." That is what the "President of the New York Neurological Society" says my paper "chiefly consists of." (By the way, Dr. Seguin, of New York, who is responsible for what he utters, says this "President" was not fairly elected to the position he claims to occupy. See report of election in *Medical Record*.) Again, "Dr. Elwell, with all his prejudices, devoted twenty-one pages to moral insanity in the treatise *to which he refers as an 'authoritative' one.*" In another place,—“he could have found better *authority than that which he cites.*” Again: “He has *ultimately taken the stand himself as an authority* on moral insanity.” Now for the “foot-note” upon which this slander is based. The “President” did not print the note, for that would have carried the cure with the poison. Here it is:

NOTE.—For a more full discussion of the subject of Moral Insanity, see chap. xxix., page 400, 4th edition of the writer's work on Medical Jurisprudence; also his article in the *North American Review*, for January, 1882, on the Moral Responsibility of the Insane.

As everybody sees, it is not a reference to what I have written elsewhere, as *authority*, but “for a more full discussion of the subject of moral insanity,”—because I could not say all I wanted to, in the little space afforded me in the *ALIENIST*. The note is written in plain language—there is no room for a mistake. When *full discussion* means the same as *full authority*, then, and not till then, will it be true that I ever referred to my own medical jurisprudence as “*authority.*” The only one

who has egotistically referred to himself is the distinguished president, on page 432 of his article. Here is the "peroration," as he calls it, which, with the foot-note, forms the "chief portion" of my article, to answer which requires twenty-two pages, and as many notes.

Law and medicine never confronted each other in a court of justice or elsewhere with an issue so momentous, witnessed by the intelligent people of two continents as excited spectators; never did law make greater demands upon the resources of medicine; such requisitions were never more fully and promptly met, by so many and so able representative men of the profession; never was testimony given under weightier and more solemn circumstances; and finally, never has a great profession been so triumphantly vindicated from the clamor, general distrust and odium into which medical expert testimony had fallen—when insanity was interposed as a defense for crime—and completely lifted out of that quagmire of sentimentality, fatalism, "moral monstrosity," and wickedness, called moral or emotional insanity, into which it had fallen.

I stand by the "peroration," and the foot-note is a standing condemnation of Dr. Spitzka's assertion that "Dr. Elwell quoted himself as authority for what he said." It is Dr. Spitzka who egotistically quotes himself as aforesaid, and who says of himself, "It is the duty of those who know the truth to correct error," and "Command me as to any scientific advice that you may need. I have received more than two hundred letters of commendation, and I made what was considered then and there *the hit* of the day. Applause and laughter."

Third.—"Dr. Elwell is a mere echo of Dr. Ordronoux's attack on moral insanity." That may be. It is always well to echo truth, whatever may be its source, and I consider it an honor to follow so safe, wise and conservative a leader as the gentleman named, and simply refer to it as another misstatement of fact. It so happened that my chapter on moral insanity, to which my critic refers, was written in 1859, and the article referred to as that of Dr. Ordronoux's in 1873. It is quite possible that Dr. Ordronoux wrote on the subject before I did, though I am not aware of the fact. On the appearance of my book, Dr. Ordronoux wrote in the *New York Journal of Medicine*, as follows:

But in justice to a great subject upon which it descants most luminously, because most briefly—the subject of all subjects in medical jurisprudence—in justice to the overwhelming importance which must everywhere, and in all places, attach to the phenomena of mental disease, and the legal conditions flowing out of them, we venture to pause and utter a few words over the chapter on *Insanity*. At the outset we may say that any intelligent man may talk flippantly enough on the above topic, up to a certain point, because common observation of functional derangements in the brain, as manifested in intoxication and somnambulism, are of every day occurrence, and to the inexperienced eye simulate forms of chronic, organic disturbance. Inasmuch also as the *causa causans* of insanity is in most instances as completely hid from the physician as from the layman, each meets on equal terms in the deep, dark mine of mental pathology. Beyond a certain point medical knowledge avails nothing—up to a certain point it avails much. When the physician has reached his *ultima Thule* he can see no better than the layman who has followed him, and this conviction of the inability of penetrating the mental constitution beyond its most superficial operations, gives every man the right to have “his say” up to those pillars of Hercules beyond which lies the psychical Atlantis. Hence, as Prof. Elwell tells us, “Countless volumes having been written by the ablest minds of the medical profession upon the great subject; quarterly and monthly periodicals having been established expressly for its discussion and elucidation; some of the ablest thinkers in medicine having made it for a lifetime a speciality, . . . the popular mind and general reader come very naturally to conclude that the whole subject is well understood.” But when either lawyer or physician comes to investigate and apply rules of law to any individual case he finds, *lamentabile dictu*—“That notwithstanding all that has been accomplished by the accumulation of facts, and the enunciation and discussion of theories upon the subject of insanity, especially during the last century, the whole question is still *sub judice*.”

With names and classifications the author tells us that courts have nothing to do, and were courts more prone to remember this they would most assuredly reject the equivocal name of moral insanity from their adjudications. And in this connection we cannot help saying that if there be among all the chapters in this truly valuable book, one which we particularly consider as the keystone of all the rest—and whose honest, frank, and conservative tone will do more to beget a true medico-legal union before the courts, where now we so often have a complete antagonism of the two professions, it is the chapter on “The Position of the Courts upon Insanity.”

Who does the President of the New York Neurological Society echo? He is a weak echo of a class of modern crazy German pagans, who are trying, with what help they can get in America, from such “scientific alienists” as he, to break down all the safeguards of our Christian civilization, by destroying if possible all grounds for

human responsibility—putting forth the cold vagaries of agnosticism and nihilistic utilitarianism—accepting nothing beyond the reach of uncertain human experiment and his own fallible reason—reconciling the irreconcilable factors of life and human existence; while all that he really does is to start at every turn he makes, or step he takes, mysteries that are, have been, and always will be, *fathomless*. He solves at once phenomena which, in the present state of science, are absolutely beyond the realm of legitimate inquiry. He sees no difficulty whatever in understanding the chemico-molecular action of the brain. He penetrates boldly into the sacred dark chamber where thought is born (throws up the curtain), handles it, hands it over to the nurse, and is then on the lookout for more “advanced thought.” Had Dr. Spitzka been present when God said “Let us make man,” he would have responded to the “us;” and, while he would hardly have undertaken the main work of creation, he would have made valuable suggestions. Conscience and consciousness, he would have left out in man, as troublesome factors in his system and plan of the universe. With him brain and mind are coëxistent and coëvil—the death of the material terminates the mental. Depravity and crime are synonymous with disease and circumstance. These are some of the theories dangerous to society, started or revived mainly in Germany, of which Dr. Spitzka is “only the echo.”

By the side of all this, I wish to place on record the refreshing and spring-like words of the great physiologist Dr. Carpenter, of London: “I deem it just as absurd and illogical to affirm that there is no place for a God in nature, originating, directing, and controlling its forces by his will, as it would be to assert there is no place in man’s body for his conscious mind.”

The truth is, little as we know of mind or spirit *out* of the body and independent of matter, our *exact* knowledge of the essence of mind, in its connection with the human brain, is almost as limited, humiliating as the thought

may be. Of the existence of mind or pure thought outside of matter there can be no doubt, as seen in the Creator "originating, directing, and controlling its forces by his will." We can only know God by his manifestations through mind and matter, and that is about all we know of mind—its manifestations.

Here is what the London *Lancet* thinks of these matters: (page 695, vol. i., 1882.)

The plea of insanity ought to be called the plea of *irresponsibility*, so completely is the idea of disease being subordinated to the hypothesis of unaccountability. It cannot be doubted that the public safety and—in a very grave and practical sense—public morals, also, are endangered by the humanitarian spirit of the times, to which a *materialistic philosophy lends especial force*, and which tends to regard man as a mere instrument in the hands of his physical destiny—a machine wound up and set to work out a particular class of actions, and obey a certain series of impulses—and which strive to find excuses for his wrong-doing accordingly. It is a humiliating, and so far as the repute of the profession may be affected, a disgusting fact, that in almost every recent case of murder, some medical person has come forward with the suggestion that the prisoner is insane.

Again, the *Lancet* says: Lefroy was not insane, and Guiteau is not insane. The only insanity accruing to the latter case is that which those who support the plea of insanity may themselves impart to it. The position of the matter in regard to this question is becoming one of exceeding gravity, and it will soon need to be very seriously discussed. (Page 1012, vol. ii., 1881.)

Fourth.—"Speaking of the medical testimony for the defence, he says: 'Dr. Spitzka'—this is the only mention made of Dr. Spitzka's name in my article—the defendant's chief and most important witness says, 'he found his skin was in a healthy condition; found his appearance perfect; his eyes perfectly healthy.'" "No change of habits or life." "Dr. Elwell actually uses quotation marks falsely, giving the impression that those words were used by the witness in a certain order, *whereas the fact* is, nothing was actually said as represented in Dr. Elwell's *manufactured quotation*." He is "at an utter loss to find anything in his testimony to compare with the words 'no change in the habits or thoughts,' which Dr. Elwell pretends to cite from it." Dr. Elwell *does not* pretend to cite from Dr. Spitzka's testimony, the words "no change in

the habits of life or thought," and does not attribute them to him, as no one knows better than Dr. Spitzka himself. On the opposite page he had read, not a half-minute before, precisely the same in substance; the same words condensed, quoted from Dr. Hughes. Here they are:

This JOURNAL has laid down the following rule, which is undoubtedly correct: "If *no change in the habits of thought, feeling and action* takes place, then it is not insanity. The true test of insanity, therefore, is this comparison of the individual with his former self, taken in connection with disease of the brain." By this fair rule let Guiteau be judged.

The president, essayist, etc., that he might make a point on me, sees nothing but "quotation marks actually used," losing sight altogether of the thing quoted. He can't find the words in all his testimony. Certainly there were quotation marks, not for him, but for the ALIENIST, and they were right before his eyes when he wrote. There is no chance here for mistake. As for the "manufactured quotation;" "he found his skin was in a healthy condition; found his appearance perfect; his head perfectly healthy;" they can be found in the *Journal of Insanity*, page 339, January and April, 1881, precisely as I have used them. Not having the three thousand pages of the official evidence before me, I relied upon it as I found it in the ALIENIST, *Journal of Insanity*, and other journals. It is, however, substantially correct, as I find it in the official record. "I did not examine him for any ordinary physical complaint at all," says the witness, "and therefore found *no evidence of it.*" Again; "externally I found the head in *quite a healthy condition*, a little eruption on the skin, but *nothing that you would call disease.*" Did I try to represent Guiteau any healthier than he was? Did I not frankly admit the syphilitic "taint"?

I thought and said that Guiteau displayed able generalship in many respects during the trial. In this I also "misrepresented and suppressed facts." In reply I will quote from the *Medical Record*, the words of its editor. (Page 65, December 10, 1881):

Guiteau displayed a wonderful acuteness in appreciating the legal bearing of the questions put to him, and in evading answers that would criminate him. He clung to his theory of inspiration with a tenacity which might raise the suspicion that he appreciated its legal value. Upon the general public the prisoner's quickness of mind and extreme adroitness made the most impression. Though mercilessly cross-examined, no inconsistency or incoherence was brought out. To the medical mind the fact that some confession of remorse and regret was made, as well as the undoubted mental suffering of the witness during the cross-examination, will perhaps have the most weight.

Fifth.—"Probably Dr. Ellwell may be induced to give the grounds on which he makes such statements as the following: 'First, there is no positive indication of this hereditary tendency in the family of the Guiteaus; and no one thought of having him shut up in a lunatic asylum.'" I have done so once, so far as space would allow, and can again. What if Dr. Rice did, at one time when Guiteau had been raising the devil a little more than usual, advise his commitment to an asylum? Not one of his family or friends thought of acting upon the suggestion. This was in 1875; yet in 1876, Scoville tried to have him go in partnership with him in the practice of law. Does this look as if so sharp a man as his brother-in-law thought him a fit subject for the asylum? Why did not Scoville take the witness stand, as did Reed, his associate counsel, and try and save Guiteau's life, if he believed he had ever been insane? Who more competent to speak on this question of hereditary insanity than Scoville? Yet he is dumb. Guiteau said he had never seen Dr. Rice but two or three times in his life, which was probably true. Dr. Rice says, "there was no delusion, no hallucination, no illusion." It seems from the evidence, that Dr. Rice did not think best to make out a certificate of lunacy. Dr. Rice swore positively that Guiteau's father *was not insane*. So did his brother and sister. No effort, I repeat, was ever made by anybody to confine him except for fraud. Nobody pretends the mother was insane. *No ancestor* was insane. Insanity does not often descend from uncles, aunts and cousins. The *Medical Record* says: "It is worthy of note that despite his eccentricities, the *uniform*

story of his life is that nobody thought him insane." (Page 65, October 22, 1881.) Guiteau had, without doubt, an ancestral "taint" of *Spitzka insanity*, but this kind of insanity Dr. Barker calls "wickedness," and the "taint" is from his father the devil. Again the *Record* says: "But neither morbid egotism nor consequent delusions, necessarily stamp the individual as a lunatic. The degree of the one, the irrationality of the other, as well as accompanying facts, must be considered. Guiteau's egotism was great but not phenomenal; his delusions were contemptible, but not entirely without data. Add to this that his feelings, though brutal, were not uncontrollable; that he was more vicious than passionate; more coherent than incoherent in his language or writing, and we get the fiction of a man who is vain, brutish, weak-minded and offensive, eccentric—but not insane. The testimony of those who have known him most in mature years, viz., his wife, his brother, Noyes and others, shows that they saw in him something disagreeable and eccentric. He was indeed suspected of insanity by Mr. Scoville, but it may be that this was largely because he was such a nuisance." —*Medical Record*, page 630, December 3, 1881.

Sixth.—"If Dr. Elwell, notwithstanding his very frank and undoubtedly *subjectively* correct admission, that an examination of mental questions is much like a voyage of discovery on an unknown sea, without chart beacon-lights or headland," etc. Let me remind the reader that when I wrote this, nautical psychology was not so well understood and defined as now, and consequently more unsafe and uncertain. Capt. Spitzka's great and complete chart was not yet on the market, and I had to do the best I could without it. On his new map I find every crooked channel made straight, every rock, sunken danger and reef marked with buoys of empty barrels,—every creek, bay and inlet, flagged. All is now clear, safe sailing, day and night. The chart is dotted all over with beacon-lights. In fact there is no darkness on what before was a foggy and dangerous coast. This chart is called "Insanity, its

Classification, Diagnosis and Treatment, by E. C. Spitzka, M. D., New York." I can only, I am sorry to say, for want of space, make room for *part* of his "classification;" to wit:

GROUP I.—*Sub-group* A. of group I; 1st class of sub-group A. of group I; division 1 of class 1 of sub-group A. of group I.—Order A. of division 1 of 1st class, of sub-group A. of group I.—Sub-order A. of order A. of division 1 of 1st class of sub-group A. of group I.—Genus 1 of sub-order A. of order A. of division 1 of class 1 of sub-group A., of group I.—Genus 2 of sub-order A. of division 1 of class 1, of sub-group A. of group I.—Genus 3 of sub-order A. of division 1, of 1st class of sub-group A. of group I.—Genus 4 of sub-order A. of division 1 of class 1 of sub-group A. of group I.—Sub-order B. of order A. of division 1 of class 1 of sub-group A. of group I.—Genus 5 of sub-order B. of order A. of division 1 of class 1 of sub-group A. of group I.—Genus 6 of sub-order B. of order A. of division 1 of sub-group A. of group I.—Genus 7 of sub-order B. of order A. of division 1 of class 1 of sub-group A. of group I.—Order B. of division 1 of sub-group A. of group I.—Genus 8 of order B. of division 1 of sub-group A. of group I.—Genus 9 of order B. of division 1 of class 1 of sub-group A. of group I.—Division 2 of class 1 of sub-group A. of group I.—Genus 10 of division 2 of class 1 of sub-group A. of group I.—Genus 11 (Hebephmania) of division 2 of class 1 of sub-group A. of group I.—Second class of sub-group A. of group I.—Genus 12 of second class of sub-group A. of group I.—Genus 13 of second class of division 2, of class 1 of sub-group A. of group I.—Genus 14 of class 2 of division 2 of class 1 of sub-group A. of group I.—Genus 15 of class 2, of division 2 of class 1 of sub-group A. of group I.—Sub-group B. of group I.—Class 3 of sub-group B. of group I.—Division 1 of class 3 of sub-group B. of group I.—Division 2 of class 3 of sub-group B. of group I.—Genus 17 of division 2 of class 3 of sub-group B. of group I.—Genus 18 of division 2 of class 3 of sub-group B. of group I.—Class 4 of sub-group B. of group I.—Genus 19 of class 4 of sub-group B. of group I.—Genus 20 of class 4 of sub-group B. of group I.—Genus 21 of class 4 of sub-group B. of group I.—Genus 22 of class 4 of sub-group B. of group I. contains all other insanities of groups not enumerated in the foregoing sub-groups, divisions, sub-divisions, orders, sub-orders, classes and sub-classes, and 21 Genera. It contains "*failure of logical inhibitory power*, mania raisonnant, moral insanity of *some* types," not all.

I would humbly suggest that a 23 Genus might be added to class 4 of sub-group B. of group I., to include the few left of the human family not covered by the 22 Genera of group I., and those corralled in group II.; who are supposed to have still left, a little common sense. It would be much the smallest list in the catalogue.

Then comes group II., with a shot-gun full of insanities, in which he puts *hysterical insanity* under *monomania*. This group II., if possible is more complex and endless in its nomenclature than group I. I have given group I. complete, for the benefit of the psychological mariner; and if in trying to follow it he finds himself in a fog so dense, that that off Newfoundland is bright daylight by the side of it, it is not my fault. After his great feat at classification, diagnosis and treatment of the insane, and success as a witness, essayist, professor, president, critic, etc., Dr. Spitzka should have another title, that of professor of universal knowledge. He is the psychological clearing-house of America. He is fully competent to fill the chair which Haller, in Göttingen, occupied a hundred years ago, as professor of anatomy, history, physiology, surgery, obstetrics and medical jurisprudence, combined with the duty of writing at the same time one review a week, and summing up at the same time all medical knowledge in his *Bibliotheca*. These duties would not apparently, from the amount he seems to know, interfere with his other professorships, presidencies, essays, etc.

Dedicate this crazy nomenclature and this insane book to the *Moon*, and the effort is complete.

Forsart said, "Good heavens, young gentlemen, let us have less science, and more art!"

Seventh.—"Dr. Elwell may thumb the jury trial records from one end to another of the twenty-seven hundred pages, without finding testimony given by a single witness, or a clause in the speeches of the defense, to justify his strange misrepresentation, and equally will he search in vain among the numerous pamphlets written by those who maintain that the assassin was insane, for the statement that Guiteau was a case of moral insanity *and nothing else.*" This raises the whole issue as to the existence of moral insanity, and *nothing else.* Dr. Spitzka dare not stake his case on pure moral insanity. Why not stand squarely up to the doctrine as held by Prichard and Ray, and not leave its defense to a few sincere and honorable

believers in it like Dr. Hughes and others, who stand up manfully and ably to the defense of what they believe to be true? Dr. Spitzka seeks to take all the advantage of the principle of moral insanity without having to use the term by which this condition of mania is best known. I use the expression "moral insanity" in its general sense, just as he used it in his testimony when he said, "I would have concluded that he suffered from *moral imbecility*, or *moral monstrosity*. I did not use the expression *moral insanity*; but what others call *moral insanity*, I call *moral monstrosity*;" and what Dr. Spitzka calls *moral imbecility* and *moral monstrosity*, others call *moral insanity*. What then is the difference, if any, between what I call, in the case, alleged moral insanity, and what he calls moral monstrosity? He says the terms are used thus interchangeably. Dr. Spitzka calls Guiteau's case a pure case of moral imbecility or moral monstrosity, and it is what others call moral insanity. He does not say what he means by the terms "moral imbecility" and "moral monstrosity," only that what he so calls, others call moral insanity. He does not say in his testimony that Guiteau had what he called moral imbecility or moral monstrosity, "and nothing else." But he does say that where he uses those terms others use moral insanity. I have used the term "alleged moral insanity," and it was used correctly, according to his own definition of moral imbecility or moral monstrosity, which he says means moral insanity as others use it. Dr. Spitzka, and his class of alienists, believe as one of them testified, that one-fifth of the human family are insane in a greater or less degree, and that in one group alone, to say nothing about the other groups, there are twenty-two genera. In one of these genera he places some kinds of moral insanity, the other kinds he scatters elsewhere; but nowhere in his book is he as liberal as when on the stand, for then what others called moral insanity he called moral imbecility and moral monstrosity. There is no getting away from this position.

Moral insanity, as defined and understood by the best class of alienists who use the term, at whose head stands the editor of the ALIENIST, there is nothing particularly objectionable. Dr. Hughes, instead of making every fifth person insane, thinks that about one in a thousand is found in that category; and when on the stand he is always conservative. Dr. Hughes says:

It is not contended that a person affected with derangement in his affective life, in order to be designated as morally insane, should be more free from errors of judgment and of the understanding, than an average number of sane people are liable to be under excitement. Understandings are not all alike. Errors of judgment are common to the rational mind. To err is a human attribute of mentality, and it is obviously illogical and irrational to expect that before we should permit or acquiesce in the use of the term "moral insanity" or "affective insanity," describing that form of mental aberration, with which we are all familiar, that we should demand of the individual so affected, that he should be sounder in his reasoning powers than the average rational mind. Misconceptions of judgment, and misconceptions of fact are common to sane people. Mistaken conceptions are not uncommon to rational minds, and it is not to be expected that there should be nothing of that kind before we should recognize the existence of a state of disease—call it "moral insanity" or "affective insanity," "reasoning mania" or whatever term we may choose to invent—it is not to be expected that with such a form of aberration we should gauge the mind of the affected individual by a more rigid standard than that by which we would measure the average rational mind. That is what I should argue in a case of that kind. Of course I know that there are gentlemen who would differ as to the propriety of the term, and knowing the theoretical basis upon which those differences are made, I should make no quarrel with them or enter any objection to their designating it by some other appellation. Nevertheless, the fact of mental disease still remains, in my humble opinion.

Again he says:

In the vast majority of changes in the moral character, the intellect either becomes abeyant—and in such a sense may be considered to have undergone a change—to have become subservient and acquiescent, and evidences a predominance of the aberrant moral over the intellectual character; or the intellect becomes also specially implicated and delusions accompany the effective change which we call moral insanity.

There is no obscurity here. Again, he says:

We recognize the fact that there is a form of insanity, which displays itself especially in *disordered impulse*, feeling propensity or passion with whatever of intellectual implication may be apparent. I call it moral insanity as the most descriptive term.

And again :

It matters little what becomes of the name, though we think it a good one as descriptive of the characteristic features of some forms of effective insanity, so long as nomenclature is based on the prominent *symptomatology* rather than upon the distinctive *pathological* features of insanity.

This is clear enough. We can understand just what he means by the term moral insanity; and as he teaches and testifies on the subject, no danger can arise to the community. So of J. Workman, M. D., of Toronto, and others. Such writers I place on my list of the noted "thirteen," who are trying to lift the profession out of the disgrace brought upon it by just such witnesses and writers as Dr. Spitzka.

Dr. J. S. Jewell, a noted alienist, says :

Whether all insane are morally irresponsible, has been and ought to be questioned, especially when opinions vary so widely as to what are the phenomena to be included under the term sanity. There is, however, a general criterion for determining the fact of moral insanity, and it is that a person to be considered irresponsible for his actions, must be unable to distinguish the difference between the right and wrong of an act. That insanity often involves practically complete irresponsibility there can be no real question. That on the other hand, the plea of insanity is often falsely made and successfully urged as a defense against the extreme penalties of the law for some flagrant crime, when there is no real ground for such a plea is notorious. That the public sentiment has become justly inflamed against the insanity dodge is plain to all.

I suppose those witnesses in the Guiteau case, who said that science knew no such insanity as moral insanity, simply mean that science only recognized insanity based upon disease of the substance of the brain and tangible symptomatology, and not as Dr. Hammond says in his new book, "on an emotion." I do not see how human tribunals are to fix responsibility to law, if they cannot cast an anchor on something more substantial than an emotion or an indefinite term like moral insanity, when used to cover wickedness. There must be disease, or real imbecility—not "moral" imbecility—just simple imbecility, or disease, if there is irresponsibility. This the courts can lay hold of, and always do, gladly.

Dr. Spitzka claims also that all the alienists of Europe agree with him on the question of moral imbecility or moral monstrosity. He says: "in Italy, as in fact almost generally throughout Europe, the writer is unable to find a single alienist who opposes this doctrine of *moral insanity*." Here he uses the term, but don't tell us what he means by it, so he must mean moral imbecility or moral monstrosity. What is European and Italian opinion on the question of moral insanity?

Dr. Bonfigli, of Ferrara, who is good authority, talks very differently. He has written a book on moral insanity, and in it is found a review of the declared opinions of forty-six eminent alienistic writers on the subject of moral insanity. He says, seven of these forty-six hold to the doctrine of absolute, pure and distinct, moral insanity. Of these, three are French, three German and one English. Seventeen of these forty-six hold to moral insanity conditionally—not as a distinct, pure mental disease. They connect it with more or less intellectual insanity. Of these seventeen, seven are French, six German, three Italian and one English. *Twenty-two, he says, deny the doctrine of moral insanity in toto.* Dr. J. Workman, of Toronto, late Superintendent of Toronto Asylum for the Insane, etc., in commenting on this statement of Dr. Bonfigli, says: "Had Dr. Bonfigli been more versed in the literature of English and American alienism, he could have much augmented the numbers assigned to the latter two countries; and, undoubtedly, the classes of *conditional advocates* and of *utter repudiators* would have had almost *exclusive* admission to his catalogue. He, however, introduces into his book a report of a discussion on moral insanity which took place at the annual convention of Medical Superintendents of Asylums, in New York, in the year 1863. I had the pleasure of being present and taking part in the discussion, which was conducted in the most courteous manner. Dr. McFarland gave it as his conviction, that "in all the cases of so-called moral insanity, a real intellectual disorder was present."

He was followed by the other members in rotation, including the distinguished and very long experienced Dr. Kirkbride, the President of the association and the veritable Nestor of the fraternity, numbering in all present, some forty representatives of the United States and Canadian asylums. Of all this assemblage, *only two or three* declared their belief in the actuality of moral insanity, and even these declined to define it as a distinct and independent form of disease."

This seems to be about the position of the question in Europe and America; and yet Dr. Spitzka "is unable to find a single alienist who opposes this doctrine of moral insanity in Italy or in fact generally!"

Eighth.—Dr. Spitzka says: "To have an insane ancestor will hereafter have to be considered rather an advantage than otherwise." No, not an advantage—yet the physiological and pathological fact remains true and is not to be laughed down, that the wonderful living forces of nature, which push the infant to adolescence and holds the man perpendicular on his feet for threescore years and ten, against the constant powers of gravity, is the ever-watchful enemy of disease, and the constant conservator of health and life. So imperative are nature's demands in this regard, and her efforts in the direction of health, if she fails, she often proclaims sterility. If she can encyst a ragged bullet, and thus save life, who dare limit her power? It does not follow that because the *vis conservatrix naturæ*, and the *vis medicatrix naturæ* at once summon their occult but myriad forces to encyst a bullet, or repair a fractured femur; that it "will hereafter have to be considered rather an advantage" to be shot or to have a broken leg. It is high time that the foolish and dangerous doctrine of once insane always insane—that because insanity has once been developed in a family a cloud ever after rests on that family from generation to generation; that that family and all its collateral branches in every direction are "tainted," and that this taint is liable to break out at the most unexpected times, in the most

unlooked-for quarter—be discarded and denounced. The theory is false, and the doctrine is dangerous to society.

Ninth.—"It evidently did not suit Dr. Elwell's purpose to quote the official report of the Microscopical Committee," etc.

I did not refer to the microscopical test, because the best medical authorities place no reliance thereon as a test of insanity. Even Dr. Ray says: "It will scarcely be claimed, at the present day at least, that structural changes found after death from any disease, are the primary cause of the disturbance manifested during life." Who knows what structural change takes place under the strange alchemy of death in the microscopical tissues of thought? Take the report of Dr. Shakespeare, et. al.—what does it amount to? There is not even a hint in it, much less an assertion, that Guiteau was insane, as the result of their microscopical investigations.

Dr. Savage, editor of the *Journal of Mental Science*, says of the microscopical appearances of a section from the frontal convex of Guiteau's brain:

I should say there is nothing that I have seen which is not compatible with mental health. It is true there are changes about the vessels and their walls, but these and similar changes are commonly found in bodies of persons dying or being killed when past middle age. There are no marked general changes in the nerve-cells, and I can only repeat that the specimen examined would not have any weight with me in causing me to reconsider my judgment on the sanity of the assassin.

