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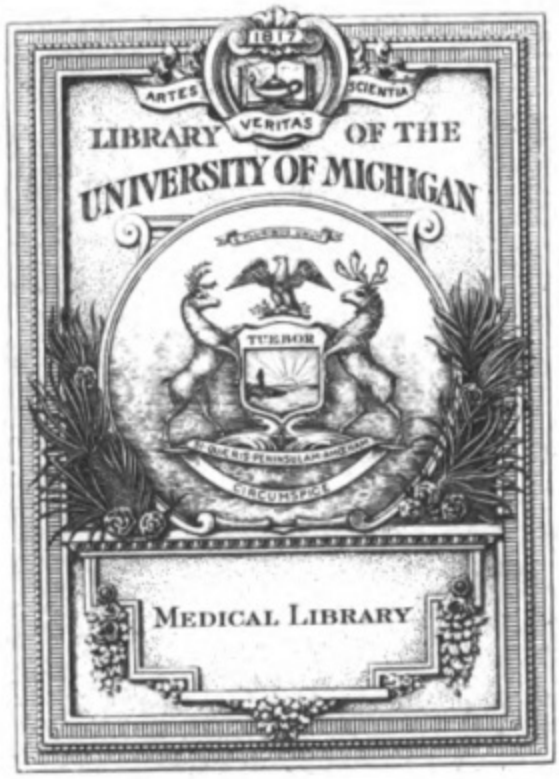

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THE

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 morbosi 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.*

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ORIGINAL CONTRIBUTIONS.

Observations on the Criminal Status of Inebriety.

By T. L. WRIGHT, M. D., Bellefontaine, Ohio.

THERE is a wide difference of opinion, amongst thinking men, respecting the criminal responsibility that should commonly be exacted from drunkenness. The law is pretty well determined in its doctrines and decisions on the subject; yet there are many persons, both in the medical profession and elsewhere, who strongly doubt the rightfulness of many of the legal positions assumed in relation to that question.

"Hallucinations and illusions, which are a common effect of drunkenness, do not seem to constitute insanity when so induced." *

This gives an inkling of the spirit in which the law deals with the crimes of alcohol. Apparently different is the charge following: "If you think there was a distinct disease caused by drunkenness, but differing from it, and that hence he did not know the act was wrong, you will find a verdict of not guilty, on the ground of insanity." †

"The man who is convinced that he is surrounded by

* J. R. McIlraith, Barrister at Law, Middle Temple, London.

† Justice Stephen's Charge.—*Rex V. Davis*, Newcastle, 1881.

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enemies whom he perceives before him, and hears threatening him (through *hallucinations*), will endeavor to injure them, to strike them, to kill them; and should he, through *illusion*, convert the persons of attendants into those of imagined enemies, the most disastrous results might ensue from this error. We are beginning to be aware that there are certain extravagant actions hitherto inscribed amongst the annals of crime, which might be referred to insanity, and especially to hallucinations."*

Drunkenness from alcohol will receive attention in the present discussion, exclusively. Intoxication appears in various forms, all having prominent characteristics peculiar to themselves. Some of the most obnoxious and disabling qualities of drunkenness from alcohol however, are wholly absent in the inebriation that arises from the use of other toxic agents. Special efforts therefore, to distinguish between the intoxication from haschisch, opium, chloral, etc., on the one hand, and the drunkenness from alcohol on the other, are not here necessary.

Nobody has ever satisfactorily defined insanity. For present purposes it may be loosely described as a substantial aberration of mind more or less continuous, involving one or more cardinal particulars, and consequent upon the operation of morbid or toxic forces that are independent of volitional control. In this view of the case, anyone who is drunk from alcohol is, while the drunkenness continues, truly insane.

The law recognizes this fact, and indeed insists upon it. There is, actually, founded upon the uncontrollability of the mind in drunkenness a legal inference or *dictum*, to the effect that *drunkenness is no defense for crime.* It is true that this has the appearance of a most singular inconsistency, when it is remembered that the law is also positive in its declaration that "where there is insanity, there can be no crime."†

But the legal conclusion is reached by a process of

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* Brierre de Boismont: tr. by Hulme, pages 402, 403.

† Judge Noah Davis, in "Med. Jurisprudence of Inebriety," page 129.