That is what one competent to speak on the question of the microscopical appearance of Guiteau's brain thinks. The editor of the *Medical Record*, says:

The facts seem to be, that while there was some chronic disease in and about the blood-vessels, there was nothing indicative of any form of insanity; while on the other hand, much more serious changes are not infrequently found in the brains of persons who had been perfectly sane. Account must be made also of the fact that Guiteau had been suffering from malarial poisoning, and that he suffered death from strangulation. Guiteau's insanity, if it existed, was confessedly chronic; therefore all acute changes found would have no weight in estimating their ætiological bearings on the alleged mental disease. The severest form of vascular disease was apparently the *corpora striata*, a place where physical troubles would not be excited, while it is well known that the disease did not disturb any function known to pertain to those ganglia. The view that the

changes found were all significant or characteristic of commencing general paresis, is unfounded, and quite unworthy of serious discussion. The same remark must be made regarding Dr. Godding's surprising statement, that the arachnoid opacity was indicative of mental disease. There have been some rather labored attempts to prove the brain atypical. The convolutional development, however, as we are told, though deficient in some parts, was compensated for by fuller adjacent gyri. So far as the eye and some rough measurement could tell, the two hemispheres showed *no asymmetry*. The fundamental fact in the present case for the determination of atypy, viz., the comparative weight of the two hemispheres being absent, it would not be allowable, nor in accordance with scientific honesty to make positive statements regarding the matter. The futile and decidedly *ex-parte* attempt to show pathological cranial asymmetry hardly needs comment. In fact, Guiteau's mental condition must be decided by a study of his words and actions when alive. If these did not prove him a lunatic and irresponsible, the post-mortem findings will not help the case.

Tenth.—Not wishing to be again charged with "suppressing," I ought to include "a gem of purest ray serene," brought to light by my muck-rake. It was written nine days after his brilliant appearance on the stand. Here it is:

130 E. 50TH ST., December 22, 1881.

MY DEAR SIR: I have written Reed some important points on Hamilton, whom you may also ask if he wrote or inspired an editorial in the Philadelphia *Evg. Bulletin*. I feel morally sure he did.

Introduce that cast by all means. I suppose the sculptor will have to swear to its identity & give his experience. Leave out phrenology. The skull shape of the cast is reliable; the face part "was smoothed out because G. smiled," & is not as reliable.

It is possible that I had the right & left sides mixed up on the stand. It is the left side which shows defective innervation (tongue & face), while the right half of skull is smaller, but the chief anomaly is the posterior face & crest.

Ask Hamilton whether Broca does not call such skulls abnormal, whether Meynert in his last article on the subject does not do so, and attach the greatest weight to skull anomalies. I sent Reed a paper of mine; marked the authorities cited in the foot-note; you need only read over to see their importance on cross-ex.

I trust you recognize the importance of the points Dr. Kiernan gave you, & the further necessity of asking questions exactly in such an order that the "bad" four are convicted as liars and ignorami out of their own mouths.

Command me as to any scientific advice that you may need, not involving a trip to Washington.

I have received more than two hundred letters of congratulation and commendation, three anonymous threats, and two letters from lunatics.

Send copy of my evidence if you can. With regards,

GEO. SCOVILLE, ESQ.

SPITZKA.

There are other things in this menagerie, called a reply, which I would like to exhibit, had I not already exceeded my limits. For instance:

Dr. Spitzka is extravagantly laudatory of the "Continental Courts," as contrasted with those of England and America. The rule of responsibility, as found in the criminal code of Germany, is substantially the same as the knowledge of right and wrong in England and America. Here it is:

There is no criminal act when the actor, at the time of the offense, is in a state of unconsciousness or morbid disturbance of the mind, through which the free determination of his will is excluded.

„Es gibt kein Verbrechen, wenn zur Zeit des Vergehens, die Person in einem bedeutungslosen oder sonstigen krankhaften geistigen Zustande ist, wodurch der freie Wille beeinträchtigt ist.“

Dr. Spitzka ought to learn from all this, that reckless and headlong abuse of one who has never intentionally laid a straw in his way, or said an unkind word of him, is not prudent. The saying of Napoleon, "*L'audace, l'audace, toujours l'audace,*" may do for a warrior, but is not a safe maxim for a president, censor, essayist, etc., and that blows can be given as well as taken.

And now I take my leave of him forever, with the benediction of my Uncle Toby, when he held the fly between his fingers, before letting it go.

[This and the former article are from a strictly medical stand-point. Possibly I may sometime speak to the intelligent readers of the ALIENIST, from the legal stand-point, that they may see how lawyers, judges and law journals look at the case.]

Cleveland, Sept. 1, 1883.

Traumatism in Relation to Insanity.

By D. R. BROWER, M. D.,

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DURET,* in his discussion of cerebral traumatism, comes to the following conclusions, which have an intimate relation to the subject of this paper:

First.—When a localized lesion is produced by the traumatic action of the cephalo-rachidian fluid, in any region whatever of the myelencephalon, it is revealed by certain signs in relation to the part's function.

Second.—In the first period of the phenomena of shock, the signs differ according to the intensity of the lesion produced. If the destruction of the wounded part (center or conductor) is complete, there is a loss of function—a paralysis. If the lesion is light and non-destructive, and consists in a light shock, there is, or will be, by mechanical irritation, exaltation of function.

Third.—In the second or period of congestive and inflammatory reaction, if the destruction of the part is complete, exaltation of function, followed by paralysis, may be observed, finally succeeded by paralysis.

Fourth.—In all periods, phenomena of diffusion of symptoms (epileptiform attacks, psychic phenomena, etc.) may be observed.

From these conclusions it will be obvious that the immediate effects of traumatism are not the only ones to be dreaded, and that slight traumatisms may produce very serious results. Fürstner† and Azam's‡ results, in a general way, corroborate Duret. The literature of traumatism in relation to insanity is by no means meager. The earliest American alienist, Benjamin Rush,§ reports

* *Études Expérimentales et Cliniques sur les Traumatismes Cerebraux*, p. 157.

† *Allgemeine Zeitschrift fuer Psychiatrie*, Band xxxviii.

‡ *Archives Générales de Médecine*, February and March, 1881.

§ *Medical Inquiries and Observations*, p. 28.

the case of a young man, who died in the Pennsylvania Hospital in 1809, who became deranged in consequence of a contusion on his head, by a fall from a horse, in his fifteenth year. A Mr. — died insane, in the same place, from a brain injury, caused by his being thrown out of his chair some years before insanity became manifest. He says that cerebral injuries are slower in showing themselves than are the results of traumatism elsewhere. Esquirol* says that falls on the head, even during infancy, predispose to insanity, and sometimes excite it. A three-year old fell on its head, and from that time suffered from cephalalgia, which became more marked at puberty, resulting in insanity at seventeen. Crichton Browne† has reported psychic phenomena, varying from idiocy to senile dementia, which resulted from traumatism. Griesinger‡ says that traumatism may set up insanity immediately; but in other cases it does not appear for, sometimes, years after the original injury. The traumatism sets up an acquired predisposition, without detectable cerebral lesion. Schläger,§ after a study of forty-nine cases, found that, in twenty-one of these, the injury was followed by an immediate loss of consciousness, in sixteen by simple mental confusion and wandering of the thoughts; in sixteen by dull pain in the head. In nineteen cases, insanity commenced within a year after the accident; the other cases in from four to ten years. The patients, as a rule, manifested, from the time of the injury, a tendency to cerebral congestion, after the ingestion of a small amount of alcohol or mental excitement. In several cases ocular hyperæsthesia and amblyopia made its appearance. There appeared, in fifteen cases, scotomic dots, which exercised an influence on the psychical phenomena. The patient often experienced tinnitus aurium. In eighteen cases dullness of hearing resulted.

* *Maladies Mentales.*

† *West Riding Asylum Reports, Volume II.*

‡ *Mental Pathology and Therapeutics.*

§ *Zeitschrift der k. k. Gesellschaft der Aerzte zu Wien, XIII, 1857.*

In three, hallucinations of smell and pupillary changes. The character and disposition changed. In twenty cases great irascibility and angry, passionate manner, even to violent, passionate outbursts, was remarked. Sometimes there occurred over-estimation of self, prodigality, restlessness and disquietude. In fourteen cases, loss of memory, and mental confusion was present. Fourteen attempted suicide. The prognosis in all cases was bad. Seven became parietic dement. Marcé* says that, in the greater number of cases of cerebral traumatism, the psychosis assumes an illy defined form, offering irregular alternations of stupor, agitation and imperfect lucidity, without systematized delusions; but recovery is never complete, and the patient becomes progressively demented.

Skac† says that: *First*,—Traumatic insanity is generally characterized, at the commencement, by maniacal excitement, varying in intensity and character. *Second*,—The excitement is succeeded by a chronic condition, often lasting several years, when the patient is suspicious, irritable and dangerous to others. *Third*,—In many such cases distinct homicidal impulses exist. *Fourth*,—The characteristic delusions of this type of insanity are those of pride, self-esteem and suspicion, true melancholia being but rarely present. *Fifth*,—This form of insanity is rarely recovered from, and has a tendency to pass into dementia, and terminate fatally, by brain disease.

Luys‡ agrees with Schläger. Dickson§ believes, like Schläger and Luys, that traumatism may cause both a predisposition to and insanity itself. Krafft-Ebing|| classifies insanity from traumatism as it is: *First*,—The direct consequence of the accident. *Second*,—Manifested later, the prodromus of disordered motor and sensory phenom-

* *Maladies Mentales.*

† Cited by Tuke, *Psychological Medicine.*

‡ *Maladies Mentales.*

§ *Medicine in Relation to Mind.*

|| *Lehrbuch der Psychiatrie.*

ena, and change of character. *Third*,—Preceded by a latent susceptibility, the result of the accident, which may be called an acquired predisposition, which requires but a slight exciting cause to develop into insanity.

Calmeil,* Voisin† and Laségue‡ report cases in which traumatism in infancy produced epilepsy at puberty, followed by parietic dementia in middle life. Blandford§ agrees with Krafft-Ebing and Skae that insanity may be due to traumatism, and that this may cause a predisposition to insanity. Hammond|| is of like opinion, and reports several corroborative cases.

Furstner** and Verity†† entertain similar views.

Kiernan,‡‡ after analyzing forty-five cases, comes to the following conclusions: *First*,—That traumatism produces certain psychoses. *Second*,—That the majority of these are unaccompanied by epilepsy. *Third*,—That a large proportion are accompanied by depressing delusions. *Fourth*,—That the majority of the latter are unattended by any hereditary taint. *Fifth*,—That, with certain modifications, Krafft-Ebing's views are correct. *Sixth*,—That injuries received before the age of forty are more potential in the production of insanity than those received subsequently. *Seventh*,—That slight injuries are as much to be dreaded as grave injuries. *Eighth*,—He finds that the percentage of insanity, due to traumatism (ten per cent.) given by Schläger, was greater than that found by himself (two per cent). *Ninth*,—That certain cases of insanity, due to traumatism, have well-marked, systematized delusions. *Tenth*,—That in all cases of insanity due to traumatism, a guarded prognosis should be given. Spitzka§§ expresses his concurrence with these views of Kiernan.

* La Paralyse Chez les Alienes.

† Paralyse Générale des Alienes.

‡ Cited by Voisin.

§ Insanity and Its Treatment.

|| Treatise on Insanity.

** Allgemeine Zeitschrift fuer Psychiatrie, Band xxxviii.

†† American Journal of Neurology and Psychiatry, May, 1882.

‡‡ Journal of Nervous and Mental Disease, July, 1881.

§§ Insanity: Its Diagnosis, Classification and Treatment.

Bucknill and Tuke* believe that, while there is some truth in Skae's views, exceptions are very numerous. Macleod† reports a case in which the physical symptoms resembled paretic dementia, but, in its initial symptoms, corroborated Skae's views. McGee‡ has reported a case of periodical insanity due to traumatism. Mollière§ reports a very similar case.

Cases are reported by Mickle,|| Schüle,** Austin†† and Emminghaus‡‡ which corroborate Kiernan's views. It may be accepted, in a general way, that traumatism produces a predisposition to insanity; and that the psychoses caused by traumatism are, as a rule, of a chronic type.

The following three cases recently came under my own observation:

CASE I.—Capt.—, æt. twenty-three, was wounded in the right parietal region, in one of the early campaigns in Virginia; he was rendered insensible for a short time, but speedily recovered after being carried to the hospital. Examination showed a contused wound of the scalp, without any involvement of the bone. In a few days he returned to his command, apparently well. Prior to the beginning of the war, he was the junior partner of a prominent law firm in New York, remarkable for his steady and regular habits, his industry and mental brilliancy. Impelled by patriotism, he gave up his chances for preferment there, and entered the army as a private. The qualities which so distinguished him in New York, rapidly advanced him to a captaincy.

Shortly after the injury he began to have headache and to pass sleepless nights. About four years afterwards a change was manifest in his emotions, in that he became irritable, resentful, quarrelsome and dissolute. The attacks

* Psychological Medicine.

† Psychological Medicine.

‡ Mississippi Medical Monthly, April, 1883.

§ Lyon Médicale, April 3, 1881.

|| General Paralysis.

** Handbuch der Geisteskrankheiten.

†† General Paralysis.

‡‡ Allgemeine Psychopathologie.

of cephalalgia became more severe, and were accompanied by dipsomania.

He had a wife and two children. Prior to this condition, he always manifested for them the warmest attachment; but now, during the paroxysmal attacks, he treated them brutally, and yet, during the interval, his old love continuously showed itself. These abnormal states became more frequent and violent, and finally his wife, not understanding their pathology, lost her patience, and became divorced, thus cutting him loose from his only balance-wheel.

He then left this country and went to France, where he became an active member of the Commune. Here, as elsewhere, he was a leader. His outrages were conspicuous, and furnished abundant occupation for his irregular explosions of nerve force. At the close of the Commune, he escaped from France, and was last heard of in the South African diamond fields, having escaped from jail after conviction of attempted murder and mail robbery.

This case has in it the evidences of logical perversion, which form the basis of systematized delusions; and, in all probability, the disorder in vaso-motor action will result in parietic dementia. The immorality displayed by the patient was, it is obvious, of pathological origin. His affinity for the Commune was of the same nature as that which led so many of the insane to join that movement (which decreased the number of hereditary lunatics by killing off so many of them).

CASE II.—J. K., æt. thirty-nine, Irish father of unstable mental equilibrium. Paternal uncle, three paternal cousins and a brother insane. He was a quiet, orderly youth. Entered the army early in the civil war, and was struck on the head several times, resulting in a cicatrix over the junction of the right coronal and sagittal suture. He remained unconscious for twenty-four hours. On his return home, he was found to have undergone a change of character; was quarrelsome and subject to fits of ungovernable fury. His family manifested fear of him, and

he conceived the delusion that they wished to poison him. About this time he had one attack of *grand mal*. He believed that other people wished to poison him, and carried about him various roots and camphor as antidotes; and frequently took doses of sweet oil. These delusions of conspiracy and suspicion increased, and he carried a knife and pistol for self-defence. The Catholic Church and its priesthood, of which he had been a devout member, were regarded by him as active agents in persecuting him. In 1870 he left home, and traveled to and fro to avoid persecution, but found this impossible. He had frequent attacks of *petit mal* and epileptiform neuralgia. He had attacks of transitory furor, which led him to attack his wife, who regarded him as insane, but was deterred from action by the publicity attendant on the disgraceful trial by jury system, of the lunacy laws of Illinois. He finally shot and killed his wife, under the delusion that one of his persecutors had attempted to enter his room. He was suddenly awakened by his wife arising, supposed her one of his enemies, and killed her. On finding that he had killed his wife, he attempted to commit suicide. A small bottle of whiskey, smelling strongly of camphor, was found in the room. His wife and himself had been on very good terms.

Dr. H. M. Lyman and myself were called as experts, and testified to the man's insanity. The prosecution endeavored to account for all his irregularities by attributing them to the effects of whiskey; and in corroboration of this view, the small bottle of whiskey, half empty, played an important part. The judge instructed that, if the insanity was the result of inebriety, it was no defence,—which resulted in the following verdict: “We, the jury, find the defendant guilty in the manner and form charged in the indictment, and fix his punishment at death by hanging. We, the jury, also find the defendant insane at the present time.” The judge granted a motion for a new trial, but K. relieved the case of any further legal relations by committing suicide the day after. There was found

among his effects a note, written the first day of the trial, which showed that his failure to sooner commit suicide was altogether due to a want of opportunity.

It will be obvious that, in this case, there were systematized delusions of persecution. The epilepsy was an epiphenomenon. The suicide was an expression of the man's love for his wife, and not in itself necessarily an insane act, although an evidence of insanity. A sane man, killing his wife under a mistake, might have committed suicide in like manner.

CASE III.—J. V., æt. fifty, had a paternal grandmother, two of his paternal uncles and two paternal cousins died insane. He manifested such mental impairment at the age of puberty as to earn for himself the sobriquet of "silly" and "crazy" among his companions. He grew up, however, to be a man of seeming ordinary mental capacity, with industrious and frugal habits, raising a large family and accumulating considerable property for one in his station.

When forty-two years old, while at work on the railroad track, he was struck by a passing locomotive; his left arm fractured, and his head injured sufficiently to produce cerebral concussion, followed by loss of consciousness, which continued for several days. After recovery he complained of severe and frequent cephalalgia, had restless nights, and gave evidence of a change in emotional condition, by irritability, fits of crying and dislike for society. One year after this injury he sustained another. A staircase he was assisting in erecting fell, and, striking him on the head, knocked him senseless.

After this second accident his mental perturbation was more manifest; he neglected his work, squandered his property till he became penniless, and manifested delusions. He thought himself possessed of great wealth, boasted of being the third son of God, wandered about his neighborhood hatless, coatless and barefooted in mid-winter. He was ardently devoted to his wife; he told several persons that she was too good for this world;

that he was the third son of God, and must send her to heaven; accordingly, in June, 1878, in a public place, in the presence of several persons, without warning or evidence of passion or excitement, he shot her. She died immediately.

The plea in defense was insanity. Dr. H. M. Lyman and myself served as experts. With this history before us, and with the evidence of neurotic disturbance shown by pupillary inequality, well-marked nystagmus, fibrillary twitchings of the muscles of the face, back, thorax and lower extremities, the evidence of the jail attendants that he slept scarcely at all, ate but little, and only such things as were brought from without, believing the jail food to be poisoned, we had no hesitation in saying that he was insane at the time of the homicide, and at the time of the trial. After this opinion was rendered, E. P. Weber, Esq., the prosecuting attorney, abandoned the case, and the jury returned a verdict of insanity without leaving their seats.

This case was an impure one. The man was, at starting, a primary monomaniac; but that the traumatism exercised a decided influence in changing somewhat the type of the psychosis is sufficiently evident from the history. The termination of the case was parietic dementia, but the intervening phenomena were such as have been already ascribed to traumatism. The question of treatment naturally occurs. Would trephining be of service? It is doubtful. As has been shown, traumatism produces deep-seated, impalpable change, and on this the trephine could exert no influence. Trephining in cases of depressed fracture would relieve one source of irritation, and would therefore be justifiable. Mickle* has proposed, in cases of traumatism, to use kalium iodide, rest and local cephalic applications of cold water. From an *a priori* stand-point, these would seem likely to be of value during the period between the receipt of the injury and the inception of the psychical symptoms.

* American Psychological Journal, April, 1883.

Report on Bibliography.

PRESENTED TO THE THIRTY-NINTH ANNUAL MEETING OF
SUPERINTENDENTS OF AMERICAN HOSPITALS FOR
THE INSANE, AT NEWPORT, RHODE
ISLAND, JUNE, 1883.

THE present year has seen many works on psychiatry issued into existence. In England, Tuke has contributed a valuable historical work, to the literature of this subject. In France, Luys, Bra, Ball, Bonnet and Voisin have written systematic works on insanity. Billod has collected his scattered contributions into two large volumes; Magnan has produced an interesting volume on Epilepsy; Mairet, one on Melancholic Dementia; Castaing, a small work on Chronic Mania; Mobit and Durantel, small works on Recurrent Mania; Le Grand du Saulle, an extended and valuable treatise on Hysteria; Rougier, a small essay on Melancholia, from locomotor ataxia; Régis, a small work on Progressive Paresis in the Female; Bourneville, one on Idiocy, Hysteria and Epilepsy; Descourtis, one on the Divisibility of Mental Operations; Ribot, a work on Psychological Heredity, and one on Diseases of the Memory; Paris, an essay on Ambitious Delusions; Lelorrain, one on The Insane from a Penal Point of View; Broquère, one on Apoplectiform and Epileptiform Attacks in Progressive Paresis; Roux, one on Ethyl Bromide in Epilepsy and Mania. In Germany a new edition of *Krafft-Ebing's Lehrbuch*, has appeared, and a work by Arndt. Mendel's work on Mania, is a contribution of decided value. In Italy, Verga's work on the Classification of Insanity, looms up prominently. In the United States and Canada, alienists have been very active in the production of works. Griesinger has been reproduced, unaltered from the Sydenham Society translation in an American edition. Drs.

W. A. Hammond, E. C. Spitzka and E. C. Mann have published systematic works on Insanity; while Drs. H. P. Stearns and E. C. Spitzka have discussed the Ætiology of Insanity. The first deals with the general ætiology; the second with the somatic only. In Canada, Dr. Howard has published a small work on the "Philosophy of Insanity, Crime and Responsibility." Dr. Worcester (a homœopathist) has also written on Insanity in general. No less than five new journals devoted to Psychiatry, have appeared. Of these, two are American, one is German, one Italian and one Russian. It will be obvious from these that the tide of periodical psychiatric literature is growing in volume, and to chronicle even the titles of the same is no mean task. A bibliography is always a matter of perhaps equal fatigue to the reader and writer.

SPECIAL PSYCHOSES.

The contributions to the special psychoses are by no means few. Drs. G. Alder Blumer,¹ P. M. Wise,² J. C. Shaw,³ Charcot,⁴ Raggi⁵ and Sterz,⁶ have reported cases of sexual perversion, corroborating the views expressed by Westphal, Krafft-Ebing and others, that this type of mental alienation occurs in hereditarily defective individuals, and is characterized by the fact that the male is attracted by the male, and *vice versa*. Transitory insanity has been analyzed by Brush,⁷ Lowenfeld,⁸ Lombroso,⁹ Burns,¹⁰ Kiernan,¹¹ Engelhorn,¹² Spitzka¹³ and Delafield,¹⁴ whose reported cases confirm the views of Krafft-Ebing and Schwartzer. EPILEPTIC INSANITY, in its varied phases,

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1. American Journal of Insanity, July, 1882.
 2. Alienist and Neurologist, January, 1883.
 3. Archives de Neurologie, Tome IV., 1882.
 4. Journal of Nervous and Mental Disease, April, 1883.
 5. Annali Universal di Medicina y Chirurgia, 1882.
 6. Jahrbuecher fuer Psychiatrie, Band III.
 7. American Journal of Insanity, July, 1882.
 8. Neurologisches Centralblatt.
 9. Archlyia di Psichiatria, Fasc 1., 1883.
 10. Rocky Mountain Medical Review, March, 1882.
 11. Detroit Lancet, March, 1883.
 12. Centralblatt fuer Nervenheilkunde, 1882.
 13. American Journal of Neurology and Psychiatry, 1882.
 14. New York Medical Journal, October, 1882.

has been discussed by Kiernan,¹ Kerlin,² Respaut,³ Bourneville,⁴ Jehn,⁵ Spitzka,⁶ Hughes,⁷ Russell,⁸ Kuhn,⁹ Lent,¹⁰ Fürstner,¹¹ Vallée,¹² Pelman and Möli,¹³ Botkin¹⁴ whose cases support the views of Falret and Samt. PROGRESSIVE PARESIS has been the subject of papers by Hughes,¹⁵ Kenner,¹⁶ Zacher,¹⁷ Magnan,¹⁸ Obersteiner,¹⁹ Snell,²⁰ Fabre de Parel,²¹ Lamaestre,²² Baillarger,²³ Frigerio,²⁴ Régis,²⁵ Lange,²⁶ Rey,²⁷ Mickle,²⁸ Foville,²⁹ Taguet,³⁰ Mendel,³¹ Culléré,³² Lafitte,³³ Stenger,³⁴ Tuttle,³⁵ Goldsmith,³⁶ Broquére,³⁷ Schüle,³⁸ Howard,³⁹ Camuset,⁴⁰ Berger,⁴¹ Seppilli,⁴² Wigglesworth,⁴³

1. Chicago Medical Review, February, 1882.
2. Alienist and Neurologist, July, 1882.
3. Alienist and Neurologist, January, 1882.
4. Archives de Neurologie, Tome IV., 1882.
5. Neurologisches Centralblatt, No. 3, 1882.
6. American Journal of Neurology and Psychiatry, 1882.
7. Alienist and Neurologist, July, 1882.
8. Medical Times and Gazette, January, 7-21, 1882.
9. Berliner klinische Wochenschrift, No. 17, 1882.
10. American Journal of Neurology and Psychiatry, 1882.
11. Berliner klinische Wochenschrift, July 10, 1882.
12. L'Union Medicale du Canada, January, 1882.
13. Allgemeine Zeitschrift fuer Psychiatrie, Band XXXIX.
14. Medizinkoje Obosrenje, July, 1882.
15. Chicago Medical Review, April 15, 1882.
16. Cincinnati Lancet and Clinic, March 5, 1883.
17. Archiv fuer Psychiatrie, Band XIII.
18. Journal de Médecine et de Chirurgie, January, 1882.
19. Monatshefte fuer praktische Dermatologie, No. 11, 1882.
20. Zeitschrift fuer Psychiatrie, Band XXXVIII.
21. Annales Medico-Psychologiques, July, 1882.
22. Ibid.
23. Ibid, January, March, 1883.
24. Archivio per la Malattie Nervosa, F. I. to II., 1883.
25. L'Encephale, No. 1, 1883.
26. Hospitals Tidende, May 19, 1883.
27. Annales Medico-Psychologiques, No 1, 1883.
28. Journal of Mental Science, July, 1883.
29. Annales Medico-Psychologiques, Tome VIII, 1882.
30. Ibid.
31. Neurologisches Centralblatt, February, 1882.
32. Annales Medico-Psychologiques, March 1882.
33. Ibid.
34. Archiv fuer Psychiatrie, Band XIII.
35. Boston Medical and Surgical Journal, December 23, 1882.
36. Archives of Medicine, August, 1883.
37. Thèse de Paris, 1883.
38. Berliner klinische Wochenschrift, July 10, 1882.
39. Journal of Neurology and Psychiatry, February, 1883.
40. Annales Medico-Psychologiques, January, 1883.
41. Neurologisches Centralblatt, October, 1882.
42. Revista Sperimentale di Freniatria, Anno IX., Fasc I.
43. Journal of Mental Science, January, 1883.

Oebeke,¹ Spitzka,² C. K. Mills,³ McFarland and Kiernan.⁴ Baillarger and Frigerio discuss the question whether there be not paralytic insanities of different ætiology, prognosis, and clinical course. Seppilli discusses at length the question of progressive paresis in the female, and disproves Neumann's assertion that this psychosis does not occur among females. He is of opinion that the climacteric is not without influence in the production of this psychosis in the female.

Mendel has recently discussed at length melancholia, in the same clear analytical way which gave his study of mania so much interest. He defines melancholia as a functional cerebral disease, attended by morbid psychical phenomena, which has for its basis a morbid excitability of the sensitive side of the mind. In the typical melancholia, there are three stages,—a stage of depression, in which the patient although depressed, has not lost the power of appreciating his relations to his surroundings; a stage of melancholia, in which this power is lost, and the patient has delusions or hallucinations of a moral or physical nature; a stage of decline. Besides this typical form there is: First, The so-called "mild melancholia" of the Americans; the "reasoning melancholia" of the French, which lacks the melancholic stage. Second, The melancholia attonita. Third, The melancholia periodica. Morse has also discussed the same subject, and Kiernan has briefly confirmed Mendel. Moral Insanity,—that morbid entity which has been claimed to be unknown to science, seems to have had much attention directed to it during the past year. It has been discussed by Hughes,⁵ Gasquet,⁶ Manley,⁷ Andruski,⁸ Magnan,⁹ Hollander,¹⁰ Work-

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1. Allgemeine Zeitschrift fuer Psychiatrie, Band XXXIX., 1882.
 2. American Journal of Neurology and Psychiatry, August, 1883.
 3. Journal of Nervous and Mental Disease, July, 1883.
 4. Alienist and Neurologist, July, 1883.
 5. Alienist and Neurologist, January, 1882.
 6. Journal of Mental Science, April, 1882.
 7. Ibid, January, 1883.
 8. Wratschebnija Wedomosti, No. 27, 1882.
 9. Journal de Médecine et de Chirurgie, April, 1882.
 10. Jahrbuecher fuer Psychiatrie, Band III.

man,¹ Lombroso² and N. Folsom;³ and the weight of authority during the year is in favor of the existence of the psychosis denominated by Morel, Ray, Conolly, Krafft-Ebing, Schüle, Tuke and Crichton-Browne, moral insanity. On the other hand the New York Medical Society, at its 1882 meeting, passed a resolution that the alienist was not justified in drawing conclusions as to sanity from moral manifestations of conduct, that department pertaining exclusively to law. PRIMARY MONOMANIA has been discussed by Pasternazki,⁴ Burr,⁵ Andrusski,⁶ Buccola⁷ and Spitzka,⁸ who confirm the conclusion of Sander that there is a congenital type of insanity dependent on cortical malformation rather than disease. KATATONIA first described by Kahlbaum, in 1874, whose existence was subsequently confirmed by the researches of Kiernan, Brosius and Hecker, has been discussed by Lafenauer,⁹ Kiernan¹⁰ and Hammond;¹¹ and their researches are fully confirmatory of those already cited.

REASONING MANIA has been discussed by Hammond¹ and Chase,¹³ and its relations to primary monomania seem clearly demonstrated.

HEBEPHRENIA, or insanity of pubescence, has been discussed by Burr,¹⁴ who confirms pre-existing researches on the subject. He alludes to the fact that religiosity and sexual ideas are often concomitant or alternate, as noted by Workman and others. In a general way his results corroborate those of Hecker and Kahlbaum.

FOLIE DU DOUTE has been discussed by Ball¹⁵ and

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1. Canadian Practitioner, February, 1883.
 2. Archivio di Psichiatria, No. 1, 1882.
 3. New York Medical Journal, February, 1882.
 4. Wratsch, No. 31, 1882.
 5. American Journal of Medical Science, July, 1883.
 6. Loc cit, No. 27, 1882.
 7. Revista Sperimentale, Anno VIII.
 8. Somatic Etiology of Insanity.
 9. Orvosi Hetilap, Nos. 5 and 6, 1882.
 10. Alienist and Neurologist, October, 1882.
 11. New York Medical Journal, April 15, 1883.
 12. Journal of Nervous and Mental Disease, January, 1882.
 13. Chicago Medical Review, May 1, 1882.
 14. Physician and Surgeon, March, 1882.
 15. Eulenburg's Real Encyclopædie.

Tamburini.¹ Under this title are included mysophobia, toxophobia and allied conditions. Tamburini divides it into the metaphysical type, whose intellect is affected by endless imperative metaphysical conceptions; the realistic type, in whom trivial realistic imperative conceptions affect the patient; the scrupulous type, whose morbid impulses relate to the question of conscience; the timorous type, who fear to compromise themselves by any act, however simple; the calculating type, who find themselves forced to calculate; and finally, a type in which the contact of external objects is feared.

MEGALOMANIA is discussed by Foville. The types of insanity occurring at certain periods, in childhood, old age, in pregnancy, during lactation, etc., have been discussed by Hughes,² Leidesdorf,³ Gauthier,⁴ Savage,⁵ Guermonprez,⁶ Mackintosh,⁷ Möller,⁸ Kiernan,⁹ Cohn,¹⁰ Magnan,¹¹ Griffin,¹² Berner¹³ and Hammond.¹⁴

ACUTE DELIRIOUS MANIA, the typhomania of Bell, has been discussed by Géné¹⁵ and Kiernan.¹⁶

PERIODICAL AND CIRCULAR INSANITY has attracted the attention of Koster,¹⁷ Foville,¹⁸ Haase,¹⁹ Ritti,²⁰ Hurd,²¹ Taguet,²² and Schäfer,²³ who confirm previous researches.

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1. Ohio Medical Journal, April, 1883.
 2. Alienist and Neurologist, 1882.
 3. Jahrbuecher fuer Psychiatrie, 1883.
 4. Thèse de Paris, 1883.
 5. Journal of Mental Science, July, 1883.
 6. Archives Générales de Médecine, August, 1882.
 7. Edinburgh Medical Journal, April, 1882.
 8. Archiv fuer Psychiatrie, Band XIII.
 9. Detroit Lancet, 1882.
 10. Archiv fuer Kinderheilkunde, Band IV.
 11. Journal de Médecine et de Chirurgie, April, 1882.
 12. Australian Medical Journal, June, 15, 1882.
 13. Norsk Magazine of Lægevidenskabens, 3 R. XII.
 14. Alienist and Neurologist, July, 1883.
 15. Revista Frenopática Barcelonesa, November, 1882.
 16. Detroit Lancet, September, 1883.
 17. Allgemeine Zeitschrift fuer Psychiatrie, Band XXXIX.
 18. Brain, July, 1882.
 19. Allgemeine Zeitschrift fuer Psychiatrie, Band XXXIX.
 20. Annales Médico-Psychologiques, July, 1882.
 21. Journal of Insanity, 1882-3.
 22. Annales Médico-Psychologiques, July, 1882.
 23. Neurologisches Centralblatt, May, 1882.

Koster attempts to show that periodical insanity has some relations to lunar periods.

COMMUNICATED INSANITY, or *folie a deux*, has been discussed by Morandan de Montezel,¹ Kiernan,² Hughes,³ Lehman,⁴ Bouteille, Savage and Gill.⁵ In general these researches tend to show that several varieties of distinct insanity are collected together under the term *folie a deux*. Some of the cases originate from the intercommunication of delusions; and others, as has been pointed out by Hughes and de Montezel, arise from one insane patient imitating another's delusion.

MECONISM.

On dipsomania, opiophagism, etc., there have appeared valuable papers from Drs. Evarts, Crothers, Mattison, Kane, Mann, Blodgett, Wright and others. There is to be noticed an increasing number of articles on inebriety and its kindred states of alienation, and of perversity associated with the abuse of drugs or stimulants. It is becoming an important problem for the student of psychiatry to determine what is the real mental condition in these cases, and what disposal should be made of these victims of constitutional disease, vice and sin; for, since psychiatry is so simplified that half what the fathers of psychiatry held to be taint of blood or moral cretinism is relegated to the turnkey and headsman, and it is authoritatively declared that dipsomania is drunkenness—another name for crime, we shall, in the near future, have to meet this question, "What punishment shall be meted out to this crime, since the thirty and ninety days' sentences of the police courts are confessedly powerless for reform?" In other words, since we close our doors against them as not insane, what must society do with them as criminals? It is a question which must be met, for this sphinx of the unguessed riddle is devouring her victims at a fearful rate.

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1. L'Encéphale, No. 3, 1882.
 2. Alienist and Neurologist, April, 1883.
 3. Alienist and Neurologist, July, 1883.
 4. Archiv fuer Psychiatrie, Band XIV.
 5. Journal of Mental Science, July, 1882.

[NOTE.—To these are to be added six papers on different aspects of opium addiction, by Dr. J. B. Mattison, published in the *N. Y. Medical Record*, *Medical Gazette*, *Cincinnati Lancet and Clinic*, *N. E. Medical Monthly*, *St. Louis Courier* and the *Journal of Inebriety*.]

COMPLICATIONS.

M. J. Madigan¹ discusses the relations of insanity to diabetes, and finds that these two diseases alternate at times. Gundry² discusses the interrelations of abdominal disease and insanity. Munson³ reports cases of insanity complicated by Addison's disease. Fritsch⁴ reports cases of insanity cured by erysipelas. Campbell⁵ and de Montezel⁶ report cases where typhoid fever exerted both a favorable and unfavorable influence on insanity. Madigan⁷ and Kiernan⁸ discuss the influence exerted on insanity by small-pox and vaccination, which they find to be sometimes favorable and sometimes the reverse. Kiernan⁹ also discusses the relation of gout to insanity. Howden¹⁰ reports a case of insanity associated with osteo malaria. Ball¹¹ and Ringrose Atkins¹² discuss insanity in its relations to paralysis agitans. Wigglesworth¹³ discusses the relations of insanity to chorea. Brueger¹⁴ and Raymond¹⁵ analyze the relations of kidney disease to insanity. Shaw,¹⁶ Sioli¹⁷ and Kiernan¹⁸ find that progressive paresis produces arthropathies similar to those of locomotor ataxia; and Christian¹⁹ has found perforating ulcer of the foot to exist in progressive paresis.

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1. *Journal of Nervous and Mental Disease*, April, 1883.
 2. *Detroit Lancet*, May, 1883.
 3. *Ibid*, April, 1883.
 4. *Jahrbuecher fuer Psychiatrie*, Band III.
 5. *Journal of Mental Science*, July, 1882.
 6. *Annales Medico-Psychologiques*, Serie VI., Tome IX
 7. *Chicago Medical Review*, July 15, 1882.
 8. *American Journal of Neurology and Psychiatry*, August, 1883.
 9. *Alienist and Neurologist*, April, 1883
 10. *Journal of Mental Science*, April, 18—.
 11. *L'Encéphale*, 1882.
 12. *Journal of Mental Science*, January, 1882.
 13. *Ibid*, April, 1882.
 14. *Charité Annalen*, VII., 240.
 15. *Archives Générales de Médecine*, March, 1882.
 16. *Archives of Medicine*, April, 1883.
 17. *Neurologisches Centralblatt*, No. 2, 1882.
 18. *Detroit Lancet*, July, 1883.
 19. *Annales Medico-Psychologiques*, September, 1882.

Othæmatoma, or as it is more commonly called, hæmatoma auris, or the insane ear, has been discussed by Biauté,¹ who claims that it is of trophic, not traumatic, origin; by Kiernan,² who is of the same opinion; by Hammond³ and Spitzka,⁴ who both agree as to the possibility of traumatism acting as an exciting cause, but that insanity is a predisposing cause of a very powerful nature. Hallock⁵ has proposed blisters behind the ears as a means of treating this complication. An explanation of the origin of this complication is to be found in Dastre and Morat's⁶ discoveries respecting the vasomotor nerves of the ear and the vessels of the same.

ÆTIOLOGY.

The psychoses produced by toxic agencies have been much discussed. Hassler,¹ König,² Smidt³ and Schede⁴ report acute and chronic psychoses due to iodoform. Depression was the prevailing type. Barbowes,⁵ Bogdonow,⁶ Diesterweg,⁷ Charkey⁸ and Stricker⁹ report psychoses due to the use of salicylic acid, depression being the type. Bannister,¹⁰ Jewell,¹¹ Hughes¹² and Kiernan¹³ find that two types of insanity result from the use of the bromides in epilepsy; one due to the suppression of the convulsions; the other directly due to the drug. Dr. T. L. Wright¹⁴ and Frigerio¹⁵ have discussed the ætiological

1. *Annales Medico-Psychologiques*, July, 1882.

2. *Detroit Lancet*, July, 1883.

3. *Treatise on Insanity*.

4. *Insanity, its Classification, Diagnosis and Treatment*.

5. *American Journal of Neurology and Psychiatry*, 1882.

6. *Archives de Physiologie*, October, 1882.

1. *Gazette Hebdom.*, No. 30, 1882.

2. *Centralblatt fuer Chirurgie*, No. 10, 1882.

3. *Centralblatt fuer Nerven*, December 1, 1882.

4. *Centralblatt fuer Chirurgie*, No. 3, 1882.

5. *Medical Record*, April 29, 1882.

6. *Wratsch*, No. 12, 1882.

7. *Centralblatt fuer Chirurgie*, No. 3, 1882.

8. *Lancet*, 1882.

9. *Berliner klinische Wochenschrift*, 1882.

10. *American Journal of Neurology and Psychiatry*, 1882.

11. *Detroit Lancet*, June, 1883.

12. *Alienist and Neurologist*, January, 1883.

13. *Detroit Lancet*, June, 1883.

14. *Detroit Lancet*, November, 1882; June, 1883.

15. *Archiv. Ital. per la Malatt. Nerv.*, from I. to II., 1883.

relations of alcohol. The latter agrees with Régis¹ in believing that alcohol produces a pseudo-paretic dementia. Fabre de Parrel² has found that systematized insanity results from alcohol. Moreau de Tours³ and Gnauck⁴ find that carbonic oxide poisoning sometimes produces insanity of a depressing type. Binswanger⁵ reports a case of insanity due to brass poisoning, and very similar cases due to lead are reported by Möli,⁶ Ulrich,⁷ Kiernan⁸ and Goodheart,⁹ who also report chronic psychoses due to the same cause. Rennert¹⁰ finds that chronic lead poisoning in the ancestor gives rise to macrocephalic idiotic children. Delafield¹¹ reports cases of transitory furor due to quinine, and a like case is reported by Kiernan,¹² who also reports¹³ other types of insanity, due to the same cause. Kiernan reports cases of insanity due to secondary syphilis. Otis¹⁴ and Hughes¹⁵ have reported cases of acute insanity due to syphilis. Obersteiner,¹⁶ Snell,¹⁷ Kiernan,¹⁸ Lange¹⁹ and J. Oebeke,²⁰ claim that the type of progressive paresis produced by syphilis cannot be distinguished from the ordinary types. Berry²¹ has discussed dementia from syphilis. Kräpelin,²² in an extended monograph running through several volumes of the *Archiv für Psychiatrie*, discusses the etiological relations of acute

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1. L'Encéphale, January, 1883.
 2. Annales Medico-Psychologiques, July, 1882.
 3. Detroit Lancet, June, 1883.
 4. Charité Annalen, 402, 1883.
 5. Neurologisches Centralblatt, March 15, 1883.
 6. Charité Annalen, Jahrgang VIII.
 7. Allgemeine Zeitschrift fuer Psychiatrie, Band XXXIV.
 8. Detroit Lancet, June, 1883.
 9. British Medical Journal, April 11, 1882.
 10. Archiv fuer Gynakologie, Band XIV.
 11. New York Medical Journal, October, 1882.
 12. Alienist and Neurologist, October, 1883.
 13. Detroit Lancet, June, 1883.
 14. New York Medical Journal, Vol. XXXVII., 1883.
 15. Alienist and Neurologist, April, 1883.
 16. Monatsheft fuer praktische Dermatologie, No. 11, 1882.
 17. Allgemeine Zeitschrift fuer Psychiatrie, Band XXXIX.
 18. Alienist and Neurologist, July, 1883.
 19. Hospitals Tidende, May 19, 1883.
 20. Op. cit.
 21. British Medical Journal, April 8, 1882.
 22. Op. cit., Band XI to XIII.

diseases to the psychoses. Spitzka¹ reports a case of moral insanity due to scarlet fever, and psychoses of like origin are reported by Ayer,² Wicks³ and Kiernan.⁴ Madigan,⁵ Wicks⁶ and Kiernan,⁷ report cases of insanity due to measles. W. H. Daly⁸ reports a case of insanity due to typhoid fever. Wicks,⁹ a case of insanity due to vaccination. Traumatism in relation to the production of insanity, has been discussed by Verity,¹⁰ who gives a good résumé of the literature of the subject, Mickle,¹¹ Spitzka,¹² Lombroso¹³ and McGee.¹⁴ The last was the case of a man who became morally insane after an injury, and had a morally imbecile son born after the receipt of the injury. Guernonprez¹⁵ finds that depression of the skull in children gives rise to psychical symptoms. Leidesdorf¹⁶ discusses the effects produced by synostosis of the skull sutures. It should be remembered, that, Virchow's hypothesis to the contrary notwithstanding, this is an expression of a congenital deficiency, not the cause of microcephalus, and that, acting on an already defective brain, it might produce pathological changes. Fürstner,¹⁷ discusses the influence of aural affections on the psychoses, and shows that such influence has been much over-estimated. Rippling,¹⁸ Danillo,¹⁹ Mäiret and Cleaves,²⁰ show that female diseases are not as potent in the production of insanity as has been supposed, although

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1. American Journal of Neurology and Psychiatry, 1883.
 2. Boston Medical and Surgical Journal, January 26, 1882.
 3. Cincinnati Lancet and Clinic, March 10, 1883.
 4. Detroit Lancet, June, 1883.
 5. American Journal of Neurology and Psychiatry, May, 1883.
 6. Cincinnati Lancet and Clinic, March 10, 1884.
 7. Detroit Lancet, June, 1883.
 8. Medical News, January, 1882.
 9. Cincinnati Lancet and Clinic, March 10, 1883.
 10. American Journal of Neurology and Psychiatry, May, 1882.
 11. Journal of Mental Science, January, 1883.
 12. Somatic Etiology of Insanity.
 13. Archivii di Psichiatria, 1882.
 14. Mississippi Valley Medical Monthly, April, 1883.
 15. Archives Générales de Médecine, August, 1882.
 16. Jahrbuecher fuer Psychiatrie, Band III.
 17. Berliner klinische Wochenschrift, No. 18, 1883.
 18. Allgemeine Zeitschrift fuer Psychiatrie, Band XXXIX.
 19. Archives de Neurologie, Tome III.
 20. Western Lancet, March, 1883.

H. Marion-Sims¹ and H. T. Byford,² still hold to the contrary. The influence of heat in the production of insanity has been discussed by Brush³ and Kiernan.⁴ Mendel,⁵ discusses the psychical results of cerebral hæmorrhage. The moral causes of insanity are discussed by Chapman⁶ and Kiernan.⁷ The works on ætiology, specially deserving attention are Kräpelin's Monograph, Spitzka's Monograph, and the Monograph of Stearns.

SYMPTOMATOLOGY.

Low temperature as a symptom of insanity, is discussed by Howard,¹ Haase,² Bechterew and Hebold,³ and Kiernan.⁴ Ball,⁵ discusses hallucinations in their relation to otitis, and the same are discussed by Fürstner.⁶ Bail-larger,⁷ discusses hallucinations in progressive paresis, and agrees with Mickle, that these are unsystematized. Oeffinger,⁸ discusses the sense of smell in lunatics. Chadzinski,⁹ Frigerio¹⁰ and Kiernan,¹¹ discuss self-mutilation in the insane, and its probable psychic basis. Möli,¹² discusses the optic conditions of the insane, and Buccola¹³ the pupillary conditions of paresis. Mickle,¹⁴ discusses kneejerk in paretics, Seppilli,¹⁵ discusses the blood of the insane; Albertotti,¹⁶ discusses the tactile sense in lunatics;

1. American Psychological Journal, No. 1, 1883.

2. Weekly Medical Review, Vol. VIII.

3. American Journal of Insanity, 1882-83.

4. Detroit Lancet, June, 1883.

5. Deutsche medizinische Wochenschrift. Jahrgang VIII.

6. Journal of Mental Science, July, 1882.

7. Detroit Lancet, June, 1883.

1. Philosophy of Insanity, Crime and Responsibility.

2. Allgemeine Zeitschrift fuer Psychiatrie, Band XXXIX.

3. Archiv fuer Psychiatrie, Band XIII.

4. Detroit Lancet, Vol. VII.

5. Journal de Médecine et de Chirurgie Pratiques, August, 1882.

6. Op. Cit.

7. Annales Medico-Psychologiques, January to April, 1883.

8. Irrenfreund, XXIV, No. 6.

9. Annales Medico-Psychologiques, May, 1882.

10. Journal of Nervous and Mental Disease, 1882.

11. Gazzetta degli Ospitali, September 13, 1882.

12. Journal of Nervous and Mental Disease, 1882.

13. Revista Sperimentale di Freniat, Anno IX.

14. Journal of Mental Science, October, 1882.

15. Revista Sperimentale di Freniat. Anno IX.

16. Archiv Ital. per la Mal. Nerv., 1883.

Kuhn¹ discusses epileptiform hallucinations; Ritti² discusses deficient capillary circulation; Claus,³ Ragosin and Turnbull⁴ discuss the pulse of the insane; Hirschberg⁵ discusses the optic symptoms of progressive paresis; Rey⁶ reports hysterical symptoms in the same psychosis; Verriest⁷ and Everts⁸ discuss the general symptomatology of insanity; Clouston discusses alternation and periodicity in insanity; Leidesdorf,⁹ the relations of the time of causation to the form of insanity; Mitchell¹⁰ discusses athetosis in the insane.

PROGNOSIS.

Pliny Earle¹ adds new statistics to those he has previously adduced, showing that certain elements of error exist in the asylum statistics of recovery. Thomson,² Wigglesworth,³ Chapman⁴ and Gén^é,⁵ also discuss the question of prognosis; and contributions to this subject are made by Giraud,⁶ Guillemin⁷ and Sizaret.⁸ Asylum statistics in general are discussed by Wilbur,⁹ Allen¹⁰ and Chapman.¹¹

TREATMENT.

The use of hyoscyamine in insanity is discussed by

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1. Berliner klinische Wochenschrift, No. 17, 1883.
 2. Annales Medico-Psychologiques, Serie VI. to IX.
 3. Allgemeine Zeitschrift fuer Psychiatrie, Band XXXIX.
 4. Boston Medical and Surgical Journal, May 11, 1882.
 5. Neurologisches Centralblatt, 1882.
 6. Annales Medico-Psychologiques, S. 6, Tome IX.
 7. Revue Medicale, 1882.
 8. Cincinnati Lancet and Clinic, October 21, 1882.
 9. Wiener medizinische Wochenschrift, 1882.
 10. Edinburgh Medical Journal, May, 1882.
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1. Alienist and Neurologist, October, 1882.
 2. Journal of Mental Science, July, 1882.
 3. Ibid., April, 1883.
 4. Ibid., April, 1883.
 5. Revista Frenopatica Barcelonesa, May, 1882.
 6. Annales Medico-Psychologiques, January, 1883.
 7. Thèse de Paris, 1883.
 8. Annales Medico-Psychologiques, January, 1883.
 9. Boston Medical and Surgical Journal, April 5, 1882.
 10. Journal of Psychological Med., 1882.
 11. Journal of Mental Science, April, 1883.

Hughes,¹ Shaw,² Browne,³ Richter⁴ and Kretz,⁵ whose researches tend to confirm the opinion, that while hyoscyamine is of value, its use is not unattended by danger. Cervello,⁶ Morselli,⁷ Berger⁸ and Bergesio,⁹ claim that paraldehyde is a valuable hypnotic substitute for chloral hydrate; the dangers of which last hypnotic have been pointed out by Kiernan¹⁰ and Géné.¹¹ Conium has been discussed by Kronecker¹² and Kiernan.¹³ Agaric has been experimented with by Bareggi.¹⁴ Arsenic has been used by Géné¹⁵ in cases of congestive mania. Acetal has been found of no value by Berger.¹⁶ Apomorphia has been used in agitated insanity, by Marshe.¹⁷ Krapelin¹⁸ has experimented with amyl nitrite. Ralfe,¹⁹ has discussed the use of sodium nitrite in epilepsy. Quinine has been used in intermittent melancholia, by Baillarger.²⁰ Surgery among the insane, is discussed by Schüle.²¹ Venesection has been resorted to in a case of melancholia, by For- dyce Barker.²² Restraint is discussed, from a stand-point favoring its use, by Kiernan,²³ Nichols,²⁴ Spitzka,²⁵ Cameron²⁶ and Becoulet;²⁷ from an opposite stand-point by Shaw²⁸

1. *Alienist and Neurologist*, 1882.
2. *Journal of Nervous and Mental Disease*, 1882.
3. *British Medical Journal*, November 25, 1882.
4. *Neurologisches Centralblatt*, July 15, 1882.
5. *Allgemeine Zeitschrift fuer Psychiatrie*, Band XXXIX.
6. *Archivio Italiano per la Malattie Nervoso*, F. I, 1883.
7. *Journal of Nervous and Mental Disease*, April, 1883.
8. *Breslauer aertzliche Zeitschrift*, March 24, 1883.
9. *Archivio Italiano per la Malattie Nervoso*, F. I., 1883.
10. *Journal of Nervous and Mental Disease*, April, 1883.
11. *Revista Frenopatica Barcelonesa*, November, 1882.
12. *Du Bois Reymond's Archives*.
13. *Journal of Nervous and Mental Disease*, April, 1883.
14. *Archivio per la Malattie Nervoso*, 1882.
15. *Revista Frenopatica Barcelonesa*, November, 1882.
16. *Breslauer aertzliche Zeitschrift*, March 24, 1883.
17. *Revue Medicale Suisse Romande*, May, 1882.
18. *Wundt, Phil. Studien*, I.
19. *Lancet*, December 9, 1882.
20. *Revue Medicale Suisse Romande*, May, 1882.
21. *Allgemeine Zeitschrift fuer Psychiatrie*, Band XXXIX.
22. *New York Medical Journal*, Vol. XXXVII., 1883.
23. *Journal of Nervous and Mental Disease*, January, 1883.
24. *New York Medical Journal*, Vol. XXXVII., 1883.
25. *American Journal of Neurology and Psychiatry*, 1882.
26. *Journal of Mental Science*, 1882—3.
27. *Annales Medico-Psychologiques*, Serie 6, Tome IX.
28. *Archives of Medicine*, 1882.

and Woodside;²⁹ and from a purely critical standpoint by Bannister and Moyer.³⁰ Alimentation of the patient refusing food, has been discussed by Riva.³¹ Employment of the upper-class patients has been discussed by Bower.³² Education in treatment of the insane, has been discussed by Lalor,³³ Fox,³⁴ Kiernan³⁵ and Turnbull.³⁶ Treatment of bed-sores has been discussed by Reinhardt.³⁷ The use of electricity has been discussed by Tiggs.³⁸ Under the allied topic of administrative detail, may be mentioned the discussion of the furnishing of asylums, by Urquhart.³⁹ The subject of insane colonies is discussed by Morton⁴⁰ and the *Jahrbücher für Psychiatrie*.

PATHOLOGY.

The blood of the insane has been examined by Seppilli.¹ The skull of the insane has been discussed by Amadeo.² The weight of the brain, by Morselli.³ The diagnosis of insanity post-mortem, by Spitzka.⁴ The pathology of chronic insanity has been discussed by Munson.⁵ The pathology of progressive paresis has been discussed by Wigglesworth,⁶ Mendel,⁷ Culleré,⁸ Zacher,⁹ Seppilli,¹⁰ Baillarger,¹¹ Wesphal,¹² Schulz,¹³ Rey,¹⁴ Zen-

29. *Medical Record*, Vol. I, 1882.

30. *Journal of Nervous and Mental Disease*, 1882.

31. *Revista Sperimentale di Freniat*, Anno IX.

32. *Journal of Mental Science*, 1882-83.

33. *American Psychological Journal*, April, 1882.

34. *Journal of Mental Science*, 1882-83.

35. *Journal of Nervous and Mental Disease*, January, 1883.

36. *Journal of Nervous and Mental Disease*, 1882.

37. *Allgemeine Zeitschrift fuer Psychiatrie*, Band XXXIX.

38. *Ibid*.

39. *Journal of Mental Science*, 1882-3.

40. *Journal of Nervous and Mental Disease*, 1882.

1. *Revista Sperimentale di Freniatria*, Anno VIII.

2. *Annales Medico-Psychologiques*, January, 1882.

3. *Revista Sperimentale di Freniatria*, Anno VIII.

4. *American Journal of Neurology and Psychiatry*, 1882.

5. *Alienist and Neurologist*, April, 1883.

6. *Journal of Mental Science*, January, 1883.

7. *Neurologisches Centralblatt*, No. 3, 1882.

8. *Annales Medico-Psychologiques*, May, 1882.

9. *Archiv fuer Psychiatrie*, Band XIII.

10. *Revista Sperimentale di Freniatria*, Anno VIII.

11. *Annales Medico-Psychologiques*, January, 1882.

12. *Archiv fuer Psychiatrie*, Band XIII.

13. *Neurologisches Centralblatt*, No. 4, 1883.

14. *Annales Medico-Psychologiques*, May, 1882.

ner.¹⁵ The pathology of typhomania has been discussed by Clevenger¹⁶ and of katatonia by Kiernan.¹⁷ The general subject of pathology has been discussed by Deecke¹⁸ and Hoffmann.¹⁹

FORENSIC PSYCHIATRY.