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reasoning. It involves an assumption which is incorrect, at least in a vast number of instances. "The law has settled that a drunken intent is just as guilty as a sober one."* There is no pretense that the law has discovered, or proven the equality of the sober and drunken intent; it has simply "settled," in some way peculiar to its own methods, that point. Difficult questions are undeniably settled under favoring circumstances, very often indeed, by the exercise of unlimited power, without much consideration of the merits at stake. But just why the law in civilized and enlightened countries should be permitted to settle any great moral question by a show of physical force is not quite clear. But the law claims that the drunken man is a "voluntary madman." This is a seeming contradiction in terms. A madman is commonly supposed to have been bereft of volition not only in getting mad, but in being mad. There is something beyond human nature in the idea of voluntary insanity—that is insanity brought on through an express purpose to bring it on, as though a mind could, *being in a sound condition*, use its volition to destroy its volition. The assumption is a very questionable one, that a mind, being sound, ever voluntarily places itself in a condition in which it *knows* (beforehand) that it cannot control itself.

The perfect mind cannot conceive of itself as truly and sensitively insane. The drunkard does not believe that he *cannot* control his actions when drunk—although he really cannot. Nor indeed can anyone, judging from drunken actions and exhibitions in others, conclude that, in himself, similar exposures will of necessity take place should he become drunken. The sober *ego* is wholly different from the drunken *ego*. The body is the same—one, but the minds are, for practical purposes, two. A sane mind may speak for another mind also sane, or for itself in the future with some degree of assurance. Their faculties are on the same plane of consciousness,

* Ibid. page 130.

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both by reason of possessing similar powers, and by reason of a similar presentation of surroundings. But a sober mind cannot speak for, or conceive of itself as drunken. The powers of the two states are unlike, and the surroundings are, as presented to them, also unlike. Their planes of consciousness are different and wholly distinct from each other. The minds act as two (one of them being insane); and they can no more interact, or interpret each other, than a sound mind in one person and one age can interact with and interpret an unsound mind in another person and in some other age.

When alcohol is taken to fortify the criminal intent in the commission of offenses, it does not act by directly strengthening a fierce and truculent nature. Alcohol never strengthens, never brightens anything, or any faculty. It always weakens and destroys. It degrades directly all the powers of the mind. But it does not do this *equally;* and thus it happens that while the purpose or will in the commission of crime may be in reality diminished, *abstractly*, by drunkenness, still it may be *relatively* intensified.

The explanation of the manner in which alcohol fortifies (relatively) the criminal purpose is simply this: the grosser faculties and the animal propensities of the physical man are more fundamental and immovable than the finer sensibilities of his moral organization. Hence, while the nervous inhibitory phenomena which alcohol always produces exert very little effect upon the brutish instincts of the mere animal, they very seriously depress and deaden the moral feelings and sentiments. Thus criminality becomes practically relieved of all obstruction—all protest from conscience. "The paralysis of alcohol destroys the very elements of compunction, modifies the natural relations of the moral feelings, depresses the inhibitory powers, and in various ways implants in the human system new and strange impulses and characteristics." *

* See ALIENIST AND NEUROLOGIST, St. Louis, July, 1890, page 299.

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A distinguished authority says in a recent paper: "A long and continued course of poisoning the brain with alcohol will often destroy its power of inhibition in even the strongest and most normal brains, and with the best heridity. Men of splendid powers of self-control have, by continuous drinking, or opium taking, lost their controlling power so as to disregard the common decencies of life. Their word could not be believed, and they became as regards control far below the level of a well-trained dog."* The same author says further: "It is now pretty generally recognized that, as the moral faculties were the last to be evolved, they are commonly the first in brain disease to disappear." Again, this writer declares: "It should never be forgotten that alcohol poisons as well as exhilarates. It affects more strongly the highest brain function of emotion and control."

The formula of the law of America respecting the criminal responsibility of drunkenness has been stated as follows: "He who, while sane, puts himself voluntarily into a condition in which he knows he cannot control his actions, must take the consequences of his acts—and if he is sufficiently sane to conceive the perpetration of the crime, he must be assumed to have contemplated its perpetration."† The same authority remarks: "The medical view that irresponsibility should follow where insanity exists has nowhere been conceded by the law." And another legal writer declares: "A voluntary demon who has produced a condition in himself by his own act, which is not the disease known as insanity, is not excused."‡

There is valid objection to the formidable-appearing phrase—*voluntary demon*. There are no demons abroad in the land, voluntary or involuntary, although there is no lack of bad men. The term was introduced by Lord

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* T. S. Clouston, M. D., Lecturer on Mental Diseases, Edinburgh University, etc.—"Diseased Cravings, Dipsomania and Paralyzed Control." *Quarterly Jour. of Inebriety*, July, 1890

† Hon. Clark Bell.—"Jurisprudence of Inebriety," pages 7, 8.