The mental status of Guiteau has been discussed by Drs. J. P. Gray,¹ Elwell,² A. McL. Hamilton,³ H. P. Stearns,⁴ Worcester,⁵ Bucknill,⁶ Orange,⁷ and E. Hart,⁸ who maintain that Guiteau is sane and responsible. Drs. G. M. Beard,⁹ Channing,¹⁰ Fisher,¹¹ N. Folsom,¹² Godding,¹³ L. C. Gray,¹⁴ Chase,¹⁵ Denny,¹⁶ C. F. Folsom,¹⁷ H. Howard,¹⁸ Kiernan,¹⁹ Mann,²⁰ W. J. Morton,²¹ C. K. Mills,²² R. L. Parsons,²³ C. H. Hughes,²⁴ A. McFarland,²⁵ Lombroso,²⁶ Kelp,²⁷ Pelman,²⁸ Pick,²⁹ Tamassia,³⁰ C. A. Walker,³¹

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15. *Cincinnati Lancet and Clinic*, October, 1882.
 16. *American Journal of Neurology and Psychiatry*, August, 1883.
 17. *Alienist and Neurologist*, October, 1882.
 18. *American Journal of Insanity*, January, 1883.
 19. *American Journal of Neurology and Psychiatry*, August, 1883.
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1. *American Journal of Insanity*, October, 1882.
 2. *Alienist and Neurologist*, April, 1883.
 3. *Boston Medical and Surgical Journal*, April 6, 1882.
 4. *Archives of Médecine*, June, 1882.
 5. *New England Medical Gazette*, April, 1882.
 6. *Brain*, April, 1882.
 7. *Journal of Mental Science*, 1882—83.
 8. *British Medical Journal*, 1882.
 9. *Journal of Nervous and Mental Disease*, 1882.
 10. *Boston Medical and Surgical Journal*, March 30, 1882.
 11. *Ibid*, July 15, 1882.
 12. *New York Medical Journal*, June, 1882.
 13. Two Hard Cases.
 14. *American Journal of Neurology and Psychiatry*, 1882.
 15. *Chicago Medical Review*, Vol. V.
 16. *Boston Medical and Surgical Journal*, December 14, 1882.
 17. *American Law Review*, February, 1882.
 18. *Philosophy of Insanity, Crime and Responsibility*.
 19. *Alienist and Neurologist*, April, 1882.
 20. *Journal of Psychological Medicine*, 1882.
 21. *Journal of Nervous and Mental Disease*, January, 1883.
 22. *Transactions of Pennsylvania State Society*, 1882.
 23. *American Journal of Neurology and Psychiatry*, April, 1882.
 24. *Alienist and Neurologist*, 1882.
 25. *American Journal of Neurology and Psychiatry*, 1882.
 26. *Archiv für Psychiatrie*, 1882.
 27. *Deutsche medizinische Wochenschrift*, No. 37, 1882.
 28. *Berliner klinische Wochenschrift*, November 25, 1882.
 29. *Berliner klinische Wochenschrift*, December 25, 1882.
 30. *Revista Sperimentale di Freniatria*, Anno IX.
 31. *American Journal of Neurology and Psychiatry*, 1882.

W. A. F. Browne,¹ Riva,² Russell³ and Spitzka,⁴ regard Guiteau as insane and irresponsible; while Karrer⁵ leaves the question an open one, and Drs. W. A. Hammond,⁶ Herrick,⁷ Henry,⁸ Bigelow,⁹ Reynolds,¹⁰ regard Guiteau as insane, but responsible. The editors of the *Annales Medico-Psychologiques* cite Dr. Folsom's¹¹ paper as expressive of their views. The question of responsibility has been discussed by Drs. Hammond,¹² Reynolds,¹³ Palmer¹⁴ and Bigelow,¹⁵ who take very Spartan views of the subject; while the more humane view is taken by Dr. Ira Russell,¹⁶ Kane,¹⁷ Ball,¹⁸ Fritsch,¹⁹ L. C. Gray,²⁰ Krafft-Ebing,²¹ Seppilli,²² Tamburini,²³ Freyer,²⁴ Schwartzter,²⁵ Cylits,²⁶ Tuke,²⁷ Liman,²⁸ Manouvrier,²⁹ Neumann,³⁰ Spitzka³¹ and Howard.³²

THE MEDICO-LEGAL RELATIONS OF CRANIAL ASYMMETRY have been discussed by Dr. H. C. Wyman,³³ who regards

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1. *Journal of Psychological Medicine*, 1882.
 2. *Archiv di Psichiatria*, Fasc. III.
 3. *Boston Medical and Surgical Journal*, December 15, 1882.
 4. *Alienist and Neurologist*, July, 1883.
 5. *Centralblatt fuer Nervenhe.*, 1882.
 6. *Journal of Nervous and Mental Disease*, January, 1882.
 7. *New Orleans Medical Journal*, December, 1882.
 8. *American Journal of Neurology and Psychiatry*, 1882.
 9. *Medical Record*, January, 1, 1882.
 10. *Chicago Medical Review*, Vol. V.
 11. *Boston Medical and Surgical Journal*, February 16, 1882.
 12. *Journal of Nervous and Mental Disease*, January, 1883.
 13. *Iowa State Medical Society Transactions*, 1882.
 14. *Medical News*, May 1, 1882.
 15. *Medical Record*, January 21, 1882.
 16. *Boston Medical and Surgical Journal*, December 28, 1882.
 17. *Alienist and Neurologist*, 1882.
 18. *L'Encéphale*, 1882.
 19. *Wiener medizinische Presse*, No. 38, 1882.
 20. *American Journal of Neurology and Psychiatry*, February, 1882.
 21. *Friedreich's Blätter* 87—100, 1883.
 22. *Revista Sperimentale di Freniatria*, Fasc. I to IV, 1882.
 23. *Ibid.*
 24. *Vierteljahrsschrift fuer Gericht. Medicin*, Band XXXVIII.
 25. *Jahrbuecher fuer Psychiatrie*, Band III.
 26. *Bull. de la Societe Med. Ment.* Fasc. I, 1882.
 27. *Journal of Mental Science*, April, 1882.
 28. *Vierteljahrsschrift fuer Gericht. Medicin*, Band XXXVIII.
 29. *Annales d'Hygiene Publiques*, 1883.
 30. *Allgemeine Zeitschrift fuer Psychiatrie*, Band XXXIX.
 31. *American Journal of Neurology and Psychiatry*, April, 882.
 32. *Op. Cit.*
 33. *Detroit Lancet*, 1882—83.

artificially produced cranial asymmetry as of no forensic value; by Spitzka,¹ Kirn,² Brower,³ Sterz⁴ and Mēragliano,⁵ who agree with Krafft-Ebing in believing that these hereditary stigmata are of value in diagnosis.

THE CONCEALMENT OF INSANITY BY THE INSANE has been discussed by Dr. Brower.⁶

THE FORENSIC RELATIONS OF ATTACKS ON ASYLUM OFFICIALS have been analyzed by Kiernan,⁷ who cites cases to show that the insane may give sane reasons for an attack undertaken from insane motives. Similar cases to those cited by Kiernan are reported by Giraud.⁸

THE FORENSIC ASPECTS OF SEXUAL PERVERSION have been discussed by Kirn⁹ and Krafft-Ebing.¹⁰

THE FORENSIC ASPECTS OF INCENDIARISM have been analyzed by Giraud.¹¹

THE BURDEN OF PROOF IN INSANITY has been recently decided in Indiana¹² to rest upon the State. This decision, which is in accord with an Illinois and Washington decision, is opposed to the decision of Judge Cox, in the Guiteau case, but is in support of the views of Judge Sedgewick,¹³ who says that "in such cases it would seem as if the presumption of innocence, if it is to be of any value, must belong to whatever facts are involved in the idea of innocence."

THE QUESTION OF LUCID INTERVALS has been discussed by Drs. Hammond¹⁴ and Clymer,¹⁵ who claim that except in the periodical insanities, true lucid intervals in a legal sense do not exist.

1. Allgemeine Zeitschrift fuer Psychiatrie, Band XXXIX.
2. Ibid.
3. Alienist and Neurologist, April, 1883.
4. Jahrbuecher fuer Psychiatrie, Band III.
5. Giornale internaz. delle Scien. Medic., 1882.
6. Alienist and Neurologist, April, 1883.
7. American Journal of Neurology and Psychiatry, February, 1883.
8. Annales Medico-Psychologiques, November, 1882.
9. Allgemeine Zeitschrift fuer Psychiatrie, Band XXXVIII.
10. Ibid, Band XXXVII.
11. Annales Medico-Psychologiques, January, 1882.
12. American Law Review, April, 1883.
13. American Journal of Neurology and Psychiatry, 1882.
14. Journal of Nervous and Mental Disease, 1882.
15. Ibid.

INSANITY IN ITS RELATIONS TO DIVORCE has been discussed by Ball¹ and Savage,² who cite the case of a melancholiac who refused to allow marital consummation, and whose insanity was shown to have existed before marriage. It appears that the English common law regards insanity existing before marriage as a cause for divorce. Luys³ and Blanche⁴ agree that the English common law view of the subject is just.

THE SUBJECT OF FEIGNED INSANITY has been discussed by Krafft-Ebing,⁵ who reports the case of a criminal who feigned dementia, and was detected by his acting in obedience to suggested symptoms; Spitzka⁶ reports a similar case. Dr. Robertson⁷ reports the case of a thief who feigned insanity; but Dr. Robertson's reasons for regarding this insanity as a feint are insufficient, since the co-existence of depressing and exalted delusions occur in many types of insanity, and deficient memory of recent events, with good memory of past, is a very common phenomenon of insanity.

SIMULATION OF INSANITY BY THE INSANE has been discussed by Morandon de Montezel,⁸ Kiernan,⁹ Nichols,¹⁰ Spitzka,¹¹ Hammond,¹² Hughes¹³ and Bluthardt,¹⁴ who corroborate the views first advanced in a systematic article by Hughes.¹⁵ In dealing with the subject of simulation, this fact should always be taken into consideration.

THE SELF-RECOGNITION OF INSANITY is another factor which must be taken into account in dealing with the

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1. *L'Encephale*, 1882.
 2. *Journal of Mental Science*, April, 1882.
 3. *L'Encephale*, 1882.
 4. *Annales Medico-Psychologiques*, July, 1882.
 5. *Freidreich's Blätter*, S. 103 to 113, 1883.
 6. *Insanity, its Classification, Diagnosis and Treatment*.
 7. *Journal of Mental Science*, April, 1883.
 8. *L'Eucephale*, No 1, 1882.
 9. *Alienist and Neurologist*, April, 1882.
 10. *Ibid.*
 11. *American Journal of Neurology and Psychiatry*, 1882.
 12. *Ibid.*
 13. *Alienist and Neurologist*, July, 1883.
 14. *American Journal of Neurology and Psychiatry*, August, 1883.
 15. *Transactions of the International Congress of 1876*.

feigning of insanity. This has been discussed by de Montezel,¹ Höstermann,² Pick³ and Spitzka.⁴

THE RELATION OF THE INSANE TO SOCIETY has been discussed by Hughes,⁵ J. P. Gray,⁶ Kiernan,⁷ Spitzka,⁸ Stephen Smith,⁹ M. F. Eller,¹⁰ Clark Bell,¹¹ Channing,¹² Ball¹³ and Brower.¹⁴

THE FORENSIC RELATIONS OF APHASIA have been discussed by Rosseau¹⁵ and Jolly,¹⁶ who agree that aphasiacs are not necessarily destitute of testamentary capacity.

CRIMINAL LUNATICS are discussed by Voisin,¹⁷ Pontoppidan,¹⁸ Channing¹⁹ and Howard.²⁰

It is hoped that no one will take offense at this imperfect sketch of the bibliography of insanity, during the past year, if he has been unintentionally omitted. Since the hour is coming when it will be a proud distinction to a man, that, living in the last quarter of the nineteenth century, he simply did his duty, neither speculated nor peculated; and, dying universally respected, they wrote above him, as the best evidence of his philanthropy, this inscription: "For he had compassion on the multitude, and published nothing—not even his memoir."

C. H. HUGHES, M. D.

W. W. GODDING, M. D.,

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} COMMITTEE.

POSTSCRIPT.—The committee acknowledge their indebtedness to Jas. G. Kiernan and others, for additions and amplified references, and would be pleased to make this bibliographical report more complete, appending, in the January number, references to such additional papers germane to the subject as have been omitted from the present imperfect psychiatric record of the year.

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1. Archives de Neurologie, Tome IV.
 2. Jahrbuecher fuer Psychiatrie, Band IV.
 3. Archiv fuer Psychiatrie, Band XIII.
 4. Op. Cit.
 5. Alienist and Neurologist, 1882.
 6. American Journal of Insanity, January, 1882.
 7. American Journal of Neurology and Psychiatry, 1882.
 8. Ibid, 1882.
 9. Ibid, 1883.
 10. Ibid.
 11. American Psychological Journal, April, 1883.
 12. Ibid.
 13. L'Encéphale, No. 1, 1883.
 14. Alienist and Neurologist, April, 1883.
 15. Annales Medico-Psychologiques, S. 6, Tome IX.
 16. Jahrbuecher fuer Psychiatrie, Band IV.
 17. British Medical Journal, March 4, 1882.
 18. Nordiskt Medicinskt Arkiv, Band XIV.
 19. Boston Medical and Surgical Journal, April, 1882.
 20. Op. cit.

The Minor Treatment of Insane Patients.

IT is my desire at this time to present a few suggestions relative to the care of patients, in certain minor details, with the hope of eliciting discussion, and securing a comparison of views. In this manner I think the practical experience of the different members of the Association may be called forth, to the mutual advantage of all. It is my purpose to speak of the every-day management of certain classes of patients, and of methods of treatment, which have proven best adapted in my own experience to meet the emergencies and difficulties which constantly arise in the care of the insane.

1. *The management of certain cases of Epilepsy.*—There are many epileptics who are for the most part orderly, quiet patients, and whose periods of disturbance come on at regular intervals in consequence of the disturbances of circulation, which accompany convulsive seizures. Many of these persons become extremely violent at such times, and their periods of disturbance, although brief, are full of danger to themselves, their associates and personal attendants. Such patients, after an initial stage of mental disturbance, which finally culminates in acts of violence or outrageous outbreaks, dangerous to themselves or others, are apt to be placed in restraint, and there remain until the period of fury is past. The attack is usually self-limited, and restraint is only required for a few days. These patients, if restrained, become more furious and destructive, and after the storm of excitement is past, usually recall the events which accompany it only imperfectly. They generally remember the fact of restraint, but never appreciate its necessity, and are sullen and irritable in consequence for a long time after the actual excitement is over. During the past

year I have pursued a different course with this class of cases, with decided benefit. As soon as an epileptic is noticed to be disturbed, he is undressed and placed in bed, and secluded in his room. By keeping him away from his associates, the opportunity for collisions is removed, and personal assaults are thereby prevented. In some instances, such patients are more quiet in the covered or crib bed. In the majority of cases, however, lying in bed solely in seclusion, is sufficient to prevent an outbreak of excitement. The patient generally behaves like a semi-intoxicated man, who has some appreciation that he is not making a creditable exhibition of himself, but is powerless to act otherwise. In one case where the patient, at intervals of about six weeks, was destructive and violent for nearly a week at a time, by pursuing the method above outlined, a period of severe excitement has been avoided for upwards of fifteen months, and a dangerous man has been transformed into a comparatively harmless patient. It is true, he still retires from the world about as frequently as before; but his periods of disturbance are shorter, and his bodily health does not suffer as it formerly did in consequence of his severe and exhausting excitement. He usually emerges from his "retreat" in better flesh than when he took to his bed, and there is no trace of irritability as before. In these patients there exists a pathological state of the brain and its vessels which finds expression in acts of violence, convulsive seizures, etc. There is also a marked tendency to physical exhaustion. I believe the method of treatment which I have outlined to be sound, and calculated to fulfill a physiological indication. Rest and isolation act with these patients as directly curative measures. They prevent excitement and exhaustion, and break up the habit of outbreaks of excitement. In this connection I desire to speak of the great value of the administration of hyoscyamine in cases of epilepsy accompanied by a high grade of excitement. It is my custom to administer this remedy, just as atropia

or belladonna are administered in the ordinary treatment of epilepsy, that is continuously, until a constitutional effect is produced. It is customary to commence with one-twenty-fourth or one-twentieth of a grain of the amorphous preparation of Merck, and to continue the use of the drug for weeks and months. As might be anticipated from the analogy of the physiological action of the drug with that of atropia, it seems equally serviceable in controlling the convulsive seizure, and has the added advantage of preventing outbreaks of excitement or irritability. If the constitutional effect of the drug is produced, it is usually advisable to withdraw it temporarily, taking pains, however, to administer it again when the system seems passing from under its control.

In the *status epilepticus* great advantage is frequently derived from the use of the hot bath, at a temperature of from 100° to 105°. It is my custom to place the patient in a bath at 98° and to gradually increase the temperature of the water until 105° is reached, continuing the bath frequently from ten minutes to half an hour. Used in this manner, I believe the bath to act as a powerful sedative to the nervous system, lessening its hyper-excitability, and giving the vital powers an opportunity to rally. If the patient in the *status epilepticus* has a lax, moist, clammy skin, and fatal exhaustion seems impending, great benefit frequently is derived from hypodermic injections of ergotine. I have never derived the prompt relief in the *status epilepticus* which Dr. Major, of the West Riding Asylum, has derived from the use of enemata of chloral. The same is true of the inhalation of nitrite of amyl. In some instances the violence of the epileptic seizure is so great that life seems imperiled by interference with respiration. The patient becomes blue, respiration ceases and the pulse flags. In several cases which have come under my observation I am positive that a prompt resort to artificial respiration has saved the patient's life.

2. *The care of untidy patients.*—The problems which

arise in the care of untidy patients are among the most difficult in the minor management of patients, and yet upon their successful solution the comfort of the patient largely depends.

To break up habits of untidiness at night, I know of no method so good as the systematic visitation of a night nurse to rouse sluggish and indifferent patients, and to get them out of bed at regular intervals during the night. For those who are extremely feeble and who require attention by day as well as by night, I know of no arrangement equal to an infirmary ward where such patients can have constant attention during the twenty-four hours. In one instance the bad habits of such a patient were corrected by getting him out of bed once every hour during the night. (He was in good bodily health). After a few nights of such painstaking attention, the habit of wetting his bed, which had been an annoyance for years, was broken up. The systematic administration of belladonna or atropia will often assist materially in accomplishing the same object. If there is atony of the bladder, or a constant dribbling in consequence of the retention of urine in a partially distended bladder, I have found regular catheterization of the utmost service. One patient at present under my care, who required and received half-hourly changes of clothing, and who was constantly wet from a dribbling of the urine, has been made very comfortable by the introduction of a catheter twice a day. No large amount of urine is ever drawn at any one time, but the regular introduction of a soft rubber catheter seems to relieve the unpleasant condition almost completely. The nurse has been instructed in the use of the instrument and takes great pride in its successful introduction. In another persistently untidy patient, where an elongated and narrow prepuce was present a complete relief of the infirmity followed circumcision. It was evident that the irritation of the contracted prepuce was sufficient to produce incontinence of urine. For such as soil their beds with

feces at night, I know of no remedy so good as the regular nightly administration of an abundant enema of water just before retiring. If the lower bowel is unloaded at bed-time, the possibility of soiling the bed at night is much decreased. In my own experience this is much preferable to the use of opiates or astringents by the mouth, or the use of astringent suppositories and injections. After a few nights the habit of an evacuation at this time is established and the enema can then be dispensed with, the patient simply being taken to the water-closet before retiring.

If the untidiness of the patient at night is due to attacks of diarrhœa, incident to imperfect digestion of food, much benefit is derived from the administration of acid phosphate. In many of these cases the digestive powers are so much impaired through defective innervation of the digestive tract that the food undergoes a fermentation and becomes irritating. Hence the necessity of remedies to assist in its more speedy and perfect digestion. With many also it is advisable to withdraw liquid food at supper-time. In some instances the simple regulation of the diet in this respect suffices to correct the tendency to diarrhœa or incontinence of urine.

If the urinary incontinence depends upon polyuria, as frequently happens with the insane, great benefit is derived from the use of nux vomica or ergot. The latter remedy is extremely efficient. I have learned never to cease efforts to correct the habits of even the most untidy patient. Care, attention to details and persevering, persistent personal attention frequently accomplish wonders.

3. *Position in the treatment of insanity.*—After much trial of methods, I have reluctantly come to the conclusion that cases of acute mania as a general rule do not do well if placed in bed. In many instances where exhaustion seems impending or where the patient is extremely emaciated, the physician instinctively places the patient in a recumbent position, but in my experience, to the very serious danger of the life of the patient. I have

never been able to fully satisfy myself as to the cause of the sudden and rapid exhaustion which is almost sure to follow such a proceeding. At first I thought it to be due to the fact that the real debility of the patient, which had existed from the start, had been masked by his constant excitement, and that with rest and quiet in a recumbent position it only became apparent. Subsequent experience, where patients suffering from acute mania were placed in bed before symptoms of exhaustion had occurred, demonstrated to me that this was an error, and that the rapid exhaustion was promoted by the position in bed. Confinement to bed and cutting off the physical activity evidently increased the molecular activity of the diseased brain cells and hastened destructive changes. The muscular activity of the patient seemed to indicate nature's method of relieving cerebral hyperæmia whether general or in circumscribed areas. I have accordingly made it a rule never to put a patient suffering from acute mania in bed if I can possibly avoid the step. Even if the grade of excitement is intense and restraint to a seat becomes necessary, I much prefer to have the patient sit up. Since this mode of procedure has been adopted, I believe that I lose fewer cases from exhaustion.

In melancholia, on the other hand, I am equally certain that many lives are saved by adopting the opposite practice. Feeble, depressed patients, with delusions of fear and distrust are vastly more comfortable in bed. The position seems to favor the nutrition of their starving nerve centers, and their mental action becomes more natural. A word in justice to the much-maligned covered bed or crib seems appropriate. No device of which I have any knowledge seems to meet the requirements of this class of patients as well. They frequently have a sense of quiet and security in a bed of this sort which can be obtained in no other manner. They instinctively recognize the fact that they cannot assume an upright position, and with a better nutrition of the brain cells comes healthier mental action. In this connection I

would express the conviction that feeble, anæmic patients, suffering from chronic insanity, are frequently noisy and wakeful at night because they become too much wearied before they retire. In some instances patients sleep more quietly at night who also take a brief nap during the day.

4. *The treatment of masturbation.*—This is an unsavory topic, but unfortunately one which obtrudes itself upon our attention constantly. The practical failure of any attempt to prevent this vicious habit which does not have the co-operation of the patient, leads many physicians to relinquish all effort. In my own experience I have found benefit from a variety of methods, and use them to meet emergencies which arise in the treatment of those who are addicted to this practice. For chronic cases, where self-control and sense of shame are lost, and where excessive mental irritability is developed by the exhaustion which follows an indulgence of the propensity, I know of nothing which acts so promptly as the local use of cantharidal collodion. This should not be applied in a wholesale, barbarous manner, but merely in sufficient quantity to keep the parts moderately sore until the habit is arrested. A persistent effort should then be made to give such patients abundant open air exercise and labor. They are usually in good bodily health, and can do the simpler forms of labor, like digging and wheeling earth, running lawn-mowers, etc. By following up the local treatment, with such physical and moral measures, the condition of patients suffering from chronic forms of disease can often be much improved. In cases of recent disease, where it is desirable to give the weak will assistance in overcoming tendencies to vicious indulgence, great benefit frequently is derived from the use of silver wire. This, however, is but a temporary measure, and cannot be depended upon for many days. In many of these cases, however, if the indulgence can be prevented for even a single week, marked improvement is perceived in the mental condition. In cases

of acute mania accompanied by intense sexual excitement, mechanical restraints at night, and constant personal attention by day, seems all important. In the vast majority of cases, and especially with female patients, the mono-bromate of camphor, in liberal doses, is after all the most serviceable. It should be given in doses of from two to fifteen grains, and its administration should be persevered in for months if necessary.

5. *Mechanical feeding and forced alimentation.*—For mechanical feeding the best device in my experience is a Nelaton catheter attached to a Hall's Health Syringe, of the largest size. The Nelaton catheter is passed through the nostrils, and the fluid is injected by pressure upon a bulb at the top, which is provided with a valve. This furnishes a steady, continuous stream through the catheter, and no air passes in with the injection. After the food is fairly started, it frequently continues to flow from syphoning, or through the force of gravity, and no continuous pressure upon the bulb is required. The apparatus is also well adapted to the administration of emulsions or other medicines, and the bulb is never contaminated by them.

The best aliment for forced feeding is unquestionably milk. In many instances it is ample to preserve the balance between repair and waste, and the patients fed with it gain in flesh. In one case under my care, which was fed mechanically for upwards of four years, milk only was used for upwards of three years, and she did not lose flesh. If the condition of the patient is very feeble milk and beef essence combined are frequently very serviceable, or milk with brandy or whisky, or milk and egg beaten together. Whenever the powers of digestion are feeble, it always seems important that the food injected be warmed at least to the temperature of the body.

In these cases, I have never found any advantage from the administration of solid food. It is well nigh impossible to secure its preparation so that the stomach

may act upon it efficiently in the absence of proper insalivation, and I long since relinquished any attempt to administer it. In cases where there is organic disease of the stomach or persistent vomiting, or a prolonged refusal of food in consequence of anorexia, great benefit frequently results from enemata of bullock's blood. When patients refuse food in consequence of delusions of poison, the use of bullock's blood is especially indicated. The dyspeptic symptoms upon which the delusions frequently depend are generally speedily relieved by giving the stomach an opportunity to rest, and the delusion promptly disappears. The constitutional aversion which most patients feel towards nutritive enemata also seems to contribute materially to the same result. Of all substances adapted to rectal alimentation I believe the "bullock's blood" so called, prepared by Parke, Davis & Co., of Detroit to be the best. It is always ready for use; its bulk is small; it is free from irritating qualities, and it is readily taken up by the bowel. I can recommend it as a valuable adjuvant when patients require artificial alimentation.

6. *The forced administration of medicine.*—When medicine is refused by a patient in consequence of a delusion, and its administration seems imperative, I regard any attempt to give it by the mouth unwise and even dangerous. I very much prefer to administer it hypodermically, or through the nose or by the rectum. Fortunately the number of remedies adapted to hypodermic use with the insane is constantly increasing. Ergotine, hyoscyamine, conia, morphia, picrotoxine, aloin and many others, can be used in this manner. Results are more prompt and less digestive derangement follows. The dose can also be reduced to the minimum. If for any reason it is not advisable to use the hypodermic needle (and with many sensitive patients it is not) excellent results can frequently be attained by rectal suppositories or enemata. Chloral hydrate, sulphate of quinine and the preparations of opium can be given in this manner with

the same efficiency as by the mouth. The potash salts, cathartics, preparations of iron, etc., can be fully diluted with water whenever required and given through the nose by means of a feeding apparatus such as has been described above. The wedge, the stomach-pump, the œsophageal tube and the heavy spoon can generally be dispensed with, and should be whenever practicable.

7. *Liberty of patients in and about the asylums.*—I have never yet been able to see the way clear to an asylum with open doors, or even to single wards with open doors. It has always seemed that when proper attention is given to the curative treatment of patients, every ward ought to have some person in it who should not be allowed to go out and in without supervision. If the open door is to be anything but a name, I do not well see how mildly excited, or depressed, or suicidal or perverted patients can have the benefit of it. For my own part, I feel much more comfortable in the thought that I can, if need be, use every hall in the asylum for recent cases than if I were precluded from using one or more of them in each department for patients whose condition will not justify such privileges. A convalescent hall, so called, needs the stimulus constantly of recent cases both for the good of attendants and patients; otherwise it becomes the abode of selfishness and inefficiency. The prime object of the asylum, the curative treatment of patients, should never be lost sight of for a single moment by any person connected with it. The recovery of a patient does more to elevate the standard of the care bestowed upon all patients than any other single agency. Even if open doors are not advisable, it by no means follows that individual patients cannot in many instances enjoy a large degree of liberty. It is always possible to arrange walking parties who can go out unattended. Among female patients I think it is preferable to allow three persons to go out in a company, taking pains to fix certain limits to their walks and to prescribe certain hours. The necessity of having three

go out together frequently induces an indolent person to go out who otherwise might remain in. In persons of middle age two patients can frequently be permitted to go out together. I rarely deem it wise to permit patients to go out wholly unaccompanied. It is of little service to a man whose mind is under the influence of delusions, painful or otherwise, to permit him to wander aimlessly about. Unless something fresh and stirring is brought into his daily life by greater liberty in the open air, the good he may derive from exercise is more than counterbalanced by the harm which follows a greater liberty to indulge in delusions. There are, however, individuals who are much benefited by going out alone. I have at present under treatment two cases of chronic insanity who are permitted to spend the greater portion of each day in the open air. One, a male, suffering from chronic mania, previous to receiving this privilege was untidy both by night and by day, restless, destructive to clothing, irritable, profane and quarrelsome. One year ago he was permitted to go into the open air unattended, care being taken to restrict his walks to a plat of ground adjacent to the building. Occasionally he broke over the limits assigned and the privilege was withdrawn for a half-day at a time in consequence, but always restored upon a renewal of his promise to avoid further transgressions. The effect upon his whole conduct has been remarkable. Although incapable of any effective labor, he is busy after a fashion, collecting stones, driving nails, searching after useless rubbish, sometimes committing acts of wanton mischief. He has ceased to be untidy, and his relations to the asylum have wholly changed. He is amenable to discipline, and has lost many of his former unpleasant characteristics. The other patient is a female, nearly sixty years of age, who has been insane for many years, and is irritable, perverted, and the victim of many hypochondriacal fancies. She has periods of mental disturbance characterized by extreme violence and destructiveness. These formerly recurred each year, and were

exceedingly trying to all who came in contact with her. Three years ago the privilege of going out unattended was granted as a matter of experiment, and she has since been permitted to come and go within certain prescribed limits. The effect has been to avert several threatening periods of excitement, and the house has been relieved of her presence, at all times a source of annoyance and a discordant element. Her own comfort has also been greatly enhanced by the arrangement.