‡ Judge Noah Davis—"Jurisprudence of Inebriety," page 130

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Coke, in an age when evilly-inclined persons were presumed to come, through choice, under the guidance of certain vagabond devils. These individuals were supposed to be incapable of self-control, but yet responsible for their acts by reason of their associations—in contradistinction to *lunatics*, who, while incapable of self-control, were *not* responsible for their acts. The expression, divested of its Latinized form, is still in use, for the seeming purpose of bolstering up a distinction where there is no difference.

The voluntary demon is either incapable of self-control, and therefore truly insane, or he is merely a criminal who refuses to control himself when abundantly able to do so. Perhaps if some of the time-honored fictions of the law were swept away, Medicine and Law would have less difficulty in agreeing upon the principles upon which criminal responsibility connected with mental alienation, should rest. *Voluntarius Dæmon*, simply signifies—a man who is drunk.

But one great fact remains certain and beyond dispute: the law is right when it assumes that a man drunken from alcohol cannot control his actions.

English laws relating to the responsibilities of the drunken state are about the same as American. The same difficulties are encountered in explaining the differences in the criminal responsibility of a man who cannot control his actions from drink, and of a man who cannot control his actions from other causes. It also becomes apparent, that in pursuing the imperceptible and impossible refinements presented in the investigation, the whole subject is apt to escape from the grasp of the imagination, and the mind is bewildered in a maze of unsubstantial and unsatisfactory figments of the brain and fictions of the law.

Coke upon Littleton says: "As for a drunkard who is *voluntarius dæmon*, he hath no privilege thereby, but what hurt or ill soever he doeth his drunkenness doth aggravate it." That drunkenness can aggravate the guilt of homicide, for example, is a strange conceit. A man whose motive

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is robbery, deliberately plans and executes murder—and chuckles with glee and satisfaction upon the success of his undertaking. Another man, unable to control his actions through drink, is impelled, without rational motive or ulterior design, to commit homicide, and his subsequent remorse is sincere and pitiful. Which of these two criminals should be esteemed the more guilty? But a man perhaps gets drunk to enable him to commit a crime that he has formulated in his mind while yet sober. Such criminality cannot be attributed to liquor: it is only an instrument in the commission of the unlawful deed—just as a knife or a bludgeon might be.*

A case from Vermont is noted wherein it is said: "Voluntary drunkenness will not protect a person from liability for torts, or for crimes committed while in that situation." The reason given for this decision is to the effect, that some person might pretend to be drunk and commit crime; and to head him off, punishment may be imposed upon some other person who really gets drunk and commits crime. The language employed is: "In respect to torts, sound policy forbids that intoxication should be an excuse for crime; for if it were, under actual or feigned intoxication the most atrocious crimes might be committed with impunity." Attention is directed to the obvious lameness of this explanation, induced by putting "actual" and "feigned" intoxication in one and the same category.

It is difficult to see why this doctrine may not be applied to insanity as well as drunkenness. By inflicting the death penalty upon insane homicides, an effectual stop would be put to the proceedings of those who feign insanity in order to commit murder without risk of punishment.

Judge Hale says: "By the law of England such a person shall have no privilege by this voluntary contracted madness, but shall have the same judgment as if he were n his right senses." "If indeed," says Holroyd, J. "the

* Joseph Parrish, "Alcoholic Inebriety," pages 24 to 28.

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infuriated state at which he arrives should continue and become a lasting malady, then he is not amenable." Continue how long? Lasting until when? At what period does the temporary madness merge into the permanent madness—and what is the abstract difference between their capacity of responsibility while actually present?*

In Germany certain superstitious people believed that ghosts of slain troopers were seen from time to time in the night. They were said to appear in uniform and on horseback, and caused great consternation amongst the peasantry. Two laboring men, fatigued with work, seated themselves and partook of some wine they had with them. They became much intoxicated and excited by drink; and they imagined they were surrounded by Swedish cavaliers. They carried sticks with them, as was their custom, and thinking they were battling the Swedish horsemen, they began to strike and knock each other until one of them disappeared. The other, taking up his friend's hat, and thinking it was a helmet of the enemy, carried it in triumph to the home of his companion, who he thought had gone on before him. As he approached the house he cried out: "The devils wanted to take me away, but I have given one of them such a dressing with my stick that they will not come again." He had in reality killed his friend by a blow on the back of his head, fracturing the skull.