In one instance I allowed a patient who suffered from periodic insanity to have the liberty of the grounds unattended during a period of considerable mental disturbance. The effect was to cut short the period of disturbance and to deprive it of characteristics which had formerly been extremely trying to both attendants and fellow-patients.

It is my custom to place cases of acute mania, during the earlier stages of convalescence, as far as possible under the care of special attendants, with instructions to keep the patient almost constantly in the open air. This permits the greatest liberty of action and ensures a more speedy convalescence.

Each year's experience in the management of patients in the minor details of treatment serves to emphasize the necessity of an individual study of every case which comes under our observation. If the right method to meet the varied conditions could always be discovered, I am positive that more speedy and perfect cures would be effected.

OTHÆMATOMA.

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DESPITE the advances which have been made in neuropathology, respecting trophic and vasomotor affections, the exact nature of this complication of insanity is still in dispute. Griesinger* for example says: "A purely accidental and traumatic origin, which has been lately advocated by Gudden† is the most probable. The affection is almost entirely confined to male patients (by male attendants) and to asylums. It occurs more frequently in the left ear (suits right hand of attendant). It is rapid in its origin, the print of finger nails is sometimes noticeable, and the affection can by care on the part of the attendant be made to disappear entirely from well regulated asylums." Bonnett‡ and Bouteille,|| say hæmatoma of the ear in boxers and the insane, presents the same clinical history, deformity and therapeutic indications. The alleged predisposing causes have not the value ascribed to them.

Is there anything in the system of aural nerves to make spontaneous othæmatoma a possibility? If there is not, then a double responsibility rests upon him who denies the traumatic origin of the affection. Baratoux§ after a very careful experimentation concludes: *First*, That division of the sympathetic, causes at the end of a certain time, middle and external ear hyperæmia, sometimes leading to suppuration of the latter. *Second*, That division of the trifacial causes greater disorder in a shorter time, which shows that this nerve contains more vasomotor

* Mental Pathology and Therapeutics.

† Gunzberger Zeitschrift, Band VI.

‡ Annales Medico-Psychologiques, July, 1878.

|| Annales Medico-Psychologiques, May, 1877.

§ Tribune Medical, August 7 to Sept 25, 1881.

fibers, than the sympathetic branch supplying the ear. *Third*, That irritation of the vasomotor center formed between the descending trifacial root nucleus and first dorsal nerve, causes an immediate aural alteration, characterized by hæmorrhage into the labyrinth and vestibular ecchymosis. *Fourth*, All diseases causing increased circulatory activity, produce congestion, suppuration and hæmorrhage into the ear. *Fifth*, Every lesion of the trifacial before its exit from the skull, may cause disturbance in aural nutrition similar to that consequent on its division. *Sixth*, Disorders of the vasomotor center cause lesions of the organ of audition, like Mènière's disease, and spontaneous hæmorrhage. These results have recently been corroborated by Berthold.†

Dastre and Morat have found that the local variations in the caliber of the vessels of the external ear are dependent upon the contractile power of the vessels themselves. They do not depend directly upon a temporary, rhythmic augmentation of the force of the heart's contraction. They are simultaneous in symmetrical regions. The vascular muscle is antagonistic to the cardiac muscle. The dilator nerves of the vessels may be found in all nerves, except the sympathetic. Constrictors and dilators arise very near each other. They make their exit by the same roots, or by roots very near each other, and run usually in the same trunks. Irritation of one set is scarcely possible, without irritation of the other set, and the effect observed is the resultant of two antagonistic actions. The vaso-dilator nerves of the external ear arise from the spinal cord in the upper part of the thoracic region, which is very near the origin of the vaso-constrictor nerves. These vasomotor nerves together form a very circumscribed, centralized system. There is an absolute difference in result, between irritation of the thoracic sympathetic, and irritation of the cervical sympathetic. Irritation of the cervical sympathetic contracts the vessels of the ear, while irritation of the thoracic part

† Zeitschrift fuer Ohrenheilkunde, Band XII.

in its upper part dilates them. The point where the effects of irritation are reversed, is marked by the presence of a large ganglion, the first thoracic or inferior cervical ganglion. This phenomenon is due to the fact that the dilator fibers terminate in the ganglion itself; and they end in ganglionic cells, situated in the course of constrictor fibers, the tonic action of which they are thus able to suspend. In the reflex dilatation of the vessels of the ear, the nerve which determines the dilatation is the auriculo-cervical, a branch of the cervical plexus, the principal sensitive nerve of the tympanum. This nerve contains elements from the second cervical, and a small number of elements from the third. The study of reflex dilatation of the external ear vessels, fully confirms the results obtained in investigating directly the vaso-dilator nerves of this organ. A notable proportion of the vaso-dilator nerves of the ear is contained in the sympathetic nerve trunk, and arises in the cilio-spinal center of Budge and Waller. From this region arise the dilator nerves of the iris, and the secretory and constrictor nerves of the vessels of the face. These vaso-dilator fibers of the ear, have two origins; one in the spinal cord, and another in the medulla. After division of the cervical or thoracic sympathetic, reflex irritation of the centers provokes a still greater degree of vaso-dilatation, which is due to the action of the nerves of the medulla.

Brown-Sequard* has shown that section of the restiform body of the medulla oblongata in guinea pigs, will cause aural hæmorrhage followed by gangrene, which latter would not occur in the human ear, because of its greater resisting power. It is therefore clear that from the *a priori* stand-point of neurophysiology, a belief in the spontaneous non-traumatic origin of othæmatoma is justified.

The investigator is now prepared to discuss the clinical evidence, *pro* and *con* the traumatic origin of othæmatoma. Gudden has stated, that the statues of

* Archives de Physiologie, October, 1881.

ancient boxers are ornamented with remains of othæmatomata. Roosa,* however, points out that othæmatomata are not mentioned, as resulting from the practice of pugilism in England. Gudden's statement would therefore appear to be based on error, and this error is that of mistaking deformed ears, the congenital stigmata of constitutional defect, for remains of othæmatomata. Griesinger's statements are scarcely ingenuous, and based on a most peculiar experience, for in other countries othæmatomata are to be found in female asylums. Bouteille's objection meets with the same difficulty as that of Gudden. According to Virchow, the essential morbid process of othæmatoma is a softening induced by the general disturbance of nutrition, or by local injuries to the cartilage. It was supposed that in the hyperæmia and general change in the system there ensued a subperichondrial hæmorrhage. As a rule, however, the hæmorrhage is intercartilaginous. Hoffman† considers it a hæmorrhagic inflammation of the aural cartilage, connected with cerebral change. Ferrus,‡ who first described othæmatoma, offered a very similar explanation. Mabile,|| Hearder,§ Hallock¶ and Lennox Browne,** entertain similar opinions.

Vallon†† and Biauté‡‡ claim that this affection does not result from traumatism in the majority of cases, but from trophic changes, the result of the patient's mental condition. Biauté has noted ten cases in which traumatism produced aural ecchymosis, but not hæmatoma. Christian||| reports a case in which purpura hæmorrhagica and othæmatoma appeared after an epileptiform convulsion in a parietic. Bucknill and Tuke,§§ say that "othæmatoma indicates that the nutrition is below par."

* Diseases of the Ear.

† Gunzberger Zeitschrift, Band I., p. 250.

‡ Gazette des Hôpitaux, 1838.

|| Thèse de Paris, 1878.

§ Zeitschrift fuer Psychiatrie, Band XVIII.

¶ American Journal of Neurology and Psychiatry, Vol. I.

** West Riding Asylum Reports, Vol. V.

†† L'Encephale, July, 1881.

‡‡ Annales Medico-Psychologiques, July, 1882.

||| Annales Medico-Psychologiques, 1882.

§§ Psychological Medicine, p. 126.

Van der Kolk* does not believe that othæmatoma results from traumatism. Blandford† says, that it is not always or even generally the result of violence, but is probably the result of great vascular excitement and of a weakness of the vessels of these parts. Hammond‡ believes that the changes produced by insanity, act as a strong predisposing cause, while traumatism serves to excite the affection. Spitzka|| says: "Whatever the fact may be, it is generally admitted, that if violence is a factor in producing othæmatoma, it is a subsidiary one due to structural predisposition of the patient's tissues. Injuries which would fail to produce any noticeable reaction in the sane, produce othæmatoma in certain lunatics. If it should be shown that othæmatoma, when found in terminal or parietic dementics, imbeciles epileptics, are as constantly associated with blood cysts of the arachnoid as I have found to be the case in the limited number of examinations, this sign may attain a relative value of a kind which cannot now be assigned to it. Although occasionally, perhaps frequently, the result of a blow or fall, there can be no doubt that othæmatoma may occur independently of either."

Sankey§ believes, othæmatoma is often of spontaneous origin, and in explanation of its occurrence says: "There are several veins which pass through the mastoid portion of the temporal bone in an oblique direction, and so join the veins of the inner table or empty there contents directly into the lateral sinus at the base of the skull. It is also well known that the bony case of the skull in lunatics becomes more dense and compact, and thus arises a constriction or obliteration of the veins passing through the bone and œdema of the parts whence the veins come. When this swelling occurs it therefore indicates that 'densification' of the skull bone has taken place." It will be obvious that this is the explanation of a man not too

* Pathology and Therapeutics of Mental Disease.

† Insanity and its Treatment.

‡ Treatise on Insanity.

|| Insanity. Its Classification, Diagnosis and Treatment.

§ Lectures on Insanity.

well acquainted with recent researches in vaso-motor physiology, and driven into a corner to account for what he knew to be a fact. Roosa* says that there are two forms: one due to traumatism and the other of nervous origin. Hun† says, that the person who presents othæmatoma is either insane or neurotic. He is strongly of the opinion, that othæmatoma is of vaso-motor origin. Kiernan‡ expresses the same opinion. Sockeel|| says, that othæmatoma is not peculiar to the insane. It may be the direct consequence of traumatism, but as a rule it is preceded by an inflammatory degeneration or hypertrophy of the fibro-cartilage. These anatomical alterations are the predisposing cause; all aural congestion is an exciting cause. The sanguineous exudation occurs between the perichondrium and fibro-cartilage; sometimes it occurs in the thickness of the latter. From all these opinions it is obvious that othæmatoma is of neurotic origin.

In what types of insanity is it most frequent? Hun reported twenty-four cases; of these eight were parietic dements; six melancholiacs; four acute maniacs; four chronic maniacs and two dements. Biauté found it most frequent among epileptics, parietic dements and recurrent maniacs. Blandford's experience is similar. In my own experience and that of Kiernan it is most frequent among the forms of insanity dependent on marked vaso-motor changes. Nine of Hun's twenty-four cases were bilateral. Seven of the forty-eight cases coming under my observation were bilateral.

Has this tumor any relation to prognosis? Hun is of that opinion. Bucknill and Tuke say that othæmatoma, when not traumatic, is of serious significance. Kiernan leans to the same opinion. He once reported three recoveries;§ but all these patients died insane. Spitzka¶,

* Diseases of the ear.

† American Journal of Insanity, 1869—70.

‡ Lectures on Insanity.

|| Archives Générales de Médecine, November and December, 1881.

§ Journal of Nervous and Mental Disease, April, 1877; The Detroit Lancet, July, 1883.

¶ Op. cit.

while leaving the question *sub judice*, inclines to Kiernan's opinion. Hammond* is of the opinion that it has no bearing on the question of prognosis. Sockeel† says, this condition is without significance, as regards recovery. Biauté‡ is of much the same opinion as Hun. Bouteille|| states, that othæmatoma has no prognostic significance. D. G. Thompson§ says, "that it is a very bad sign showing evidence of grave cerebral disorders, there can be no doubt; but that it is a sign of absolute incurability, even when not due to a blow, is certainly not correct." Dr. Schofield¶ reported three recoveries; one of which relapsed, and died insane; the other two were still in good mental health five years after. As to treatment, Dr. Hallock** has proposed blisters behind the ears and has found this procedure of benefit in diminishing the amount of deformity. Sockeel says that by incising the sac, good results are obtained. Spitzka states that the deformity may be to a great extent avoided by making numerous small punctures over the most prominent part of the tumor and cleaning out the half-clotted and half-fluid dark blood and tissue *débris* constituting its contents. Hearder advises that the inner surface of the pinna be painted with a blistering fluid. In six consecutive cases so treated, he found that the morbid process was arrested. From my own experience and that of the others cited, I can safely conclude, that: *First*, othæmatoma is of central origin, and that it is ever produced by traumatism alone, has not yet been demonstrated. *Second*, That it is most frequent in types of insanity in which marked vaso-motor changes occur. *Third*, That while not denoting a hopeless prognosis, its appearance is of serious significance as regards permanent recovery.

* Op. cit.

† Loc. cit.

‡ Loc. cit.

|| Loc. cit.

§ Journal of Mental Science, July, 1883.

¶ Report of Camberwell House Asylum, 1877.

** American Journal of Neurology and Psychiatry, 1882.

SELECTIONS.

CLINICAL PSYCHIATRY.

PRIMARY MONOMANIA.—Dr. C. B. Burr, of the Pontiac Asylum, Michigan (*American Journal of the Medical Sciences*, July, 1883), reports a case of this psychosis, of which he says: It requires but a cursory review to develop resemblance to the case of Guiteau. Disregarding the moral traits of these two individuals, their cases were strikingly similar. Each possessed a neurotic organization. Each committed a sudden and premeditated homicidal act with an ostensible motive. Each was deterred on two occasions from carrying a pre-formed plan for killing into execution. Each took measures for personal safety after the commission of the crime. Each laid claim to inspiration. Each pleaded insanity, the one to escape punishment, the other to obtain a pension. Both were intensely egotistic, had an exaggerated sense of their own importance, wrote profusely, and had followed unsuccessfully the profession of lecturing. Both were visionary and expansive, and showed a lack of good business judgment. Each became erratic and perverted at an early age. In neither case were the higher mental faculties much below the normal standard for the individual; each reasoned logically though from false and inadequate premises.

The points of dissimilarity arise almost wholly from the separate degrees of mental development which the individuals enjoyed, and the circumstances attending their education and training. In contradiction of the oft-repeated assertion that the execution of an insane criminal now and then has a deterrent effect upon others of like propensities, Dr. Burr's case may well be cited, inasmuch as his homicidal assault was made less than five months after the hanging of the murderer of the President, and in face of the strong popular sentiment against the so-called "cranks" and lawless fanatics. There are few more striking illustrations of the impotency of moral and legal measures to restrain or control a morbid impulse. It seems that, becoming restive under detention, Dr. Burr's case contemplated effecting his release by taking the life of the asylum superintendent. He concealed in his stocking a

sharp-pointed steel husking-pin and laid a plan for the murder. Unless he was previously discharged this was to take place on or after the first day of April, at which time his conscience, to use his own expression, "would be clear." The coincidence of this conduct with that of Guiteau in certain particulars, is, allowing for superficial circumstances, sufficiently significant.

EARLY PROGRESSIVE PARESIS.—Cases of progressive paresis under the age of twenty-five, have been but exceptionally observed. Spitzka (*Journal of Nervous and Mental Disease*, April 1877) reports one such case at the age of twenty-three; the patient having been two years an inmate of the asylum, and the psychosis therefore beginning at the age of twenty-one. Meyer (*Archiv für Psychiatrie Band I.*) reports one case at the age of twenty. Krafft-Ebing (*Archiv für Psych., Band VII.*), one at the age of twenty-four. Mendel (*Die progressive Paralyse der Irren*), one below the age of twenty-five. Turnbull (*Journal of Mental Science*, October, 1881), one at the age of eighteen, and one at twelve. Wille (*Irrenfreund*, No. 1, 1873) and Coffin (*Annales Medico-Psychologiques, Tome VI., Série III.*), after citing several cases under twenty-one, claims that the psychosis is then always of syphilitic origin and never presents grandiose delusions. Kiernan (*Lectures on Insanity*) cites two cases under twenty-five. To these cases an interesting addition is made by the cases of Dr. Régis (*L'encéphale*, No. 4, 1883). These were patients of nineteen, twenty-four and twenty-five; in one the psychosis was complicated by syphilis; in the other there was evidence of heredity. Régis claims: First, That progressive paresis is essentially a climacteric affection, occurring in middle age. Second, The real cause immediately giving rise to the psychosis is a perversion of the normal anatomical changes of the cerebral framework. Third, There are beside the true progressive paresis an early and a late type; one before twenty-five, the other after sixty. Fifth, Cases of progressive paresis before twenty-five years of age are rare. Sixth, While no cause is to be found as a rule for the true progressive paresis, the early type is readily traceable to the influence of such agencies as syphilis, heredity, saturnism, traumatism, etc. These in Régis' opinion, early lead to the cerebro anatomical status usually arising from middle age. Seventh, This "early" type is of slow progress and subject to remissions.

These generalizations of M. Régis, though based on data as yet inadequate for indubitable conclusions, are nevertheless instructive.

LOCOMOTOR ATAXIA TERMINATING IN PROGRESSIVE PARESIS.—Dr. C. K. Mills, Philadelphia (*New York Medical Journal*, June 23, 1883), reports a case of a forty-year-old man, who was of strong constitution, until about eight years ago, when he began to suffer from "rheumatism," for which he was treated for three years. There had been chancre, but no secondary or tertiary symptoms. The patient was addicted to venereal excess and to alcohol. Locomotor ataxia developed gradually and became typical, and then passed on, after about four years, to present typical symptoms of general paralysis of the insane. The patient died eight years after the commencement of so-called rheumatic symptoms. A minute microscopical examination was made. Throughout the spinal cord there was marked sclerosis, more marked in the lumbar region; also inflammation of the pia mater throughout. There was sclerosis of the pons, of the optic thalami and of the cerebral convolutions examined. Dr. Mills stated that while at first he was inclined to the view that there had been a direct extension of the sclerosis from the lower portion of the spinal column upward, until it had reached the cerebral convolutions, he was at present rather of the opinion that the condition involved the various portions of the cerebro-spinal system separately, and not necessarily by direct extension from the starting point. He believed that some cases began as a low grade of chronic meningeal trouble, or peripheral perineuritis. It should, however, be recollected that the changes going on in the cord might produce sufficient transmitted irritation to the medullary vasomotor centers to result in the initial stages of progressive paresis, which would not of course result from an extension of the morbid process.

INSANE FROM FEAR.—There has just died at the Char-
renton Asylum, near Paris, a man who had a very curious history. Thirty years ago this person was condemned to death at the Seine assizes for the murder of an old gentleman. The court was crowded with spectators. Standing immediately behind the criminal, who was flanked by gendarmes, was an employé of the *Presse* newspaper, who had contrived to wriggle himself into that position

without attracting notice. Scarcely had sentence been pronounced when this *Fresse* employé, moved by an uncontrollable impulse, passed the side of his hand over the prisoner's neck in imitation of the keen blade of the guillotine, at the same time emitting a whirring sound. The criminal instantly fell forward with a shriek of terror, and the indignant bystanders rushed upon the *Presse* employé and roundly abused him. He was subsequently condemned to two years' imprisonment. His victim remained insane until death. He was pardoned by the Emperor, and confined, first at Bicetre, and afterward at Charenton. The unfortunate man had the delusion that he had been beheaded in the Palais de Justice, and when relating the story was in the habit of imitating the sound that haunted him for thirty years.

SUDDEN RECOVERIES FROM AMNESIA.—Dr. Forbes Winslow (*Obscure Disorders of the Brain and Mind*) reports the case of a well-educated gentleman who, at the age of thirty, was, at the termination of a severe illness, found to have lost recollection of even the most common objects. On his general health being restored, he began to learn to read, then to learn Latin. One day, while reading with his brother, he suddenly stopped and put his hand to his head, and on being asked why, he said, "I feel a peculiar sensation in my head, and it seems to me I knew all of this before," from which time he rapidly recovered his faculties. Gaillard's *Medical Journal* reports a similar case from New Haven, Conn.: A young woman of that city recovered from a neurosis some time ago, unable to recall the names of familiar objects, or to play the simplest music, though she had been a skillful organist. Having still her love for music, she has been relearning the notes and practising the scales. While, one afternoon, drumming clumsily at the piano, like any beginner, her memory of music suddenly returned. She astonished and delighted her family by playing her most difficult pieces.

MENTAL SYMPTOMS AND EAR DISEASE. — Fürstner (*Berliner klinische Wochenschrift*, No. 18, 1883) briefly describes twenty-six cases of insanity, in which ear diseases first appeared. Two cases closely allied have been already described by Fürstner in the same Journal for 1881. Two hereditarily defective females, with normal hearing, had, after painful entonic sounds had a sharp

attack of lypemania (melancholia). An aural examination was negative. These were evidently the result of chlorosis, causing venous hums and anæmic sounds. The patients recovered on the removal of the sounds, by constitutional treatment. Of the twenty-six cases, nineteen are cases in which ear disease, furnished supports for insane delusions. In another class of cases, acute periods of excitement were in relation to suppuration in the middle ear. In one case a profuse discharge of pus brought a case of melancholia to an end. In some cases the slight suspiciousness not uncommon in normal partially deaf people, was exaggerated into a depressed condition tending to suicide.

DELUSIONS AND EXECUTIVE ABILITY.—The *Birmingham Medical Review* reports that one of the members of the Executive Council of the Bank of Brussels was many years ago attacked by the delusion that his legs were glass, and positively refused to move. A financial crisis came, involving the bank to some extent. Mr. B. got up and went to Brussels, where by his energy and skill he largely assisted in getting matters straight. At the end of the month he returned home remarked how marvelous it was that he had not smashed even one of his legs, and taking to bed, never again left it. In all lunatic asylums patients combining business ability with the most remarkably fixed insane delusions are to be found.

HEMIATROPHY OF THE FACE IN A MONOMANIAC.—Mendel, (*Neurologisches Centralblatt*, June 15, 1883) places on record the fifty-eighth case of facial hemiatrophy. The patient was a twenty-three-year-old woman, who presented symptoms of monomania. There was no ascertainable heredity. The patient had been well, up to her seventh year. From this time there could be obscurely traced a "disfigurement" of the face, but for eight years no very perceptible change was noticeable. The left side was the one affected. There was a difference in the two sides of the body, but this was evidently congenital. The facial changes were clearly hemiatrophic in character and not simply somatic stigmata of degeneration.

TRANSITORY FUROR FROM LEAD POISONING.—(*Gaillard's Medical Journal*). A well authenticated case is reported from Nevada. A miner who became so stimulated from inhaling lead fumes, while repairing one of the tunnel fume

escapes, that had he not been immediately secured he would have killed three men standing near him with a sledge-hammer. The patient having been removed to the open air the attack disappeared. The patient had unfavorable neurotic ancestral history.

POST SCARLATINAL INSANITY.—A case of insanity resulting from optic nerve changes, primarily the result of scarlatina, is reported by Dr. Martin (Gaillard's *Medical Journal*, July 7, 1883). The type presented was depression, and although the patient was blind, there were very vivid visual hallucinations.

TRANSITORY INSANITY.—Löwenfeld (*Neurologisches Centralblatt*, June 15, 1882), attempts to determine a relation between the *mania transitoria* of English authors, the *transitorische Tobsucht* of Schwartzler, and migraine. In his opinion it is in many cases only a migraine replacing psychosis.

CLINICAL NEUROLOGY.

PROGRESSIVE TOTAL HEMIATROPHY.—Heuschea (*Nordiskt Mediciniskt Arkiv*, Band No. XIV., Häftel 7, 1883) reports the following unique case: A man, forty-six years old. One cousin has had melancholia, no other nervous disease in family; had been of good health up to fourteen years, when he slightly twisted the left foot, and soon after erysipelas attacked the left leg, requiring him to remain in bed. After this he was for some time in and out of bed, owing to the existence of leg ulcers, which were recovered from at intervals. During this time he suffered from prickings and stings in the left half of the body. At the end of six months, he noticed atrophic changes in the trunk, extremities, and six months later, in the face. At this time he had marked, and painful migraine. Since then, these modifications are progressing more or less slowly. In his nineteenth year, the patient was attacked by melancholia, and recovered. Two years and a half ago he had a fresh attack of this psychosis. He married at forty, and is the father of a healthy well formed child. The patient is well built, but the left side of his face his markedly sunken and atrophied, as also

are his left arm and leg. The skull above the eyebrows seems symmetrical, but the left temporal fossa is the deepest. The face is markedly asymmetrical, the left side being sensibly smaller than the right. The nose is, as it were crowded to the left. The left cheek is markedly thinned, deprived of its fat, and surrounded by radiant striæ. The left eye is thinned, but otherwise normal. The eyelids are deprived of fat. The zygomatic bone, the soft parts covering it, and in the temporal fossa and parotido-masseterine region, are sensibly atrophied. The skin of the left side of the face is thin. The skin around the left edge of the mouth is slightly pigmented. The left superior maxillary and inferior maxillary segment are markedly atrophied, and the teeth have fallen out. The palatal raphē is drawn to the left. The left soft palate is partially atrophied. The left half of the nose is atrophied. The right face is in marked contrast every way with the left. The neck is symmetrical. The left half of the trunk is slightly less than the right, except in certain places where the atrophy is marked. One of these places is between the fifth and seventh intercostal space; a second stretches from the umbilicus between the tenth and eleventh ribs, about twenty-three centimeters; a third stretches from the crest of the left iliac bone, below the groin, in a line uniting the anterior superior spine of the ilium with the trochanter. Over all these parts the skin is thinned and more or less strongly pigmented. Fat is almost everywhere wanting, so that the muscular fibers are traceable in the skin. The muscles are atrophied, as also is the inter-muscular tissue. The left arm is atrophied as a whole, and shorter than the right. The muscles are markedly atrophied, especially along head of the triceps, which is almost altogether wanting, and replaced by tendon to the thickness of some millimeters. The skin is contracted, thinned and pigmented. The arm muscles are atrophied. In consequence of affections of the articulations, the arm and fingers cannot be extended. The right leg is strong, muscular and well provided with fat. The left, is thin, weak and its subcutaneous adipose tissue has almost entirely disappeared. The skin covering the femur is thin, with well defined pigment. The muscles are atrophied, especially the quadriceps, in which there are two ossifications. The leg cannot be extended, because of alteration of the knee-joint. The left leg is about one half the thickness

of the right. The muscles have almost entirely disappeared, leaving the tibia and fibula covered by parchment-like skin, somewhat pigmented, and lacking hair and sweat-glands. There is an ankyosiosis of the tibio-tarsal articulation. The skin of the foot is parchment-like, shiny and fixed immovably over the bones. The tactile sensibility of the affected parts seems unchanged. In the affected parts fibrillary twitchings are frequent, as also are chillings and drawings. The internal organs present nothing remarkable. The case is unique, as combining hemiatrophia facialis, localized atrophies, orthopathies, and from the history evidently is of an ascending nature.

BULBAR LESIONS IN ATAXIA.—Laudouzy and Dejerine (*Gazette Hebdom.*, May 25, 1883) in ataxias presenting laryngeal crises, found posterior sclerosis extending to the beak of the calamus scriptorius; the bulbar roots of the spinal and pneumogastric nerves, presenting gross lesions precisely similar to those of the posterior roots of the cords. In the medulla, the decussating fibres, and the origins of the pneumogastric and spinal nerves were profoundly altered on both sides. These lesions explain the laryngeal crises, but the intermittence of the crises is still unexplained in their opinion. A very slight analysis of the lesions found, would, however, have led them to the conclusion that these were the result of oft-repeated and recovered-from fluxions, the result of irritation of the vasomotor centers, a condition sufficiently explicative of intermittence.