"The next day, filled with poignant grief, all he could say was that, having continued to drink with his friend, it seemed to them that they were surrounded by specters on horseback in their blue and red uniforms; and being convinced that evil was about to happen to them, they resolved to defend themselves with their sticks; that, consequently, they both attacked the specters, having heard that when fearlessly confronted they would betake themselves to flight. In the midst of the struggle he

* For many facts bearing on the responsibility of drunkenness in criminal cases, credit is given to a paper on "The Law Relating to Drunkenness," by J. R. McIlraith, London, Eng.

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missed his companion, and the specters seemed to have disappeared."

It is interesting to know that the German laws in regard to the crimes of drunkenness are on a par with those of England and America. The case just described was referred to the legal faculty of the University of Helmstadt. The decision was that: "If any one becomes voluntarily intoxicated, and in this state commits a crime, he must be responsible for it; for the loss of his reason is due to his own act." The man was sentenced to ten years hard labor.

That the above case was far better adapted for review by the medical faculty than the legal, the following enlightened criticism by a distinguished and competent authority, fully substantiates: "If at the time and in the country where this event took place, the doctrine of hallucinations and illusions had been better understood—and the power of those which accompany drunkenness more fully appreciated, the punishment would probably have been less severe."*

The destructive effects of alcohol upon the human constitution may be viewed from an endless variety of points of observation; for these effects are universal. Alcohol assails every element of human character, and every organ and atom of human structure.

The moment alcohol begins to impress sensibility, a material change is perceived in personal aspect and demeanor. The eye for instance is brightened, while the movements become alert and restless. The countenance is, perhaps, at first half smiling, with an arch expression. These appearances may change, and indeed they do change in the most radical and surprising manner, as the period of drinking is prolonged. It is important to know, however, that neither the appearance of a drunken man, nor his movements, ever represent a calm, rational, sound mind.

What is the cause of this brightened eye, this cute and

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* *Brierre de Boismont* —"Hallucinations," Chap. XIV.—In relation to Medical Jurisprudence, pages 25, 26, 27. Columbus, Ohio, 1860.

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cunning look, these airy movements of early drinking? Has alcohol aroused and intensified intellectual vigor? Has it imparted to mind augmented strength, and scope and brilliancy? When men drink to exalt the mental character, to enlarge the mental horizon, to give steadiness and force to mental exposition, are they wise?

The depressing influence which alcohol exerts upon nervous sensibility of every kind by virtue of its anæsthetic, or benumbing properties, is well known and universally recognized. It is not essential to the present discussion, that the injuries inflicted by alcohol upon the nutrition, the oxidation, and the trophic integrity of the organism should be considered. It is sufficient to say that alcohol is sure to debase and deaden sensibility in every department of the nervous system. This of course applies to the bad impression of alcohol upon common sensation, and upon the perfection of the several senses. It is an admitted fact that the acuteness of all the senses is not only dulled by alcoholic influence, but their completeness otherwise is seriously impaired.

As sensation is, so ordinarily will perception be. If things are presented to the mind in a dim and incomplete manner, the mental pictures corresponding will be dim and misleading. Should perception be received as through a haze or fog, the resulting ideas in the mind will partake of the character of such perceptions—they will be indefinite and incapable of leading to rational convictions. If things of the exterior world are pictured upon the mind, through sensation and perception, in false and distorted proportions, they cannot be conceived of in their true and natural aspects. They will appear like huge and and curious phantasms—strangers to the experiences of normal life, imposing false beliefs upon the mind and leading to inconsistent and irrelevant thought, and speech, and conduct.

Now alcohol, through the distorting operations of a nervous system deranged by it, addresses the mind through the senses, in the very way herein described. A

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perception is perhaps presented, that is a caricature of nature. The co-operation of the several senses—also testifying wrongly and morbidly—confirms the mind in erroneous conceptions. The ludicrous pictures of the drunken imagination provoke mirth. The phantoms excite surprise. The imperfections and haziness of sensation, exaggerate the ideas beyond what is reasonable and true; while a comparison of alcoholic travesties with allied rational concepts in memory gives rise to the most extraordinary mental images, and begets no end of silly quips and drunken nonsense. The newly drunken man is at one and the same time in a condition of unbounded amusement and surprise. He is in a new and pleasing, though unreal and fantastic world.