PARALYTIC DYSPHAGIA FROM TYPHOID.—Dr. C. Lellman (*Medical Record*, March 17, 1883) reports the following case: A twenty-year-old tailor, had the initial chill, September 18th. A few days after admission, several profuse intestinal hæmorrhages occurred, which jeopardized life, and served to increase an already existing anæmia. Six weeks later, after the subsidence of the typhoid symptoms proper, a paralytic dysphagia manifested itself. The patient spoke in a thick unintelligible, nasal voice. He could not swallow unless lying down, and ingested fluids occasionally passed out through the nostrils, or into the larynx. At the same time he suffered from severe epistaxis. By February, 1883, he had completely recovered.

LOW TEMPERATURE IN ALCOHOLISM.—Dr. E. Bull (*Norsk Magazin for Lægevidenskaben*, Band XII.) reports

a case of acute alcoholism, which entered the department of the hospital under his charge. On the patient's entrance the rectal temperature was found to be 87° F. Under treatment it rose rapidly to 98° F. The treatment consisted in cutaneous excitants. Temperature as low as this is also reported in other neuroses.

NEUROTHERAPY.

AMYL NITRITE.—Dr. D'Ancona says (*Gazz. Med. Ital. Prov. Venete*, February 3, 1883) that *amyl nitrite* acts on the vasomotor centers, causing relaxation of the vessels, diminishes the peripheral pressure and with it increase of force. Its effects pass off rapidly with the suspension of the inhalation. Dr. D'Ancona has obtained very striking results from continued methodical administration in acute febrile respiratory diseases, complicated with, or due to, organic cardiac disease. He has used it in these cases for the last five years, always with good effect. With repeated inhalations the fever was never increased, rather the reverse. Cynosis of the hands and lips disappeared. There was never any cumulative symptoms. He concludes that *amyl nitrite* can be used in all cases of acute respiratory disease, when defect of cardiac activity and great dyspnoea place life in jeopardy, with certain benefit and possibly saving of life. Dr. S. C. Smith (*British Medical Journal*, June 9, 1883) says that *amyl nitrite* most distinctly shows its power in cases of cardiac dyspnoea, due to cardiac failure, a sign that degeneration of the cardiac muscle is taking place, and that hypertrophy is no longer truly compensatory. The attack generally occurs in the night. There is orthopnoea, a sense of suffocation, and a feeling of danger of death, unless something be removed from the chest; the hands are cold and clammy; the face bathed in perspiration; the heart's action is labored and irregular, but the arteries are almost pulseless; the muscles of deep respiration act forcibly, and air freely enters the lungs; but this gives no relief to the miserable sense of apnoea, which goes on sometimes for several hours, until, towards morning, a little frothy expectoration occurs, often tinged with blood, and the breathing gradually becomes less difficult. During the inhalation of the *amyl nitrite*, the pulse fills out; the limbs become warm, the breathing is relieved, and the

misery passes away; but it is most important that the rapidity with which ease is obtained, should not be taken as proving the really neurotic origin of the attack. The drug must, however, be used with both caution and intelligence; otherwise, instead of giving an opportunity for useful treatment of the disease, and, while easing painful symptoms, merely lead the patient on to euthanasia.

THE ETHER DOUCHE OR LAVEMENT FOR LOCAL PAIN.—Dr. C. H. Hughes (*Phil. Med. Times*, Sept. 8, 1883) calls attention to the fact that ether lavements have been employed by him in all painful surface affections for many years, whether with or without inflammation, but mainly in neuralgic affections. In facial, sciatic and cervical neuralgias, no remedy except galvanism has given him such signal satisfaction during the past ten years of his practice in neurology. These lavements will cure some cases of recent origin; they will relieve all. He uses the ether douche, not the spray; and Dr. McLane Hamilton is in error in his reference to his treatment of the intense pain of cerebellar abscess by ether spray. In the case referred to, which he reported in 1877 (*Journal of Mental and Nervous Diseases*, October), Dr. Hughes simply poured the ether on the head so copiously as to benumb all sensibility and restore a state of ease and mental tranquillity to a patient absolutely maddened with pain. The ether douche or lavement in trigeminal neuralgia is quite uncomfortable to many persons, on account of the unpleasant impression of the ether on the nose and eyes; and when applied to the supra-orbital region great care should be taken to keep the ether out of the eyes, by laying the head back and covering the eyes with a handkerchief. If the ether should get in the eyes, the patient should be cautioned not to rub them, but simply to sponge the eyes with cold water and wait patiently till the ether evaporates. It should be poured on the part till relief is obtained. He applies it in this way to the motor regions of the head and down the spine in general or unilateral chorea likewise. Of late years he has heard of the ether spray, but the ether *douche* or lavement has been with him a most common and efficient agent in the local therapy of pain, especially superficial pain, for more than a decade, ranking with electricity, and better than mechanical vibration for temporary effect.

NERVE SUTURE AND TRANSPLANTATION.—Dr. E. G. Johnson (*Nordiskt Mediciniskt Arkiv, Band XIV, No 31*), cites fifty-two cases of nerve suture from the literature, to which he adds some cases communicated to him personally. He has performed sixteen experiments in nerve suture; uniting in these cases the totally dissevered end of a sciatic nerve with a catgut suture. The suture in nine cases was direct, in seven indirect. Union by first intention did not take place. The passage of nerve impressions was established, after the fortieth day in rabbits, after the thirty-first in dogs, and after the twenty-fifth in hens. In twenty experiments upon rabbits the cut ends of the sciatic were not united; nervous conduction was not established till after the sixtieth day. Microscopical examination showed that nerve structure was re-established about sixty days after operation in case of nerve suture, and about seventy in simple section. The difference in nervous conduction was marked in the two cases. Nerve section without suture resulted in frequent trophic changes, with suture they were absent. Nerve suture is therefore destitute of all danger. In fifty-two cases of the operation in man there was no bad result, and nervous conduction was established with comparative rapidity. Indirect suture is preferable to direct. Kaufmann, in 1880, successfully transplanted a dog's sciatic nerve to man. From experimental results Dr. Johnson believes that this example should be followed in cases where indicated. It is for future experimenters to determine whether nervous conduction is established most promptly and thoroughly by suture or, as was proposed by Vanlair, by placing between the severed ends a tube of calcined bone.

PARALDEHYDE.—Dr. John Brown (*British Medical Journal, June 2, 1883*), who has been studying the action of this hypnotic, says, that he has found the hypnotic dose to be from thirty to fifty minims. It produces sleep in most cases in a few minutes after taking it, the effect lasting from three to seven hours. He maintains that it produces no headache, no constipation, nor stomach derangement. In one case it caused a slightly depressant effect on the heart. In a patient who had been accustomed to take chloral hydrate, the sleep was refreshing, but, if disturbed during the sleep, the tendency to sleep left, which was not the case with chloral hydrate. Paraldehyde some times causes a peculiar burning taste in the mouth the following morning. The breath smells of the drug for

several hours after waking. It is probable that nearly all the drug disappears by the lungs in the same state as it is taken. Paraldehyde is not superior to chloral. Therefore it is not likely to come into general use. Being so insoluble in water, it makes rather a large draught, which is objectionable.

PARALDEHYDE.—Drs. Cervello and Morselli (*Archivio Italiano per la Malattie Nervoso*, Fasc. I., 1883) and Dr. Bergesis have experimented largely with this drug. It has the chemical composition, $C_6H_{12}O_3$; and is a polymeric form of aldehyde. In physiological action it strongly resembles chloral. A dose of three grammes procures quiet and refreshing sleep for from four to seven hours. It differs from chloral in its action on the circulatory system, strengthening the heart's action, while diminishing its frequency, and has also a well-marked action on the kidneys; greatly increasing the flow of urine. The skin is not at all affected. The drug does not give rise to digestive disturbances, to headache, or to other unpleasant symptoms. Up to the present time Morselli has used paraldehyde about three hundred and fifty times, and has found it of value in mania, melancholia, and other nervous affections, as well as in the insomnia of acute bronchial catarrh, lobar pneumonia, and cardiac disease. He believes that it will largely take the place of chloral.

SPINAL LESIONS IN ERGOTISM.—Tuczek (*Archiv f. Psych.*, Bd. xiii., p. 99) reports fifteen cases of spasmodic ergotism which presented symptoms of spinal disease. The patellar tendon-reflex was absent in every case. Other symptoms were paresthesiæ, ataxia, diminished sensibility to pain. These showed themselves months after the acute intoxicant stage, when the patient had become markedly cachectic. In four cases (one was nine years old, another sixteen) an autopsy was made. In all there were sclerosis of the external division of the posterior columns. The cases differed pathologically from locomotor ataxia in the rapidity of the development of the morbid process. Tuczek finds an analogy to the appearance of tabes in ergotism in the occurrence of an acute primary disease of the posterior columns in exceptional cases of pellagra, lepra, absinthe-poisoning, scarlet fever and diphtheria.

HYDROBROMIC ACID AS A BROMIDE SUBSTITUTE.—Dr. C. L. Dana (*New York Medical Journal*, June 23, 1883) states that the dose of the pure acid is from ten to

twenty drops; of the officinal, or the ten per cent. solution, one drachm to two drachms and a half. It was usually given in two small doses. During the past two years he had employed hydrobromic acid in epilepsy, alcoholism, various cephalalgias, vertigo, general nervous depression, neurasthenia, chorea, insomnia, hysteria, post-hemiplegic disturbances, etc. He had had the greatest benefit from the drug in epilepsy, in post-hemiplegias, and in other lighter general nervous troubles. It did not prevent cinchonism, in the small doses in which it was usually prescribed. Hydrobromic acid was recommended in preference to the alkaloids, because it was agreeable to take, non-irritating, and did not produce an eruption or bromism.

SUCCUS CONII IN CHOREA.—Mr. J. F. W. Siek reports (*Lancet*, May 26, 1883) cases of chorea relieved by succus conii, which seemed to show: 1. That the drug, to be of any service, must be given in large doses. 2. That its action must be sustained by frequent repetitions of the dose at short intervals. The uncertainty of the action of given specimens of succus conii necessitates great care in its administration, and militates against its general adoption. But cases in which neither chloral nor morphia have any effect may arise, and in which, as in the above, succus conii may prove efficacious. A fluid extract made by Squibb is much more certain than the succus.

TREATMENT OF MENIÈRES DISEASE.—Grazzi (*Progrès Medical*, July 21, 1883) divides the cases of this affection into primary or secondary types, the secondary types being due to lesion of the external or middle ear, or to traumatism. He has had good results from the following formula \mathcal{R} quinine valerianate $\bar{5}$ i; solid extract of aconit. napel. grs. xii.; solid extract cinchona, q. s. Make twenty-four pills. Give one pill every six hours, decreasing the time between the dose, and increasing the dose till the patient is taking five pills in eight hours; then decrease till recovery.

ACTION OF NARCOTICS.—Dr. Brown-Séquard (*Progrès Medical*, March 24, 1883) believes that these substances cause sedative effects only by cerebral inhibition. Opium does not produce slumber because of its hypnotic effects, but because it is an energetic anæsthetic of the sensory nerves, from which would result a clinical indication that

the place of administration, as well as dose, is an important matter. A small quantity of morphine injected below the superior laryngeal nerves, would lead to a more profound general anæsthesia than if the injection was made elsewhere.

PARALDEHYDE AS AN HYPNOTIC.—Berger (*Breslauer ärzt. Zeitschrift*, March 24, 1883) has been experimenting with this new hypnotic, and finds it of value in cases where chloral is contra-indicated, or fails to produce its effects. He gives it in the following mixture: \mathcal{R} Paraldehyde 3ss—5i; Mist. Gummos \mathfrak{z} ii; Syr. Cort. aurant 5i M. S. at a dose. Its chief disadvantage is its unpleasant taste, and the large quantity of menstruum required to disguise this.

NERVE STRETCHING.—Westphal, (*Charité Annalen*, Jahrgang VIII.) concludes that stretching of the crural nerve may cause temporary disappearance of the kneejerk and muscledspasm, but that it should not be forgotten that crural nerve stretching may result in a lesion of the spinal cord in cases where the same is affected prior to the operation.

ANATOMY AND PHYSIOLOGY.

TERMINATIONS OF THE OLFACTORY NERVES.—Holmfeld (*Nordiskt Mediciniskt Arkiv*, Bandet XIV., Haftel 7, 1883) concludes, that the olfactory cells are the true terminal organs of the olfactory nerves, and that the epithelial cells are not in direct relation with these nerves. In his opinion the description given by Max Schultze, of the organization of the olfactory mucous membrane, is the true one, and Exner's observations are not correct.

EDITORIAL.

Intimidation and Compassion in the Cure of Insanity.—Intimidation was first proposed by Leuret (*Des Indications à Suivre dans le Traitement Moral*), as an illustration that this system, when practised, so to speak, accidentally, has had decided beneficial results. Dr. Kiernan cites the following case, reported by Singowitz (*Die Geistesstörungen*): A young man in the Charité lunatic wards at Berlin, who had been there for eight years, had an enormously exaggerated opinion of himself. He was extremely haughty and dignified, and was a good case of primary monomania. Another man, subsequent to excessive indulgence in alcoholic and sexual pleasures, was attacked by hypomania. To every question asked him, he replied that he was a colonel and adjutant-general, a capital player at billiards, an extraordinarily expert horseman. He had lately got on horseback at the circus, and astonished everybody by the unique skill with which he managed the most restive horses. He was very rich; invited every one to his house, and in his attendant saw only a pleasant companion and a witness of his circus exploits. Singowitz proposed to introduce the latter individual to the former. The introduction took place. The two were at first interested in each other. The second patient claimed to be a colonel in the Russian army, whereupon the first proposed to make use of his military talents. The second patient then made more extravagant claims, but he was called a lunatic, and told that he ought to be in an asylum. From this time the second patient improved, and rapidly recovered; the first symptoms of recovery dating from the time when he was so rudely and sharply contradicted. Dr. Kiernan also reports the following case, coming under his own observation (*Journal of Nervous and Mental Disease*, January, 1883): A hypomaniac had, among other unsystematized delusions, one that he was the "Supreme Being." In the same ward was a primary monomaniac, who claimed to be the "Holy Ghost." Coming up to the latter individual the first made his favorite assertion that he was the "Supreme Being," whereupon the "Holy

Ghost" knocked him down, and insisted on a retraction of this blasphemy. The "Supreme Being," much astonished, did not make any reply, and was much battered when rescued by another patient, who suggested to the "Holy Ghost" that the "Supreme Being" was a lunatic. The latter from this time never mentioned his delusion, which finally disappeared. He became industrious, and was soon discharged recovered. Guislain (*Leçons Orales sur les Phrenopathies*) has reported a case in which the intimidation was not so purely physical, and in which recovery occurred. Krafft-Ebing (*Lehrbuch der Psychiatrie*), from similar clinical experiences is of opinion that certain cases are benefited by treatment on Leuret's principle. It is obvious that the beneficial action of intimidation depends upon its suddenly changing the current of the patient's ideas, and from it being at times *per se* sufficient to introduce new ideas. In certain depressing delusions the effect would be to increase the depression; and in certain cases of primary monomania, such treatment would add supports for the patient's insane ideas. It has occasionally been observed that compassion for other people is a means of initiating recovery. Dr. Barstow (*American Journal of Insanity*, 1874-75) has reported a case in which compassion for a little child led to a patient's recovery. In a case observed by Dr. Kiernan (*Journal of Nervous and Mental Disease*, April, 1883), a patient recovered by the feeling of indignation excited by an attack made by a strong man on a little boy. Previous to this attack the patient was wrapped in his own lugubrious ideas, and up to the very minute of the attack was complaining of his bitter fate. After the attack he spoke of nothing but it; he was much excited, and when calmed, was found to be more cheerful than he had been in weeks.

Rights of the Insane in Illinois.—The Board of State Charities thus pertinently remarks on the unjust law of that State respecting commitment of insane persons to its asylums:

Does not the uncertain condition in Illinois, under our law, demand a return to the common sense law, with modifications, once existing in Illinois, which virtually treated an insane person as mentally sick, and did not require him to be treated as a criminal and be tried by a jury? What good has been effected by the change in the law? We maintain that no good has been done, and that serious questions arise, clogging the individual's future, and also attaching more of a stigma, if such it be,

of insanity by the finding of a jury. Why not leave the matter, as in many of our States in the United States and as in England, to be dealt with as a scientific, professional question for the medical man and pathologist, and not for the finding by a verdict of jurors, based on slight evidence? Is it essential to liberty and to the maintaining of personal freedom from undue restraint, that the law should exist in its present form? A writ of *habeas corpus* will always lie, as a writ of right, to inquire into the cause of the detention of any party in an hospital for sane or insane. It is believed by many that our present jury law was superinduced by undue excitement, growing out of one case, which was by no means a clear case of misapplication of the rigor of the law. Is it essential or at all consistent that trial by jury be given or maintained, when the near relations, and, when none exist, then a respectable person of the county, must petition for the trial of the person's sanity or insanity, and it is obvious from the law that the proceeding is for the welfare of the individual supposed to be insane? It is not a criminal charge, and yet you treat the matter with the formality of a charge or trial for crime. In place of having a commission or board of physicians, you try the person and render a verdict, from which you provide no escape by his individual act that would be legal.

Illinois is too enlightened a State to permit so onerous and unjust a statute towards the most to be commiserated and helpless of her children of misfortune, to long remain in force. Insanity is no civil offense. Why should the disease of its afflicted victim be a subject of inquiry by a jury? The purpose of law is protection, but jury trials of questions of mental disease are more likely to be oppressive in erroneous conclusions as to mental condition or disposition of the patient.

The board pertinently asks what *cause is to be tried* in a question of alleged mental disease? Certainly no cause in law, and no case whatever for other than men expert in solving problems of mental disease, to decide. A non-expert jury is more likely to rob a shrewd lunatic, who may be apt at concealing his mental derangement, of that right to prompt treatment and recovery which he may be too insane to appreciate, but which ought to be secured to him by a rational legal friendship toward him in his sad affliction, despite his insane objection to treatment, than it is to save a sane person from wrongful imprisonment, with the safeguard of *habeas corpus* to protect him.

Let law pile high the penalties for false certificates of insanity, and searchingly inquire as to the qualifications and responsibility of those who may sign them, but save the poor lunatic from the uncertain chances of speedy treatment, through a petit jury trial.

The Psychological Effects of Nerve Stretching.—

Dr. Westphal believes the so-called results of nerve stretching are the effect, psychologically, upon the patient undergoing a great operation, which he is assured must prove successful in his case; and from the sanguine view, which ataxic patients take of their condition, they are only too ready to believe themselves better if required. A very apt illustration of the truth of this is to be found in the case reported by Dr. Kiernan (*Journal of Neurology and Psychiatry*, February, 1883). The patient had been with him some months. He was a man of twenty-one, well-built and well nourished, and gave the following history: He had, at the age of sixteen, been attacked by typhus fever. During the delirium of this disease he was seized by an apoplectiform convulsion. On recovery from this his right hand became, as he expressed, "somewhat shaky," especially when he tried to use it for any purpose. This "shakiness" had at first occurred only in "spells," but became permanent, and gradually extended, until it involved the whole arm, and finally the lower extremity on the same side, also the facial muscles. The patient was irritable, depressed, complained much of cephalalgia, and was addicted to the use of paregoric. The hereditary history was unattainable. Dr. K. had placed him under barium chloride, hyoscyamus and conium, but without apparent effect. Dr. K. was obliged to be absent from the city, and for two months lost sight of the patient. He called on Dr. K. upon his return, and was markedly improved; so markedly that Dr. K. was at a loss to account for it. He informed him that he had gone to an irregular practitioner, who had given a certificate that the "posterior cord of the brachial plexus" had been stretched. On examining the wound it was found that a very superficial incision had been made over and parallel with the center of the clavicle. The man had been previously etherized. The tremor hitherto existing had disappeared; the patient was able to write, which he had not been able to do since his illness. He was able to walk without being started, as had been done when Dr. K. last saw him. These effects remained for six months, at the end of which time the arm tremor returned, and, to a slight extent, the impaired gait also.

The Michigan Law as to Wills.—The Solons of the Michigan Legislature have passed an exceedingly

absurd law on this subject. The testator makes his will, and then during his lifetime petitions the probate court for citations to all his heirs, and such other persons as he deems necessary to attend an examination into his sanity and testamentary capacity. If it shall appear that the person was fully competent to make a will, a decree to that effect shall be made, and the question of incapacity cannot be raised again, except upon appeal from the decree. *If the testator subsequently becomes insane, and dies in that condition, his will nevertheless, cannot be questioned on this ground.* The contents of the will are not to be made known until the death of the testator. The absurdity of this procedure must be self-evident to anyone who has ever studied the subject from an impartial standpoint. The law is inconsistent with certain every-day legal decisions, that a transaction can best be judged by its nature. That such a law might sometimes work infinite hardships there can be no doubt. Under such a law the *prima facie* fact might be established as to the existence of testamentary capacity, but there would still remain the contents of the will, a part of the competent evidence necessarily excluded at the inquiry, the nature of which might be undoubted evidence of the testator's mental unsoundness. Under such a law some lunatics now justly retained in asylums might establish their competency, barring the fact against them of being in an asylum.

How is the question of the sanity or insanity of an individual to be promptly determined, while the particular act concerning the sanity of which question is raised, i. e., the will, is excluded from consideration? Some lunatics speak sanely enough and act so in general intercourse with people, whose writings proclaim their mental aberration beyond doubt.

Premeditation as Legal Evidence of Insanity.—(*Northwestern Reporter*, March 3, 1883.) Judge Taylor, of the Wisconsin Supreme Court, recently decided in a case appealed to that court, that "the judge erred in giving the following instructions, unexplained, to the jury, upon the trial of the issue of insanity, viz: 'If the defendant, at the time of the killing, was sufficiently sane to deliberate and premeditate a design to effect death, then he was sane within the spirit and meaning of the laws applicable to this case, although he may have been, in truth, subject at the time to insane delusions on other subjects. * * * If he had sufficient

power of mind and will to deliberate and premeditate a design to effect the death, then you should find that he was sane.' These instructions, set up as an absolute test of sanity, the power to deliberate, premeditate and design. They make the presence of sufficient intelligence in the party accused, to form a design to do a criminal act conclusive evidence that he is sane, and subject to punishment if he executes such design. As was said by Justice Stowe, of Pennsylvania, in quoting from an opinion of Chief Justice Agnew, of that State: 'Intelligence is not the only criterion, for it often exists in the madman in a higher degree, making him shrewd, watchful, and capable of determining his purposes and selecting the means of accomplishment. Want of intelligence, therefore, is not the only defect to moderate the degree of offense; but with intelligence there may be an absence of power to determine properly the true nature and the action,—a power necessary to control the impulse of the mind, and prevent the execution of the thought that possesses it.'"

The Guiteau Verdict.—(*The London Medical Times and Gazette*) thus refers to this subject in the September 7th number:

The indefatigable Dr. Spitzka has a long critical digest of the evidence given by the medical witnesses for the prosecution in the case of the wretched Guiteau. If this report is an accurate one, the answers of these witnesses, upon whose evidence the man was hanged, are simply amazing; and one can only wonder where and how the prosecuting counsel contrived to find a group of persons pretending to a knowledge of insanity who could make such statements as the following: "I do not know what an irresistible impulse is. That is something I do not understand. I cannot conceive of an irresistible impulse." "People who are known as eccentric . . . or illy-balanced (*sic*) are not as liable to outbreaks of insanity as those who are more steady and staid in habits and character." "The existence of insane cousins, uncles or aunts, would have no bearing whatever on the question as to whether there was any hereditary tendency in a family." "There is, I think, no difference between an illusion, a delusion, and an hallucination." "I never knew a case of hereditary insanity where the disease itself was transmitted. Disease is never transmitted." It is difficult to believe that this report is correct, but if it be correct, and if the criminal was convicted on this evidence, it would be as erroneous to speak of his being executed as to speak of his victim in the same terms. We repeat, that if he was convicted on such evidence as this, his death was not an execution, but a murder.

Our pages are freely open for a full, fair and dispassionate examination of this question. We believe the

government experts erred in their judgment concerning Guiteau's mental status.

"Sane Lunatics."—A New York Daily paper comments on murders by lunatics in the following fashion :

Another crazy man has been arrested in New York for dangerously stabbing a citizen. If New York should liberate the sane persons now confined in her lunatic asylums, she might, perhaps, find room for the incarceration of the numerous maniacs who are making life unsafe.

If lunatics were not so often miraculously transformed into sane men by jury verdicts, and unreasonable and unjust obstacles were not every day thrown in the way of committing the insane to the asylums whose care and treatment is their due, and whose restraint is their right and the community's protection, murder by sane lunatics would be less frequent. Suppress the liberation epidemics which have recently broken out in some of the States, and guarantee communities against the roaming at large of the many murderous cranks who are only considered sane when they are brought to trial, and murders by the insane would diminish.

Harper's Weekly makes an apt suggestion when it asks that the attention of judges should be called to the propriety of disbaring lawyers who ransack the insane asylums in search of rich lunatic clients to release.

Moral Character in Insanity.—Resolutions declaring that the moral character should not be considered in estimating questions of insanity by State Medical Societies are not only unscientific but exceedingly out of place, and have the semblance, whether so intended or not, of attempts at bulldozing for bolstering purposes. The moral perversions of certain forms of mental disease are stumbling-blocks in the way of certain theorists on mental alienation, but they cannot be gotten out of the way in this manner. Such resolutions are *prima facie* confessions of weakness on the part of the movers of them, but they will not bias the really scientific investigator. Whatever constitutes mind in its sane estate and thus contributes to make the recognized character, will be taken account of by the true alienist in estimating morbid and irrational change, whether it be in thought, feeling or action.

The Alienist and Neurologist enters, with the coming January number, on its fifth year. Please call the attention of your friends to the fact and induce them to become subscribers. *Please also remit your subscription for*

1884. A liberal support from its friends will greatly enlarge its usefulness and the value of its contents for 1884. *Every good Journal can be made better by zealous co-operation and increased subscriptions.*

Political Changes in the Medical Management of Hospitals for the Insane are more to be deprecated than similar changes in the management of any other State charity, not excepting even the schools for the feeble-minded, the blind and the deaf and dumb.

No physician of ordinary skill, ability and experience in his profession, be he ever so diligent, can acquire such a familiarity with the special features of insanity and the management of the insane, as to honestly justify assuming control of a State Lunatic Asylum, as its chief medical head, in less than a year's residence among the insane; and an equal length of time is requisite to familiarize a new physician, unless he knows well by previous experience, how to go about acquiring this knowledge, with the *personnel* and previous history of the usual number of insane patients in a State asylum.

Few physicians can properly qualify themselves for their duties in this time. Only here and there a first-class medical man of exceptional experience and ability in general practice, or who has gained a special reputation in neurology and psychiatry by zealous labor and a peculiar love for this work, constitutes an exception.

We must therefore protest against changes in the management of these institutions for anything but just cause. In the coming political contests we hope all parties will fly the neutral flag over their State charities.

Purely political changes wrong the friends of the insane, who have the right to expect the greatest possible skill in the management of their insane friends, and they seal unfavorably the fate of many an otherwise curable insane person.

To the Friends of the Alienist and Neurologist.—In the interim between now and January proximo we should like to add at least five hundred more subscribers to our subscription list. We hope all who are interested in the diffusion of sound practical psychiatric and neurological knowledge will display their interest in this journal by practical endeavors to thus promote its prosperity.

Dr. L. S. McMurtry has retired from the *Louisville Medical News*, and is succeeded by Dr. H. A. Cottell, formerly an editor of the *News*.

HOSPITAL NOTES.

DR. B. F. SANBORN succeeds Dr. H. M. Harlow resigned, to the superintendency of the Maine Insane Hospital, at Augusta. Dr. Harlow filled his post there long and well.

DR. PLINY EARLE, of Northampton, has not resigned as stated in our last number, but is still faithfully and zealously on duty.

ILLINOIS EASTERN HOSPITAL FOR THE INSANE, AT KANKAKEE.—The Biennial Report shows the total number treated during the two years, 520; males, 352; females, 168. Admitted during same period, 295; males, 12; females, 123. Discharged and died, 194; males, 132; females, 62, as follows: Recovered, 44; males, 29; females, 15. Much improved, 1 female. Improved, 50; males, 38; females, 12. Stationary, 78; males, 46; females, 32. Deteriorated, 1 male. Died, 19; males, 17; females, 2. Not insane, 1 male. Remaining under treatment October 1, 1882, 326; males, 220; females, 106. Dr. R. S. Dewey has the happy faculty of investing with interest the usually dry details of a hospital report. His statistics as to restraint are valuable, and his *common-sense* views (not always found among alienists—may it be in the Association?) are worthy of deep consideration. The doctor is an earnest advocate of detached buildings, and gives the cost of such at Kankakee at \$318 per capita, while the cost of main building is placed at \$895. His experience is that they are better adapted and far more beneficial to a large class of patients than the “close” hospitals; and we have no doubt that taxpayers will not hesitate to avail themselves of this economical manner of providing for the bulk of the insane. Employment figures largely as a remedial agent in this institution.