A man recently drunk is not content to keep his strange thoughts and feelings to himself. He takes pains to seek an audience before which to rehearse his paradoxes, his *outre* comparisons, his mental and moral abortions and absurdities. His friends laugh at his ridiculous speech and clownish ways, while others despise them. But everybody perceives that he is drunk, and holds him in derision or contempt. If he is poetically inclined, his written thoughts consist largely of mysterious utterances and allusions—professedly adumbrations of the infinite, the eternal, the Divinity itself. He professes to be equally familiar with God and Satan; and pretends to be quite at home either in heaven or hell; while the feeble admirers of the "perilous stuff" weary their brains in vain endeavors to fathom a meaning where there is no meaning. Drunken literature, eloquence, philosophy, statesmanship, are all involved in similar fogs and mists; or if they ever emerge thence, they spread and extend, like the very gases they are, throughout the known, and unknown universe too, for that matter. To rightly appreciate (not understand) the fustian of drunkenness, the observer must himself be drunk; for its real significance will forever elude the healthy senses and rational understanding of every human being.

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And all this is the sum total and true character of the "brilliancy" with which alcohol invests the minds of those who partake of it. Will it be claimed that this implies a real and substantial increase in intellectual power and mental activity?

Knowledge acquired in drunkenness is necessarily imperfect, distorted, deceptive. The drunken man perceives things in false lights and in unnatural relations. He cannot be a truthful witness; his moral nature is inhibited, and he don't care for truth; while his intellectual capacity is so deteriorated by the toxic properties of alcohol, that he is incapable of perceiving truth.

Language is usually a reflection of the mental condition. The drunkard is full of absurdities and extravagance in his expressions, because his conceptions are indefinite, incongruous and incoherent. He speaks perchance the language of exaggeration, for his ideas are stilted and grown out of rational bounds, through the deceptions inseparable from an indistinct and imperfect sensibility. If he becomes sententious and tries philosophy, his expressions are simply iridescent bubbles, which the point of a little analysis or criticism will effectually and suddenly burst. Should he assay the *rôle* of oratory, his mouthings and high-sounding periods, so far as they are derived from alcoholic influence, will be perceived, on examination, to be pure and absolute emptiness. His pretentious efforts in that direction clothe no useful thoughts, and represent no truly sublime emotions—all is maudlin, mere echoing emptiness.

The drunken mind is, then, an incapable mind. Yet it has ruled nations; spoken with authority and audacity; declared war; fought battles—but always, beyond a reasonable doubt, to the detriment of mankind, and the substantial injury of human rights. The insolence of alcoholic ruffianism habitually overcomes the modesty of true merit. This is about all that need be said respecting the mental *status* of recent intoxication. Its literature, its statemanship, its eloquence—all that it

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has been or can be, are wretched shams and false pretenses.

All this refers mainly to drunkenness in its primary and least offensive stage—when, like a raree-show, it is adapted to attract crowds of laughing and shouting idlers and vagabonds. Of its later phases—when the prolonged effects of alcohol have saturated the organism, and overpowered the brain, by evolving a crowd of new and strange poisons—there is not here space to speak at large. Of those who would study the lessening intellect and departing morality, of the last stages of prolonged drinking—who would look upon the horror and remorse, the starvation and murder of alcohol—the attention is directed to the works of authors who have systematically treated of these subjects.*

These things do not look as though alcohol could ever be useful in *strengthening* the mind. In truth, drunkenness, like insanity, is helpless. It is a condition beyond the sphere of the will, because it is inaugurated and sustained by physical causes, over the operation of which mind can have no authority. The insane man is dominated by a local disease, the character of which he cannot truly know. Drunkenness, likewise, is the effect of a toxic agent, which cannot be modified in its nature by any mental effort whatever. The drunken man always believes in *himself*. To his mind there is no such thing as doubt. The man with an insane delusion has the same characteristic—every morbid belief has to him the force of demonstration—anything contrary to it being inconceivable to his mind. Sane people doubt, not drunkards or lunatics.