STATE INSANE ASYLUM, JACKSON, LOUISIANA.—This report, from changes in the State laws, embraces a period of twenty-eight months, from December 1, 1879, to March 31, 1882. Total number under treatment during entire period, 337; males, 171; females, 166. Admitted, 127; males, 71; females, 56. Discharged and died, 93; males,

52; females, 41, as follows: Recovered, 39; males, 29; females, 10. Improved, 6; males, 4; females, 2. Unimproved, 1 male. Died, 47; males, 18; females, 29. Remaining April 1, 1882, 244; males, 119; females, 125. The superintendent, Dr. John W. Jones, certainly merits our deepest sympathy. Estimating the entire cost of maintenance of his patients at the small sum of \$150 per capita, he is compelled to accept State warrants on that basis at a discount on their face value of over 25 per centum. He shows the general average cost, as taken from twenty-five of our principal asylums, to be \$225.44 per capita; and earnestly protests that the State of Louisiana shall not permit her insane asylum to be catalogued as an almshouse or a prison, when elsewhere they are referred to and presented as objects of State pride. It is to be hoped that the pelican State has not forgotten her traditions, and that the worthy doctor may not be compelled to fashion his dietary table after the old plantation style.

EASTERN LUNATIC ASYLUM, AT WILLIAMSBURGH, VIRGINIA.—Remaining September 30, 1881, 354; males, 193; females, 164. Admitted during year, 115; males, 64; females, 51. Total number under treatment, 469; males, 257; females, 212. Discharged during year, 92; males, 57; females, 35, as follows: Recovered, 45; males, 27; females, 18. Improved, 7; males, 5; females, 2. Unimproved, 1 male. Died, 39; males, 27; females, 12. Remaining September 30, 1882, 377; males, 197; females, 180. It is gratifying to find that Dr. Richard A. Wise so well appreciates the proper system of combining treatment of the recent and chronic insane under one management. We are also glad to see that the accommodations of this asylum are not near so inadequate to the demand as at Staunton, and it is to be hoped that the bright anticipations of Dr. Wise of a more liberal provision for the insane of Virginia will be fulfilled. With no bias or disposition to reflect upon parties or persons, one cannot peruse the asylum reports of the State of Virginia (for the past few years) without being struck by the baneful effects of partisan management, and the hesitating uncertainty incident to a political tenure, which characterizes them. May we not hope, in this era of civil service reform, that the helpless insane will receive some protection.

STATE LUNATIC ASYLUM, COLUMBUS, SOUTH CAROLINA.—In asylum October 31, 1881, 490; males, 231; females, 259. Admitted during year, 265; males, 135; females, 130.

Whole number under treatment, 755; males, 366; females, 389. Discharged during year, 205; males, 114; females, 91, as follows: Recovered, 62; males, 43; females, 19. Improved, 29; males, 12; females, 17. Unimproved, 14; males, 8; females, 6. Escaped, 3 males. Not insane, 1 male. On trial, 18; males, 7; females, 11. Died, 78; males, 40; females, 38. Remaining October 31, 1882, 550; males, 252; females, 298. Dr. P. E. Griffin gives a most flattering résumé of his year's work, and the statistics fully justify him. The system of sending convalescent and other suitable patients "out on trial" is largely adopted at this institution, and from the data furnished, has worked with gratifying success. The State seems to deal liberally, and, as a result, the efforts of the officials are bestowed *con amore*. A fitting tribute is paid to the memory of the late lamented Dr. John W. Parker, formerly superintendent, and at the time of his death assistant physician; his association with the hospital having extended over forty-five years.

NORTH CAROLINA INSANE ASYLUM.—The number under treatment during the year, 334; males, 173; females, 161. Admitted during the year, 50; males, 24; females, 26. Discharged during the year, 56; males, 28; females, 28, as follows: Recovered, 16; males, 10; females, 6. Improved, 5; male, 1; females, 4. Unimproved, 18; males, 11; females, 7. Died, 17; males, 6; females, 11. Remaining December 31, 1882, 278; males, 145; females, 133. Dr. Eugene Grissom enters a vigorous protest against any plan looking to the separate treatment of the chronic and acute insane. While admitting the force of some of his arguments, especially that the establishment of chronic asylums may lead to a too economical care of such unfortunates, still we cannot see why the close hospital for maniacs and more cheaply-constructed, detached buildings, for the imbeciles and demented, under one general management, may not be not only advisable but beneficial to both classes.

STATE LUNATIC ASYLUM, AT LITTLE ROCK, ARKANSAS.—We are in receipt of the first report of the Board of Trustees of above asylum, and congratulate the State of Arkansas upon having at last realized its duty towards its indigent insane, as well as upon the rare judgment displayed in the selection of the able gentlemen who are to initiate the asylum. The greatest care has apparently been exercised in the selection of a proper site, and the

buildings erected in accordance with the most modern requirements of asylum construction. Dr. C. C. Forbes, of Louisville, Kentucky, has been, without solicitation on his part, selected as the first superintendent, and we have no doubt will fulfill the flattering commendations received of him.

STATE INSANE ASYLUM, AT ATHENS, OHIO.—The report of this Institution gives the total number under treatment during the year, 832; males, 391; females, 441. Admitted during the year, 216; males, 110; females, 106. Discharged and died, 207; males, 94; females, 113, as follows: Recovered, 93; males, 51; females, 42. Relieved, 14; males, 8; females, 5. Unimproved, 65; males, 18; females, 47. Died, 36; males, 17; females, 19. Remaining on November 15th, 1882, 625; males, 297; females, 328. Dr. Richardson furnishes additional proofs of the value of out-door employment and exercise, not only as adding to the comfort and enjoyment of patients, but in lessening violence and attempts to escape, while the curative influences are marked, as compared with the too frequent dependence on the use of medicinal agents, to the neglect or oversight of the more important principles of careful nursing, and a proper regulation of surroundings. In the appointment during the year, of a female physician, Agnes M. Johnson, M. D., while the matter of qualification (not of sex) seems to have been the guiding motive, still Dr. R. expresses the opinion "that for some reasons I believe the treatment of the female insane can be more successfully accomplished by female physicians than by males with the same qualifications and adaptation for the work."

STATE LUNATIC ASYLUM, No. 2, ST. JOSEPH, MISSOURI.—The Biennial Report shows the total number under treatment during the two years, 511; males, 284; females, 227. Admitted during the same period, 316; males, 182; females, 134. Discharged and died, 251; males, 149; females, 102, as follows: Recovered, 110; males, 67; females, 43. Improved, 46; males, 22; females, 24. Unimproved, 37; males, 27; females, 10. Not insane, 3; males, 2; female, 1. Escaped, 6 males. Died, 49; males, 25; females, 24. Under the most unfavorable conditions, Dr. Catlett bears out his well-earned reputation as a scientific alienist. A deficient water supply, with its legion of concurrent evils, is one of the most disgraceful and pernicious errors of

hospital construction, and this the doctor has had to contend with in a most virulent form. No matter how desirable in other respects, the least doubt as to a bountiful water flow, should condemn any site suggested for a hospital, and more particularly one for the insane, the major portion of whom, while in the most favorable condition to imbibe disease, are necessarily for a greater portion of each twenty-four hours, so exposed. Notwithstanding this malign influence, the report presents a gratifying result of what may be attained by indefatigable and intelligent labor. Dr. C., in most pertinent and convincing language, urges increased accommodation, by the erection of supplementary and detached buildings for the chronic and epileptic insane. The doctor feels constrained to attach to his report an emphatic denial as to the practice of "ducking" in his institution. To the profession such disclaimer is entirely unnecessary, for to them, and the general public who may be acquainted with him, not a thought of ill-treatment could possibly be associated with his care of the insane.

STATE LUNATIC ASYLUM, JACKSON, MISSISSIPPI.—Biennial Report. Conformably to new legislation the report embraces only twenty-three months. Remaining, Jan. 1, 1881, 401; males, 193; females, 208. Admitted to Dec. 1, 1882, 239; males, 112; females, 127. Whole number under treatment, 640; males, 305; females, 335. Discharged, 224; males, 121; females, 103, as follows: Recovered, 98; males, 48; females, 50. Improved, 8; males, 4; females, 4. Unimproved, 7; males, 4; females, 3. Not insane, 3; males, 2; female, 1. Eloped, 1 male. Died, 107; males, 62; females, 45. Remaining under treatment November 30, 1882, 416; males, 184; females, 232. The report of Dr. T. J. Mitchell for 1880-81 evidences a conscientious discharge of duties amidst depressing surroundings. An overcrowded hospital with deficient water supply may well account for the heavy mortality, and in his plea for increased hospital facilities, Dr. M., in the true spirit of a philanthropist, advises no additions to his own charge, but the selection of a more salubrious and better adapted site than one so near a city peculiarly adapted to epidemic visitations. The want of a proper flow of water would, in our mind, condemn, the use of the present buildings altogether. The lighting of so large a mass of buildings by means of coal oil can eventuate in only one direc-

tion, a destructive conflagration, and attendant loss of life. The *experientia docet* of advanced thought, seems to be merged into the fatalism of *what is to be, will be*, of the Turk.

STATE HOSPITAL FOR THE INSANE, AT WESTON, WEST VIRGINIA.—Remaining under treatment September 30, 1881, 589; males, 317; females, 272. Admitted during year, 199; males, 93; females, 106. Whole number under treatment, 788; males, 410; females, 378. Discharged during year, 153; males, 84; females, 69, as follows: Recovered, 56; males, 30; females, 26. Improved, 35; males, 20; females, 15. Eloped, 2 males. Died, 60; males, 32; females, 28. Remaining Sept. 30, 1882, 635; males, 326; females, 309. The problem of providing for the chronic insane is becoming the foremost and apparently the most difficult of solution in the minds of our alienists. Dr. W. J. Blond is not the only superintendent who finds it difficult to impress the laity with the importance of early hospital treatment; and later, that even economy, which with many appears to be the prime consideration, is best attained in properly graded hospitals. How long are we to continue the crowding of our asylums with the hopeless insane, made so by incarceration in jails and poor-houses, when the remedy is so plain. We may be a hobbyist on this subject, but no matter casts such deserved claims upon the American system as this, and our efforts shall be continued until the foul blot is removed, and we confidently challenge the criticism of the world, not so much by displaying palatial buildings at \$1,200 per capita, as by exhibiting the "greatest good for the greatest number," detached buildings and homes clustering around a central or "mother" home. This is not *Utopian* for already do we see the realization in more than one enlightened community.

SECOND MINNESOTA HOSPITAL FOR INSANE, AT ROCHESTER.—The Biennial Report shows the number remaining in hospital December 1, 1880, 113; all males. Admitted during biennial period, 215; males, 69; females, 146. Whole number under treatment, 328; males, 182; females, 146. Discharged, 101; males, 69; females, 32, as follows: Recovered, 32; males, 20; females, 12. Improved, 26; males, 17; females, 9. Unimproved, 9; males, 8; females, 1. Died, 25; males, 15; females, 10. Remaining under treatment, November 30, 1882, 236;

males, 122; females, 114. Dr. Bowers has been fortunate, considering the crowded condition of his hospital, in closing his biennial record without accident or disaster of any kind. In view of recent additions it is to be hoped that no such overcrowding may again exist.

FIRST MINNESOTA HOSPITAL FOR INSANE, AT ST. PETER.—Biennial Report. Number of patients December 1, 1880, 612; males, 271; females, 341. Admitted during biennial period, 439; males, 249; females, 190. Total number under treatment, 1,051; males, 520; females, 531. Discharged, 415; males, 167; females, 248, as follows: Recovered, 106; males, 60; females, 46. Improved, 96; males, 36; females, 60. Stationary, 115; males, 29; females, 86. Died, 98; males, 42; females, 56. Remaining under treatment November 30, 1882, 636; males, 353; females, 283. Dr. Bartlett has had need of all his skill to properly conduct the affairs of his large institution during the last biennial period. That he has succeeded so well is highly commendable, and with the restored buildings in better form than before the disastrous fire, we shall look forward to an administration of his hospital alike creditable to himself and the State he serves.

CINCINNATI SANITARIUM.—The total number under treatment during the year, 164; males, 111; females, 53. Admitted during the year, 117; males, 86; females, 31. Discharged and died during the year, 108; males, 79; females, 29, as follows: Recovered, 49; males, 38; females, 11. Improved, 41; males, 28; females, 13. Unimproved, 14; males, 10; females, 4. Died, 4; males, 3; females, 1. Remaining November 30, 1882, 56; males, 32; females, 24. Dr. Everts gives to the profession refreshing evidence of what may be accomplished in the cure of insanity, and did space permit, we should be glad to lay before our readers the full text of his classical report. His ideas on the ratio of insanity in the United States are highly flattering to our native population, he claiming with great plausibility, croakers to the contrary notwithstanding, that lunacy is not on the increase in our day amongst *Americans*; the causes of our greater immunity being that the organic heritage of native Americans is superior to that of any other civilized people, that they are the most generously fed, and freer from the disease of drunkenness than were their immediate or remote ancestors; and that our reputation of fast living and overwork is erroneous it being only the natural unrest of a free populace, who

may spring or climb from the lowest to the highest stratum solely by their own activities. To those who had the pleasure of visiting the Sanitarium during the session of the Association of Superintendents at Cincinnati, the modesty of the doctor's reference to that visit will be apparent; for an asylum more nearly approaching the ideal it would be difficult to find. One point in this report must strike the most superficial reader. It is the fact that the necessities of the hospital seem to be anticipated by the directors in a spirit of true economy, and we do not find the begging and imploring for essential improvements, as in hospitals under public control. The pleasing and elegant appearance which the report presents might be copied to advantage by some of our larger and more pretentious institutions.

STATE INSANE ASYLUM, AT CLEVELAND, OHIO.—Total number under treatment during the year, 848; males, 429; females, 419. Admitted during the year, 226; males, 115; females, 111. Discharged and died, 226; males, 124; females, 102, as follows: Recovered, 91; males, 48; females, 43. Improved, 44; males, 25; females, 19. Unimproved, 61; males, 35; females, 26. Died, 28; males, 15; females, 13. Not insane, 2; male, 1; female, 1. Remaining under treatment November 15, 1882, 622; males, 305; females, 317. Dr. Strong certainly has reason for gratulation in the special prosperity of his charge during the year; a death percentage of only 4.43 on average population, and a recovery percentage of 40.26 on admissions would indicate the most favorable surroundings. Dr. S. discusses quite fully two subjects of great importance to the public at large as well as the profession, to wit, *the alleged confinement of sane persons in asylums*, and *objections to inebriates in asylums*. In view of recent terrible occurrences how prophetic sounds the warning, "The nonsense, twaddle and falsehood about the confinement of sane people in asylums should cease, and a portion of the energy, at least, which is directed to such a mischievous work, should be turned into the wiser and better channel of urging the prompt and early admission of the insane to asylums. The trouble does not lie in the number of sane people who are in asylums, but the number of insane people who are outside of asylums. It is due to this fact that homicides by the insane horrify, from time to time, every community, and that suicides, possibly suicides and homicides combined, embracing the slaughter of whole families,

so unexpectedly and too frequently shock society." We regret that want of space precludes further extracts, but we most earnestly beg our confrères of the daily press to a perusal of the entire articles, to the end that our people may be so instructed on this vital question as to avoid the terrible evils, to the unfortunate lunatic as well as the sane, of false teaching and cruel apprehension. In discussing the bearings of inebriety and insanity, the doctor takes the most radical stand; regards all attempts to sugar-coat drunkenness as an error, contending that it is simply and plainly a *crime*, to be treated solely and distinctly as such, without regard to color, sex or previous condition.

STATE INSANE HOSPITAL, AT TUSCALOOSA, ALABAMA.—Biennial Report. Number under treatment September 30, 1880, 402; males, 213; females, 189. Admitted, 260; males, 130; females, 130. Whole number under treatment, 662; males, 343; females, 319. Discharged during the two years, 245; males, 134; females, 111, as follows: Recovered, 126; males, 64; females, 62. Improved, 49; males, 24; females, 25. Unimproved, 13; males, 9; females, 4. Died, 57; males, 37; females, 20. Remaining under treatment September 30, 1882, 417; males, 209; females, 208. A peculiar feature of the discipline of Dr. Brice's establishment is the imposition of a small fine in money for every careless or willful neglect of duty. The doctor thinks it "secures a more efficient corps of nurses and employees, since the insubordinate and worthless characters who are always on the look-out for easy places, seldom apply to us for employment." The *open door* system is discussed with practical intelligence, as also the necessity of occupation and amusements for the insane; in fact the whole report evidences the skill which has been rewarded with such successful results during the past two years.

EASTERN NORTH CAROLINA INSANE ASYLUM.—Remaining January 1, 1882, 89; males, 34; females, 55. Admitted during the year 45; males, 15; females, 30. Whole number under treatment, 134; males, 49; females, 85. Discharged during the year, 89; males, 37; females, 52, as follows: Recovered 17; males, 8; females, 9. Improved, 6; males, 1; females, 5. Much improved, 2; male, 1; female, 1. Unimproved, 5; males, 2; females, 3. Died, 21; males, 4; females, 17. Dr. J. D. Roberts repeats the *more room more cures*. It is a crying shame, with the light before us in this nineteenth century, to stint the lunatic in room,

either inside or outside the hospital walls. We would far rather see the Gheel system, with all its disadvantages, than the jail system.

WESTERN LUNATIC ASYLUM, AT STAUNTON, VIRGINIA.—Remaining at beginning of year, 492; males, 217; females, 275. Admitted during year, 131; males, 87; females, 44. Total number under treatment, 623; males, 304; females, 319. Discharged during the year, 115; males, 53; females, 62, as follows: Recovered, 66; males, 26; females, 40. Improved, 7; males, 3; females, 4. Unimproved, 7; males, 3; females, 4. On furlough, 2 males. Died, 33; males, 19; females, 14. The report of Dr. R. S. Hamilton, while reflecting great credit upon his management, shows a sad condition of affairs in the "Old Dominion." For want of space two out of every three applicants for treatment, had to be rejected. This should not be, for even admitting the chronic character of this large proportion of rejections (and they could not all have been incurable), the economical care of this class has been so clearly demonstrated of late years, that the community which thrusts them into county jails and poor-houses, is lacking equally in humanity as well as economy.

CENTRAL LUNATIC ASYLUM (FOR COLORED INSANE), AT RICHMOND, VIRGINIA.—Number at beginning of year, 351; males, 159; females, 192. Admitted during year, 165; males, 83; females, 82. Whole number under treatment, 516; males, 242; females, 274. Discharged during the year, 135; males, 73; females, 62, as follows: Recovered, 85; males, 51; females, 34. Improved, 5; males, 3; females, 2. Died, 45; males, 19; females, 26. Remaining under treatment September 30, 1882, 381; males, 169; females, 212. The colored population of Virginia, seem to be looked after better in the matter (if not the manner) of provision for their insane, than the white; for we are told by Dr. David F. May, that all patients making application, and found to be meritorious, are received, while, as we have seen at Staunton, two out of three are rejected. The report is in every way creditable to the asylum.

STATE HOMOEOPATHIC ASYLUM FOR THE INSANE, MIDDLETOWN, NEW YORK.—Number present at beginning of year, 216; males, 108; females, 108. Admitted during the year, 175; males, 82; females, 93. Whole number

under treatment, 391; males, 190; females, 20. Discharged during the year, 151; males, 77; females, 74, as follows: Recovered 69; males, 36; females, 33. Improved, 13; males, 6; females, 7. Unimproved, 48; males, 22; females, 26. Not Insane, 1 female. Died, 20; males, 13; females, 7. Our orthodox friends need not be horrified, for with the exception of the title page, not a line appears in the whole report that does not command the respect and commendation of the most sectarian advocate. Dr. Talcott must be exceedingly fortunate, or else (and this the worthy doctor would most strenuously resent) the name of his institution deters the masses, for every page breathes a satisfaction with his accommodations which few superintendents feel. The articles on "The commitment and discharge of patients," and the *habeas corpus*, are well worthy the perusal of all interested. He says very pertinently, "That a sane man may be imprisoned in an asylum, by prejudiced friends, is, perhaps, a barely possible event. That sane men are frequently committed to asylums as insane we have no reason whatever, after careful observation and considerable experience, for believing." The doctor gives the experience of releasing three patients under his care by means of the "great bulwark and second Magna Charta of British liberty." In case No. 1 (in 1878), the patient was produced before "twelve good men and true," who, with that knowledge of insanity which belongs intuitively to the average layman, declared him sane and fit to be at large. In a few days, mark you, this very jury petitioned to have this "sane" man recommitted, as he was threatening the lives of the jurymen. Before, he had only threatened to kill his wife, which he did absolutely attempt, between the day of his release on *habeas corpus* and his recommitment. This man is now an inmate of the Willard Asylum for Chronic Insane. Last year two patients were discharged by virtue of the great writ. In a very short time one of these patients was locked up in jail for threatening to kill his mother; a little later the other was returned to the asylum as being unmanageable and desperate, having amused himself during his few days of "sanity" in beating the heads of his helpless little children against the walls of the house where he resided. The doctor indulges in some very forcible and truthful comments as to the responsibility of judges and juries, for evil consequences to the community, and also

for the frequently irreparable injury to the patient, who, dragged from an asylum just as his mind is resuming its normal condition, forced by excitement again into a state of maniacal excitement, is recommitted, and drifts into the wards of a chronic asylum, a burden to the community for life, through the criminal interference of busy-bodies, and the more criminal ignorance of a partisan judiciary. We regret that want of space precludes further notice, but earnestly implore all who really have the good of the insane at heart to peruse the whole of Dr. Talcott's report, and learn from the lessons taught therein, that such meddlesome interference is not philanthropy.

STATE INSANE ASYLUM, AUGUSTA, MAINE.—Remaining December 1, 1881, 450; males, 240; females, 210. Admitted during year, 198; males, 116; females, 82. Whole number under treatment, 648; males, 356; females, 292. Discharged during the year, 183; males, 103; females, 80, as follows: Recovered, 71; males, 38; females, 33. Improved, 35; males, 21; females, 14. Unimproved, 34; males, 17; females, 17. Died, 43; males, 27; females, 16. Remaining November 30, 1882, 461; males, 252; females, 209. In this report Dr. Henry M. Harlow, makes his adieu to the public after thirty-seven years of continuous service in this hospital, thirty-one of which have been as superintendent. That the Board of Trustees, in their flattering notice of the doctor, only echo the feelings of the people of Maine—professional as well as lay—is well known, and we can only join in their wishes for long years of that *otium cum dignitate* which properly follows so long a career of usefulness and mercy.

STATE LUNATIC ASYLUM, TRENTON, NEW JERSEY.—Remaining October 31, 1881, 577; males, 307; females, 270. Admitted during year, 186; males, 96; females, 90. Whole number under treatment, 763; males, 403; females, 360. Discharged during year, 134; males, 74; females, 60, as follows: Recovered, 48; males, 27; females, 21. Improved, 24; males, 10; females, 14. Unimproved, 5; males, 3; females, 2. Died, 57; males, 34; females, 23. Remaining October 31, 1882, 629; males, 329; females, 300. Dr. Ward enjoys the felicity of reporting a prosperous year, as an uneventful one in an insane asylum must always be. No accidents, no epidemics, a gratifying restoration to the duties of life of

many who had come to him under a darkness deeper than death, are all subjects of gratulation.

STATE ASYLUM FOR THE INSANE, AT TOPEKA, KANSAS.—The Second Biennial Report shows: Remaining June 30, 1880, 121; males, 69; females, 52. Admitted, 116; males, 58; females, 58. Whole number under treatment, 237; males, 127; females, 110. Discharged during biennial period, 92; males, 46; females, 46, as follows: Recovered, 54; males, 34; females, 20. Improved, 15; males, 5; females, 10. Not improved, 1 female. Eloped, 2 males. On visit, 1 female. Died, 19; males, 5; females, 14. Remaining June 30, 1882, 145; males, 81; females, 64. Despite the not-to-be-foreseen difficulties of the first few years of an asylum for the insane (and not the least is the want of trained subordinates), Dr. Eastman has left the Topeka hospital in a condition alike creditable to the State and himself. His recommendations for increased space will, it is hoped, be adopted; and with these and the new asylum at Osawatomie, the State of Kansas will, in its care of this unfortunate class, as in every other philanthropic cause, stand as the very foremost of our Western States. We shall greatly miss Dr. Eastman from the ranks of psychiatry, and trust that his rare abilities and well-matured experience may soon again be devoted to his noble specialty.

GOVERNMENT HOSPITAL FOR THE INSANE, WASHINGTON, D. C.—Remaining June 30, 1881, 925; males, 700; females, 225. Admitted during year, 247; males, 178; females, 69. Whole number under treatment, 1,172; males, 878; females, 294. Discharged during year, 230; males, 169; females, 61, as follows: Recovered, 81; males, 60; females, 21. Improved, 39; males, 31; females, 8. Unimproved, 7; males, 2; females, 5. Not insane, 2 males. Died, 101; males, 74; females, 27. Remaining June 30, 1882, 942; males, 709; females, 233. The Twenty-seventh Annual Report of this magnificent institution presents to the alienist exceptionally full and accurate statistics. The slight increase in death rate is accounted for by the termination of a number of chronic cases from organic disease of brain, more than one-third of the deaths being from that cause alone. In these days, when the subject of providing for the chronic insane is occupying the deepest thoughts of our philanthropists, a visit to "St. Elizabeth" might be productive of good results. For several years a system of "relief" to the "close" hospital has been here in

practical operation, and so favorable have been the results that each year witnesses its extension. Dr. Godding, the distinguished superintendent, with the modesty and prudence of a scientific alienist, has not launched himself into the arena as an exponent of any particular system of buildings or treatment; yet the every-day workings of his asylum are an exemplification of what may be done with "open doors" and home-like edifices, and astonishes the visitor by the very silence in which such a great measure of success has been attained.

DAKOTA HOSPITAL FOR THE INSANE, AT YANKTON.—
Biennial Report. Number remaining December 1, 1880, 36; males, 24; females, 12. Admitted during the two years, 74; males, 50; females, 24. Whole number under treatment, 110; males, 74; females, 36. Discharged, 46; males, 39; females, 7, as follows: Recovered, 23; males, 21; females, 2. Improved, 5; males, 4; female, 1. Died, 18; males, 14; females, 4. Remaining November 30, 1882, 64; males, 35; females, 29. The disastrous destruction of the temporary hospital buildings April 2, 1882, and sad loss of life incurred (5 patients directly and a valued assistant indirectly), would, coupled with the singular fatality of such institutions to fire, seem warning sufficient to guard against all preventative causes, yet we find Dr. McGlumpty compelled to heat his new buildings by means of a stove, and light his wards with coal oil.

STATE INSANE ASYLUM, STOCKTON, CALIFORNIA.—
Number of patients July 1, 1881, 1,102; males, 782; females, 320. Admitted during year, 179; males, 144; females, 35. Whole number under treatment, 1,281; males, 926; females, 355. Discharged during year, 186; males, 153; females, 33, as follows: Recovered, 71; males, 62; females, 9; Improved, 11; males, 8; females, 3. Escaped, 11 males. Died, 93; males, 72; females, 31. Remaining July 1, 1882, 1,095; males, 773; females, 322. Dr. Shurtleff chronicles a year's work creditable alike to his management and the munificence of the State of California. He is of the opinion, after an experience of twenty years, that "intemperance in the indulgence in alcoholic beverages and the general dissipation to which it leads, has been the most prolific factor in the production of mental diseases."

REVIEWS, BOOK NOTICES, &c.

COMPENSAZIONI FUNZIONALI DELLA CORTEXCIA CEREBRALE (Functional Compensations of the Cerebral Cortex). By Professor L. Bianchi, Naples.