Thus, unmanageable mental incompetency is ever present in the drunken state, and it varies in degree as intoxication is more or less profound; it being implied, of course, that consciousness is not extinct. The mind is sure to be perceptibly impaired whenever the alcoholic influence is sensibly present.

* See, especially, the books of Richardson, Kerr, Parrish, Carpenter, Kowalewsky, and a little work of the writer's, entitled "Inebriety;" also the writings of Crothers, Clouston, Hughes, Mason, Mann, Baker, and others.

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The mental aberration of drunkenness, however, is not dependent exclusively upon faults of nervous sensibility, and the direct deterioration of nervous function. True, the impairment of the senses, both in respect to completeness and accuracy, is in itself sufficient to cause serious disturbances in thought and conduct. But in drunkenness, to the defects of sensation and perception already noted, there should be added instability of movement, and inco-ordination of function amongst the several great primary departments of the human organism. If the misinformation and the false beliefs, arising from imperfection in the perceptive faculties, mislead the judgment and entice the mind astray, how much more do misconceptions conduce to mental confusion, when they are themselves misapplied through an imperfect interaction of the motor, and rational, and moral powers? To accomplish the behests of individuality, to complete the impersonation of self, there must be symmetry of function —unity of purpose, both in regard to time, and in regard to events, between these three component elements of human nature, namely—movement, reason and motive, or, as commonly written—body, mind and soul.

The defects in muscular power and movement in drunkenness are obvious to the most casual observer—and so, indeed, are the defects in ordinary sensation. It is perhaps needless to say that similar incompetencies beset the nervous system elsewhere, so that there is impossibility of common consent, and of united effort on the part of the chief departments of the organism, in effecting any rational design.

When intoxication is present, and the power of alcohol is in authority, there is an absence of normal co-ordination in the functions of the main exponents of human character. The mind and hand, for example, do not readily respond to the calls of each other. The dormant sensibilities fail very often to notify the intellect of the necessity of its co-operation with motor or muscular activity. The torpid and lifeless touch will perhaps press

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with unconscious force upon the trigger; and, the senses being incapable of alarming the rational faculties, or of receiving alarm from them of the impending danger, the weapon is unexpectedly discharged, and possibly a tragedy is enacted.

The inhibitory power exerted by alcohol on the acuteness of sensibility, and of the moral nature, is very likely to withdraw the supervision of that nature from conduct. Thus, the animal instincts and brutish propensities are left free to revel in vicious and lawless ways, unrestrained by their natural monitor.

A noted criminal case in St. Louis, Missouri, affords an example illustrating the doctrines herein set forth. A young man who was in the habit of procuring jewelry from his grandmother in order to pawn it for means to buy liquor, on one occasion, when deeply intoxicated, and greatly disordered from prolonged drinking, placed his hands upon her person and abstracted her watch; he at the same time secured her finger rings. She was an aged and feeble woman, and suffered much from asthma. She died under this treatment, and the drunkard was horrified the next day when arrested and informed of the facts. These occurrences took place at night after the woman had retired. The old lady and her grandson were the greatest of friends, she being his kind refuge and protector when in trouble from drink.

While the moral sense of this man was probably latent, there is no likelihood that the act was prompted by malicious or even criminal motives. The component elements of the human character were in him distracted in their mutual relationships. There was absence of symmetrical activity between his mental, moral and muscular capacities. The motor system was materially impressed by the anæsthetic properties of alcohol. The muscular sense itself was dull and inert; and the muscular force employed was, without doubt, greater than was supposed or intended. The mind was unable to rightly measure the power of the grasp imparted to the hands.

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In this case it is possible there may have been two defects in the co-ordination of function amongst the great distinctive constitutional powers; one being latency in the sense of muscular force, and the other, abatement or absence of moral sensibility. When circumstances do not point to criminal intent, such events as these are apt to be classified as accidents. But in truth they are not accidents. They are the inevitable consequences of mental impairment dependent upon the poisonous properties of alcohol. Unity of purpose and concurrence of function are thwarted or destroyed. The mental powers are depressed as well as deranged. No mind can foresee the occurrence of the so-called "accidents" of alcoholic incongruity of function, and no mental power can prevent them.

There is a peculiar state of mind called *trance*, that is not unusual in drunkenness.* It may appear in the midst of a moderate indulgence in alcohol; although it is more common after deep potations. It is a condition not necessarily consequent upon alcoholic influences, although alcohol is a frequent cause of its appearance in certain constitutions. In alcoholic trance, consciousness is but partially influenced by the physical surroundings. It is in a great degree associated with certain states of mental abstraction, and with automatic life—the things of the life of common relation being blanks in memory when the trance state has passed away. Here is a mental situation wherein the fitness of things, as apparent to ordinary observation, is not clearly noted. It may be supposed, without violence to probability, that some glimmering of ordinary sensibility and life, mingling with the suggestions of a cotemporaneous automatic existence would arouse strange incentives and evolve unconscious motives greatly at variance with those of ordinary rational experience. It is certain that crimes, inexplicable in atrocity and motive, are not infrequently perpetrated by drunkards during the trance state.

* Great credit is due to Dr. T. D. Crothers, of Hartford, Conn., for his researches and valuable suggestions upon the subject of *Alcoholic Trance*.

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The precise rise and progress of the criminal intent—the actual incitements to crime and murder that are associated with the singular condition of the mind known as *trance*, cannot probably ever be known. For, upon "awaking," that is, when consciousness again becomes normal, little, and sometimes no remembrance of its trance condition is retained. It is highly probable, however, that both imperfection in the perceptive faculties and absence of co-operation in the mutual interaction of the predominant forces of the human organism unite in producing unnatural and dangerous courses of thought. Here there is no normal consciousness, no rational intent, no responsibility.

1. Drunkenness appears to be true insanity.

2. It is an insanity augmented and intensified by several efficient causes of mental disorganization operating together, and in the same direction.

3. It is an insanity unbroken by lucid intervals, for there is no abatement of the toxic impression of alcohol as long as that poison remains in the system.

4. Drunkenness is not able to hide itself, or even disguise its own features—in other words, the drunken man cannot control his actions.

5. The law declares intoxication to be a crime, yet it affords and protects facilities for unlimited intoxication.

6. The law declares that criminal courses shall not excuse other crimes growing out of them; yet it provides the conditions for the establishment of criminal courses.

7. The public in its aggregate capacity knows that drunkenness is unable to control its own actions—yet by its permissive attitude respecting drinking resorts, it panders to the morbid, or, possibly, vicious appetite for intoxication—thus becoming itself materially responsible for the crimes of alcohol.

8. When the law declares that *voluntary drunkenness is no excuse for crime*, the word "voluntary" becomes amenable to criticism. When the dipsomaniac, or even the vicious idler, is invited, lured, seduced and beguiled

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into drinking shops by the blandishments and the sensuous attractions of such places, the public, under whose auspices they are conducted, is a party to the inevitable results. The diseased or the perverted will, yielding to temptation under such circumstances, should not, in fairness and honesty, be esteemed to act with freedom; to act *voluntarily*.

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Insanity in the Colored Race in the United States.*

By A. H. Witmer, M. D., Washington, D. C.

THE term colored is used because it is probable that there are no full-blooded African negroes in the United States at this time, at least none who were held in bondage; and as a class they cannot be called negroes, for the race is now a mixed one, and the term colored race seems to be the most comprehensive, and is the one generally accepted and used. We limit our consideration of insanity in the race to the United States of North America, since in this country alone, so far as I know, has the subject received the attention of the statistician, because I have not been able to discover that the disease has obtained recognition among the native African negroes.

Previous to the Civil War of 1861-65, the subject received but little public attention, and many intelligent people, native to the Southern or slave-holding States, who owned slaves, have told me that while they had known of colored idiots and epileptics before the war, they never had heard of an insane colored person. This assertion can be readily believed when the federal census of 1860 reports only 766 colored insane in the United States out of a population of 4,441,830.

The first public provision for the care of colored insane persons was made in connection with the Government Hospital for the Insane, at Washington, at that time under the direction of the distinguished alienist, the late Dr. Charles H. Nichols, who by authority of the national congress, erected and furnished a separate building for them, far in advance of the needs of the time, and which, though several times enlarged since then, is still used for its original purpose. Apparently the only other effort in the direction of providing for this class of defectives, was

* Read at the Tenth International Congress at Berlin, August, 1890.

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that made in 1856 by the trustees of the Mississippi State Hospital, and renewed by them and their philanthropic superintendent, the late Dr. A. D. Williamson, in 1858, who in his report to the governor of the commonwealth, while urging the necessity of increased accommodations for the insane, said, "I cannot in this connection fail to call attention to the wants of the blacks. It has been the pride and boast of Mississippi, and I might say of the entire slave-holding region, that the negro receives all proper care for the alleviation of his physical diseases, but it is a lamentable fact that but few, if any of the States, have as yet made any provision for taking care of those among them who might become insane."