The translator is indebted to the politeness of the distinguished author, for a copy of the above interesting and very instructive work, which, within the compass of seventy-three octavo pages, conveys an amount of valuable practical matter, seldom presented in productions of much greater bulk and far loftier pretensions. It is, however, but fair to the reader, who may have entertained the idea of a cerebral duality in unity, by virtue of which the two symmetrical hemispheres are endowed with a capacity of reciprocal functional supplementation, so that when one of the two, from traumatic or other morbid lesion, ceases to perform its duty, the function is assumed by its associate, to intimate to him that the views of the author, in this relation, are decidedly negative to this belief; and that the conclusions drawn by him from the series of vivisectional experiments made by him, are quite antagonistic to the theory of the *soupléance cérébrale* of a certain class of French modern authorities on cerebral physiology. Not only does Bianchi hold that the lost function of a hemisphere is never taken up as an act of reciprocity by its fellow, but that it is not resumed even on its own side, when the lesion has been of such extent as to involve the whole, or the greater part, of the motor centers which governed the previously normal function. He does not, however, deny that a certain degree of *apparent* motor compensation may be often observed, but he ascribes this fact to the action of the medullary fibers which pass the bulb without crossing to the opposite side. In every muscular movement there is a *consensus* of activity between the two hemispheres, one indeed being the chief factor, but the other not an inert looker on. In persons laboring under incomplete hemiplegia, it is observed that when they are requested to move the inflexible member, a responding action will be observed on the part of the sound one. When the limbs of dogs paralyzed on one side were stimulated by pinching, etc., they remained motionless, whilst those of the other side were excited into motion. Sensation continued, but not its motor response, on the paralyzed side.

The animals experimented on by Bianchi were all of the canine species, and were of both sexes, and various ages, and though it is certain that the dog stands far below either the monkey or man in cerebral organization and intellectual capacity, yet, for the purpose of Bianchi's theorem, the results obtained were quite sufficient.

To follow the Professor through the ample details of his experiments, or even to reproduce well chosen extracts from these and from

his luminous observations on their physiological significance, would demand more space than the pages of the ALIENIST could award to them. As, however, the author has prefaced each series of his experiments with a *proposition* exhibiting the conclusions which have appeared to him to be deducible from the facts observed, the reader must, for the present, be content with the careful perusal of these, until he possesses himself of the whole work, the merits of which should certainly justify some of our enterprising American publishers in bringing out an early translation. It is very certain that they award this grace to not a few far less deserving productions, and were they better acquainted with the indomitable energy and scientific exactitude displayed in the present day by emancipated Italy, our American medical profession would soon become indebted to them for a very acceptable and instructive supply of modern Italian works.

The propositions of Bianchi, above alluded to, are as follow:

First.—Recovery from a paralysis consequent on a large destruction of the cortical motor zone in dogs, is only apparent and partial; locomotion and its correlative acts are, alone, reintegrated; every other movement in different conditions continues permanently (*for months*) abolished, and strength remains permanently defective.

Second.—The parts (of the cortex) surrounding the excitable points of the motor zone of the limbs left unhurt after a limited destruction, may in some manner compensate for the functionality of the destroyed part; but they do not acquire that electric excitation power which was before displayed on the members whose cortical center has been destroyed.

Third.—Locomotion is not represented in the cortex of the brain of dogs by centers of its own (*proprie*). In these animals the cortical motor zone may be destroyed without any durable disturbance in their locomotion succeeding.

Fourth.—In dogs in which the motor zone of one side has been largely destroyed, the opposite hemisphere, and especially its motor zone, influences the movements of the limbs on both sides.

Fifth.—In the period of development the cortical motor zone in dogs may assume the functions of the cerebellum, which has been in great part destroyed.

From the preceding *propositions* it will be seen that the views of Prof. Bianchi do not differ much from those of Ferrier, to whom, indeed, he seems to be pleased to avail of every opportunity of awarding approval and support.

The reader will, perhaps, not accuse us of unwarrantable prolixity, if we here introduce some extracts from the notes of Bianchi's two experiments made on the cerebellum of a young dog, in demonstration of his fifth proposition. He does not say whether he first chloroformed the dog, in the first experiment: but he did so in the second, and more than once, to his great grief, for, as he naively tells us, he "had the misfortune of the irreparable loss of this important animal after a few inspirations of the chloroform." He must then have

found himself in much the same quandary as the man whose horse died just when he had educated him to live on one straw per day. Whether an American coroner's jury, instructed by Mr. Birch, would have ascribed the poor dog's demise to the vivisectional injuries inflicted on his cerebellum, or to the lethal force of the humane anæsthetic, may be left as a moot question, for solution by the humanitarian sisterhood. Here are the details:

Experiment 13.—(February 27, 1881.) On a male pup, eighteen days old, which for several preceding days was observed to walk well, I uncovered the cranium far back, below the occipital ridge. I made an opening on the occipital bone, where it covers the superior vermis, and through this opening I made three injections of chromic acid, of two per cent. strength, into the cerebellar pascenchyma of the superior vermis and two lateral lobes, most on the right side. I sewed up the wound, and set the animal on the floor. He presented no unusual phenomenon,—just as if nothing had happened to him, he walked and went round the laboratory as perfectly as before.

Experiment 14.—(June 3, 1881.) The preceding young dog, fed from the first quite well, as long as he sucked his mother. He never showed disturbance of any sort in any of the senses, as far as it was possible to judge, by our usual means of research, exhibiting no difference in all the manifestations of life, when compared with the others of his own age; but in his ulterior development he appeared very different from them. He was more torpid in his movements, less speedy, less playful than the others, and certainly less intelligent. He seemed to become tired after a few paces, and as if worn out; he recognized his mother, and always kept close to her; he knew those who had care of him, and he played with us, but not so lively as the others; he knew where his kennel was, and ran to it; but how much did he differ from his brother, the co-survivor of the same litter! He was tardy and slow in every action; he had been the largest of the six, and now he was about half as big as the other; his hair was not glossy—it was bristly; the skin was ill-conditioned and wrinkled; he looked old.

More than three months after the first experiment (13th), being politely assisted by Dr. Adriani, I laid bare, with a large trephine, the whole of the sigmoid gyrus on the left, and the anterior branch of the second external convolution. I chloroformed the animal, but after a few inspirations, breathing was suddenly arrested; I patiently practiced artificial respiration, and the animal revived; I cut the dura mater, and produced a hæmorrhage, which I was able speedily to stop. In his state of hemi-anæsthesia, I proceeded to electrization, with the Farradic current, so very weak that I hardly perceived it on the inner surface of my lips.

The foreleg was represented by almost the whole of the sigmoid gyrus; there was an area, by which the shoulder was carried forward and outward; another by which the shoulder and the foot were carried inward and a little forward; another whose excitation provoked associate movements of the two forelegs; the foreleg of the side

opposite to the wounded side of the brain, was carried forward, upward and outward; the foreleg on the same side with the lesion, was carried backward and a little outward and downward, slightly flexed. With my friend Dr. Adriani, I established these movements many times, and always alike, by exciting in every instance the same zone, with the feeblest current, and keeping clear of all contact with the dura mater and every other source of error. Prolonged excitation of any one of the before mentioned zones provoked epileptic seizures, which were especially, and with the greatest readiness, determined by stimulating, with even the feeblest current, the cortical zone of the orbicularis palpebræ, the zygomaticus, and the muscles of mastication. By repeating the experiments I obtained, on the same zones, always the same effects. I wished to destroy all of this zone, but first I would assure myself whether the same movements might be obtained in a more profound and complete chloroformization; but after a few inspirations of the chloroform, I had the misfortune of losing irreparably this important animal! (*Heu me miserum, non canem!*)

Autopsy.—This was made shortly after the death of the animal, very accurately, by Dr. Adriani, who made the following notes: The motor zone, specially represented by the sigmoid gyrus, was more developed than ordinary; the sigmoid gyrus on the left, sensibly larger than that on the right; the rest of the cerebrum throughout normal in form. The cerebellum almost completely destroyed. Viewed from above it was but a formless pulvaceous, broken down, as if it had gone into total softening and ulceration; the borders of the lateral lobes were softened and broken down, so that what remained of them was externally wasted, as was also the vermes, or rather the part which occupied the seat of the superior vermes, so that for a great extent the medulla oblongata was left uncovered. There was hardly any difference between the right lobe and the left. Viewed on the under surface, only the anterior and more curved portion of the inferior vermes was observed; of the two lateral lobes the lower stratum, towards the interior on each side, was merely in part preserved.

Perhaps the experiments above detailed are, as throwing additional light on the function of the cerebellum, the most important of the whole series practiced by Bianchi. He, however, very truthfully says, that the grave difficulties connected with cerebellar experimentation, and especially that of preserving the animals in life, after the complete destruction of the cerebellum, must render such explorations very embarrassing, and debar the possibility of numerous observations. The adult dogs thus operated on by him, "all, or almost all, died in a short time, in consequence of the grave operation;" and he adds "partial extirpations or destructions are inconclusive for our object."

Bianchi's observations on the cortical area of vision, which he says is very extensive in the dog, are worthy of particular notice. He summarizes these under the following heads:

(a) The fibers of the retina of each eye go in great part to the cortical center of the opposite hemisphere, and in less number to that of the hemisphere of the same side.

(b) The visive cortical center of the dog is very extensive, comprehending the whole of the second external convolution, from its anterior extremity to the occipital lobe, including this and part of the first and third external convolution (the middle and the posterior parts).

(c) The compensation (for visive function) is made by the part remaining sound, of the cortical center, which has been partially destroyed in the same hemisphere. Very doubtfully, or not at all, does the opposite hemisphere contribute to the compensation.

Bianchi reduces his conclusions into the following thirteen corollaries:

"*First**.—There is a cortical zone on the anterior lobe of the cerebrum, which has not determinate limits, but which does not reach farther than one centimeter behind the posterior limits of the post-crucial convolution in the dog, and which contains motor elements for all the musculature of the opposite half of the body.

"*Second*.—On this large cortical surface only some points are excitable; the rest, though containing motor elements, are inexcitable.

"*Third*.—Some muscular groups are certainly represented on distinct areas within the limits of this zone, but they are also represented, though more sparsely, in all the rest of the zone, so that in partial destructions, that which remains uninjured in the zone compensates in part for the function of the destroyed part.

"*Fourth*.—Only extirpations over a great part of the motor zone give place to permanent motor disturbances.

"*Fifth*.—The motor zone of the sound hemisphere, up to a certain point, compensates the lost function of the mutilated hemisphere, not by its assumption of a new function, but from the pre-existence of anatomical relations with the muscles of the same side, and of homologous anatomical elements.

"*Sixth*.—Locomotion is not a function of the cortex, as a mechanism or motor-act, but only as a motor impulse, generated in the sensorial and intellective spheres.

* NOTE.—The present translator desires to intimate to the readers of the ALIENIST AND NEUROLOGIST, that the rendering of *Bianchi's* "conclusions," which appeared in the July issue, on pages 537, 538, was not furnished by him. Careful comparison of the two versions will show, that in a few important instances the real meaning of the author has been misunderstood. It might have been as well to have cut down No. 13 as largely as was done with No. 12; or still better, to have exterminated both. It is, however, but an act of justice on the part of the present writer, to confess that he had himself much difficulty in reaching a satisfactory translation. Every reader of Italian well knows that the finding of exactly equivalent English words, though sometimes a *quasi* impossibility, is by no means his greatest embarrassment. It is far rather, the taking asunder of long sentences, and placing their parts in that order of succession which best comports with our own grammatical requirements, and at the same time does no violence to the sense of the author. The Italian, like its parent tongue, the Latin, owing to its comparative richness in grammatical inflections, permits a wide liberty of arrangement of the members and words in any sentence—a liberty totally foreign to our emaculated and mutilated would-be Anglo-Saxon.

“*Seventh.*—Disturbances of the tactile sense from limited abstraction of the motor zones, are absolutely undemonstrable in dogs.

“*Eighth.*—On the cerebrum of dogs there is a zone which is promiscuously motor and sensory; it is the anterior branch of the second external convolution, which is either carried off along with the sigmoid gyrus, thus rendering the hemiplegia more grave, or it is extirpated by itself, and disturbs the motility of the dog, and his sight also.

“*Ninth.*—The center of sight is represented by a large extent of the cortex, which may be divided into three segments; the isolate extirpation of any one of these segments is equivalent to that of the whole, but with only temporary effect, and what is spared of the center suffices to re-establish sight.

“*Tenth.*—Extirpation of the whole cortical center of sight, as it has been considered by me, is equivalent to the cutting of the posterior segment of the internal capsule; it produces permanent visive disturbances. The compensation, then, is made when the lesion is circumscribed by the same hemisphere, and not by the opposite one.

“*Eleventh.*—The visual disturbances provoked by cortical extirpations are not an amblyopia in the opposite eye, but always a bilateral hemianopsia. Each eye is represented on both the hemispheres; but more on the opposite than on the same side with the lesion.

“*Twelfth.*—Sight is a complex function, resulting from numerous elementary momenta, represented in different cortical zones, which are compensatory in the re-establishing of vision, when one or more of them has been destroyed. Volitive movement is also a complex fact, of which all the *psychical* momenta remain unaltered after the destruction of the known motor zone, by which destruction are abolished the motor elements that represent the ultimate station, in which sense and all the other psychical acts proceeding from it are transformed into excito-motor force, finding here the anatomical and functional dispositions adapted to the differentiation and co-ordination of movements.

“*Thirteenth.*—The concept of localizations in general should not be assumed in the absolute sense of the word, but rather in a relative sense, considering that on the one part the anatomical limits of any cerebral function have not been determined; and on the other part, no function is normally accomplished without the concurrence of all those elementary processes of which it is the ultimate expression; whilst, parallelly, the anatomical area on which it appears to be consummated, is the last station in whose normal functioning all those preceding it concur, and in which the *materia prima*, or indistinct force, assuming new characters, is always determined in that form, which, in the diverse gradations of life, reaches our senses, and our intelligence, whose analytic power has hitherto remained much inferior to the complexity of the problem.”

The foregoing extracts, though fraught with instructive matter, we are forced to admit present but a fragmental outline of the facts detailed by Professor Bianchi, and the important inferences drawn by

him from them. The minute details of his various experiments could not fail to be practically instructive to all those engaged, or interested, in physiological research, the number of whom on this side of the Atlantic, is indeed lamentably small, and it is to be feared, is likely to continue so. We patronize and protect dog catchers, and dog killers, who do their work in the way most comfortable to themselves—whether by carbonic acid fumes, pistol bullets, hanging, strychnine or any other most handy means; and we daily eat the flesh of many sorts of animals, without ever enquiring as to the humanitarian process by which the butcher has deprived them of life; for any such fastidious questioning might blunt our appetite and seriously affect our digestion. Indeed, indeed, we are tender-hearted, animal (*id est* beef) loving, and patronizingly pious people, and in everything relating to rational, useful and beneficial physiological research, we are just about as stupid, proud and pig-headed as too much beef can make us.

But, as Sterne said, "They manage these things better in France." better too in Germany, and far better in Italy. The glorious old Peninsula, once the cradle of anatomical and physiological science, and the fostering nurse of the art of surgery, now actually teems with ardent, keen-sighted and tireless searchers after truth; and who is the pretender to the love of science and the best interests of humanity, who will hesitate to wish them success?

In the very first lines of his present work, Bianchi writes thus: "In our science it happens almost always, that every new discovery which seems destined to the solution of a great problem, carries in itself the germs of new and ever-forward-pressing unknown mysteries, towards which our incited minds run, gleaning, as they can, straying rays of light, which may guide us in that ever profound obscurity in which life and all nature lie concealed." So has it ever been, and ever must be, and happy for us that it is so, for what would human life be, unstimulated by the craving for further knowledge of the works of the Infinite?

INSANITY; ITS CAUSES AND PREVENTION. Henry Putnam Stearns, M. D., Sup't Retreat for the Insane, Hartford, Conn. Lecturer on Insanity in the Medical Department of Yale College, etc., etc. G. P. Putnam & Sons, New York, 1883.

There is no law in this country against book making. Everybody is at liberty to write and print if they can find publishers—or can pay for printing, themselves. The multiplication of medical books, and medical journals, in the United States, of late years, is something phenomenal. Every artifice of the publishing craft is resorted to, to ornament the shelves of the doctors' libraries, throughout the land. Every possible pretext for representing all works, and creating new ones on the same subject, is urged upon the credulous. Happy is he, who if he reads much, has a mind sufficiently tenacious to resist the otherwise consequent dilution. Happy are the credulous who believe in the authenticity of books. Happy are the skeptical who do not have to add to their natural suspicion of the fallibility o¹

books in general, personal knowledge of the incompetency and vain pretensions of facile authors. A mere literary faculty is one thing; knowledge, sincerity, integrity of purpose, and fidelity of statement, which should characterize medical literature, are quite another thing.

At whose behest is this flood of medical literature being poured out? It is not in the interest of science, surely! An annual volume of a hundred pages would meet all the demands of science—would record everything new in physiology, pathology, chemistry, and physics. As for practice—all progress might well be announced in a paragraph. For example, "Great improvement in the treatment of diseases has resulted from an increasing confidence in the operations of nature, and a material reduction in quantity of drugs administered."

What occasion has there been for a new edition of Watson's *Pratice of Physic*, beyond the insertion of such a paragraph under the head of *treatment*? What occasion—so far as science is interested, for any other book of practice, since Sir Thomas wrote? What excuse, except, there is no law against it.

Who ever reads this little book of Dr. Stearn's on *Insanity; Its Causes and Prevention*, may fail to see the relation of the foregoing criticism of medical book making in general, as a preface to a notice of this excellent production of a most worthy author, in particular. There can be no other relevancy than that of contrast. This book is not a digest of European bibliography on the subject treated, mixed with a modicum of American egotism and personal advertising. It is a modest, conservative, candid, clearly-expressed summary of what may be regarded as knowledge, at the present time, on the subjects treated. It is written for intelligent readers of all classes or professions; for the benefit of all classes, rather than for personal aggrandizement, or the gratification of an over-weening vanity. It has neither the monotonous twang of the pedagogue—the over-awing tone of Sir Oracle, nor the metallic blaze of the self-trumpeting egotist. It is indeed, in manner, matter, and purpose, "eminently respectable," and (which can not be said of most other medical books of the season) it is timely.

The subjects treated of in the various chapters of Dr. Stearn's little book (248 pages) are: "Increase of Insanity," "Insanity and Curlesation," "The Insane Diathesis," "The Influence of Education," "Industrial Education," "Moral Education," "Heredity," "Alcohol," "Tobacco," "Sex in relation to Insanity," "Poverty," "Religion," "Insufficient Sleep," etc. From which it will be seen, by the professional reader, that the book is not designed to present the whole subject of insanity in a systematic treatise, but is limited to a presentation of certain correlatable subjects of great importance to the public, as well as to practitioners of medicine and psychiatry. To present the author's views on these various topics would be to republish his book—which is not only protected by copyright, as the property of G. P. Putnam & Sons, but by a proper sense of the author's right to be read in his own language. So, with the full

assurance that no intelligent man or woman can read this book without being profited thereby, and that no one can be misled, to his or her own detriment, by any proposition affirmed, or suggested as probably true, by the author—the book is cordially commended to the reading public. E.

DR. MANN'S BOOK ON INSANITY.—It has been a legitimate criticism upon the labors of those in this country engaged in treating the insane in our many large and well-ordered establishments both public and private, that from the time of Rush until the present year, no American book on insanity at all commensurate with the dignity and importance of the subject had been written.

The present year is distinguished by the almost simultaneous publication of three treatises in which it is considered from different stand-points. The work before us aims to be a practical reference book for the general practitioner. As such it embodies the consideration of the most frequently occurring pathological brain and nerve manifestations without entering too deeply into the philosophy of mind or mystifying the reader by words and phrases which are out of the ordinary range of the physician.

The first thing that strikes us in the perusal of Dr. Mann's book is the free use which he has made of the experience of other alienists, and what especially marks a difference between it and the other works published by American authors is the fact that the ripe experiences of our own specialists are freely quoted. The names of Ray, Kirkbride, Gray, Earle and others, appear as frequently as those of English and German authorities, who have too long been regarded as the exclusive exponents of doctrine and practice.

The results worked out by American alienists in hospitals for the insane have been to a large extent incorporated in the able reports which they have presented yearly, or have appeared as occasional contributions to the various medical journals. These embrace the opinions and practice of men of large experience. No candid seeker after truth would ignore their just claims as authority, and we are glad to see that Dr. Mann has so far enlarged the scope of his work as to include these results with his own.

The book is naturally divided into two parts, the first treating upon the general subject of insanity with its classifications, diagnosis, pathology, medico-legal aspects, treatment, etc. The second, upon the various allied diseases of epilepsy, hysteria, hyperæmia and anæmia of the brain, etc.

The subject of hereditary transmission of insanity and the repression of mental disease in its incipient stages is well considered. The practical recommendations in regard to education and the social evils of modern life should be read by every physician. As Dr. Mann truly says, "We must look to the general practitioners for practical aid in stemming the great and growing tide of insanity."

Upon the important topics that have occupied the attention of those interested in the welfare of the insane, Dr. Mann has taken an advanced position. The subject of non-restraint receives a careful consideration

and the system of *complete* non-restraint he regards as one of the possibilities of the future. "The necessary conditions for this are, that our asylums must not be overcrowded as they are to-day, and that the patients must be under constant medical supervision."

Clinical lectures and instruction upon the subject of insanity—early removal of patients to an asylum—small hospitals and more of them, are made the basis of very sound suggestions. The legal aspects of insanity and mental responsibility are fully treated. Great prominence is given to hereditary influences and deficient cerebral organization in considering the test which the law should recognize as a valid defence in criminal cases. To the general practitioner the remarks upon the examination of medico-legal cases and the functions of experts will be especially valuable, while the practical suggestions and typical cases illustrating the various phases of mental action in inebriety, *trance state*, epilepsy, etc., cannot fail to be of great importance to the legal profession.

The pathology of insanity is considered in relation to abnormal cerebration. The various changes are well described and illustrated by typical cases. According to Dr. Mann, "the theory of localization of brain function does not throw as much light as we could wish, or lead to much practical benefit in the treatment of cerebral diseases." The allied affections of epilepsy, hystero-epilepsy, chorea, locomotor ataxia, spinal concussion, etc., etc., are treated very fully. The author, while giving in detail the results of treatment which he has pursued, has drawn largely from the experience and practice of other physicians.

It will in no way detract from the merits of other cotemporary works to say that Dr. Mann's book will supply a want which no other has yet filled, viz., a manual of plain rules for guidance in the practical consideration of insanity and the treatment of the various allied nervous affections.—*Dr. Hesse, of Philadelphia.*

THE time is fast approaching when the many diploma mills that disgrace the profession with inferior grists, will be forced to manufacture better grade doctors, or stop running. We recommend the new roller process schools like the St. Louis Medical College, Harvard and Pennsylvania Universities, which make only good brands, and take more time to make them. Good grade doctors are like good brands of flour, they are appreciated when they become known.

MEDICAL EDUCATION AND THE REGULATION OF THE PRACTICE OF MEDICINE IN THE UNITED STATES AND CANADA. Report of the Illinois State Board of Health, 1883. This report is full of useful information on these subjects, and reveals the shallow merits of many as well as the excellent endeavors of some of our medical schools to exalt medical education on this continent.

THE CONTINENTAL MAGAZINE is an excellent literary magazine for the home and the hospital, its contents being entertaining and instructive. Its low price, six cents per month, or fifty cents per year, commends it as one of the cheapest of the meritorious periodicals. To every subscriber who sends us a new subscriber to the ALIENIST AND NEUROLOGIST for 1884, we will send this publication one year as a premium.

THE PHYSICIAN'S DAILY RECORD, published by the D. G. Brinton Medical Publishing House, No. 115 South Seventh Street, Philadelphia, Pa., is an indispensable pocket companion for the busy practitioner of medicine.

Adherent and Contracted Prepuce, commonly called Congenital Phimosis. By De Forest Willard, M. D., Lecturer on Orthopædic Surgery in the University of Pennsylvania, and Surgeon to the Presbyterian Hospital. Read before the Philadelphia County Medical Society, April 11, 1883. (Reprinted from the Philadelphia *Medical Times* for June 30, 1883.)

Anatomy, Surgery, and Hygiene of the Rectum. By Joseph Eastman, M. D., Professor Diseases of Women and Clinical Surgery. College of Physicians and Surgeons, Indianapolis, Ind. Read before the Indiana State Medical Society, May, 1883. (Reprint from the *American Practitioner*, July, 1883.)

Des Effets Comparés de Divers Traitements de la Fièvre Typhoïde et de Ceux Produits en Particulier, par L'Ergot de Seigle de Bonne Qualité. Par Le Dr. Duboué (de Pau), Membre Correspondant de L'Académie de Médecine de Paris. *Labor improbus omnia vincit.* 1882.

Club-Foot; Simple Measures for its Early Relief. By De Forest Willard, M. D., Lecturer on Orthopædic Surgery in the University of Pennsylvania, Surgeon to the Presbyterian Hospital, etc. Extracted from the *Transactions* of the Medical Society of the State of Pennsylvania, for 1883.

Recherches Cliniques et Thérapeutiques sur L'Epilepsie, L'Hystérie, et L'Idiotie, Compte Rendu du Service des Epileptiques et des Enfants Idiots et Arriérés de Bicêtre Pendant L'Année, 1881. Par Bourneville, Médecin de Bicêtre. Bonnaire (E.) & Wuillamité, Internes du Service, Paris, 1882.

The Opium Habit; Its Successful Treatment by the Avena Sativa. A paper read before the New York State Medical Society, February 9, 1882, with additions, giving a fuller description of its therapeutic action in different diseases, etc. By E. H. M. Sell, A. M., M. D.

Sull' Alimentazione Forzata, Dei Folli Sifofobi. Pel Socio Onorario Prof. Vincenzo Leonardo Cera, Vice-Direttore del Manicomio Provinciale di Napoli. Memoria estratta dal Resoconto della R. Accademia Medico-Chirurgica, Anno 37° Tomo 37° Gennaio a Giugno, 1883.

Myelitis following Acute Arsenical Poisoning (by Paris or Schweinfurth Green). By E. C. Seguin, M. D., Corresponding Member of the Verein für innere Medizin, of Berlin, etc. (Reprinted from the *Journal of Nervous and Mental Diseases*, Vol. IX., No. 4, October, 1882.)

A Report on Laceration of the Cervix Uteri. By T. B. Harvey, M. D., Professor Surgical and Clinical Diseases of Women in the Medical College of Indiana. Stenographically reported for the Indiana State Medical Society, at Indianapolis, May, 1883.

Contribuzione Alla Casuistica della Inversione Dell' Istinto Sessuale. Pel Dott. Guglielmo Cantarano. Medico ordinario del Manicomio provinciale e dei R. Albergo dei Poveri. Estratto dal Giornale *La Psichiatria*.

A Case of Primary Monomania (Primäre Verrücktheit). By C. B. Burr, M. D., Assistant Physician to the Eastern Michigan Asylum, Pontiac. From the *American Journal of the Medical Sciences*, July, 1883.

A Contribution to the Study of Neglected Lacerations of the Cervix Uteri and Perineum. By Thomas A. Ashby, M. D., Professor of Obstetrics, Woman's Medical College of Baltimore, etc., etc. Read before the Clinical Society of Maryland, May 4, 1883.

Ambulance Service in Philadelphia. By De Forest Willard, M. D., Surgeon to the Presbyterian Hospital, Lecturer on Orthopædic Surgery, University of Pennsylvania. Read at the Academy of Music, April 30, 1883.

A Tracheotomy Tube for Gradual Withdrawal, and Report of a Case in which it was used. By H. F. Hendrix, M. D., of St. Louis. (Reprinted from the *St. Louis Medical and Surgical Journal*, August, 1883.)

Professional Jealousy—Its Causes, Consequences, and Cures. By R. Harvey Reed, M. D. A paper read before the North Central Ohio Medical Society, at Mansfield, Ohio, June 27, 1883. (Reprinted from *Columbus Medical Journal* for August, 1883.)

On a Peculiar Cutaneous Lesion (Ulcus Elevatum), occurring during the use of Bromide of Potassium. By E. C. Seguin, M. D. (Reprinted from the *Archives of Medicine*, October, 1882.)

Paralysis in Children, and Paralytic Contractions. A clinical lecture, delivered by Edw. Borck, A. M., M. D., Professor of Surgery in the College for Medical Practitioners, St. Louis, Mo.

A Case Illustrating the Coincidence of Diseases; Cervico-Brachial Neuralgia and Aneurism of the Innominate Artery. By E. C. Seguin, M. D.

Report of the Pauper Insane Commission, appointed to examine into the condition of the Insane in the County Almshouses in New Hampshire.

Diagnosis of Ovarian Tumors. Lectures delivered by Edw. Borck, A. M., M. D., Professor of Surgery, etc., etc.

Medical Supervision of the Public Schools. By L. W. Baker, M. D., Baldwinville, Mass.

Cottage Hospitals. By L. W. Baker, M. D., Baldwinville, Mass.

ADDENDUM.

Dr. Charles W. Stevens has finally been confirmed Superintendent and Physician of the St. Louis Asylum for the Insane. He was the first Superintendent of this institution. He is eminently fitted, by qualities of head and heart and previous experience in the treatment of the insane, to fill this position with credit to the city and advantage to its insane wards.

P Alienist and neurologist
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