The Government Hospital for the Insane was opened in January, 1855, to receive the insane of the army and navy, together with the indigent insane of the District of Columbia, with others indicated in the organic law, and the records of that institution show, that during a period of seven years and six months, from that time to June 30th, 1862, the year in which emancipation was proclaimed, 58 colored patients (27 males and 31 females) had been treated, and that out of an estimated population of 16,000, 21 (5 males and 16 females) remained under treatment at the latter date.

The remainder of the 766 colored insane reported by the census of 1860 were distributed among the several States, and such as were slaves and were not cared for in hospitals, were in most instances, specially provided for in separate cottages, in the slave colonies of the plantations, and were under the observation of the physician employed by the owner to look after the bodily ailments of the slaves.

Having given, as accurately as can be ascertained, the number of colored insane in the United States just before the emancipation of the race, and having referred to the attention the subject of their care and treatment had received previous to that date, we come to the most

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eventful period in the history of the recently liberated people, namely, the last years of the Civil War and those immediately following the cessation of hostilities. Unfortunately, during all this trying transition period, which extended over an interval of about five years, there are no reliable statistics to indicate how many colored insane there were in the country or what treatment they received. Immediately after the war there was naturally an increase in the colored population of some of the Northern or non-slave-holding States, particularly those on the border, but the increase in the number of the colored insane attracted no particular attention, except in the State of Ohio, which in 1866, through the efforts of the late Dr. O. M. Langdon, then superintendent of the well-organized hospital for Hamilton county, situated near Cincinnati, was the first State to make separate provision for insane people of color in connection with the Hamilton county institution, known as Longview.

The reports of the State institutions of such former slave States as were financially able to at once re-organize their hospitals, evince a great desire on the part of the trustees and the superintendents to increase the capacity of their buildings for the especial purpose of accommodating this new class of defectives and dependents. They also show that a fair proportion of the recent slave population enjoyed the benefits of care and treatment in these hospitals.

I have reviewed with painful interest these reports of my older brethren and colleagues, and I cannot refrain from saying here, that the complete history yet to be written of the subject under consideration, will be faulty and biased if it fail to accord due credit and honor to the humane and noble men of the medical profession in the late slave-holding States, who having selected psychiatry as a specialty, devoted mind and body to the work, and heroically labored, sometimes without remuneration, to alleviate the sad condition of the insane in their communities during the years succeeding emancipation,

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without regard to the previously existing social conditions.

The national census of 1870, which was notoriously defective and incorrect, reports out of a total population of 4,880,009 colored people, 1822 insane. This number must have been much below that actually existing, for the reports of the different State hospitals, and those of the greater municipalities, show that a large proportion of these were at that time under treatment; and yet, the trustees and superintendents of the hospitals in the States which had so recently been devastated by war were appealing to their legislatures to provide for the enlargement of their old institutions or the construction of new ones sufficiently commodious to "give the now ill-lodged lunatics of color a housing and treatment," and enable them to accord deserved relief to those "who now languish like felons in our jails." Sentiments of humanity such as I have just quoted are found in many reports of this period. We learn also from them that the hospitals of the slave States, were all organized on a fair working basis, and that they were supported as liberally as the crippled resources and finances of that section would permit. It appears that the colored insane were admitted as vacancies occurred in the quota of the counties in which they resided, cases of recent origin receiving first consideration, and next, those in the order of the date of application for admission.

Virginia was the only State that was able, with some aid from the national government, to maintain a separate establishment for the colored insane near the city of Richmond. In those States where it was impossible for financial reasons, to organize and maintain separate institutions for the colored insane, and where they were admitted to the State hospitals, there was no mixing of races. This was provided against by assigning the colored patients to detached buildings, often well suited to the required purpose, or where suitable detached buildings were not available, wards in the main structure were set apart for their exclusive use.

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From 1870 to 1880, the time of the chief medical officers of the insane hospitals of the Southern States was more occupied in devising ways and means for the rational custody of all classes of insane who needed their care, than in a careful study of the development of mental disease in the colored race, but overburdened with responsibilities as these good men were, and often without adequate medical assistance, some of them found time to give to the world the results of their intelligent and practical observations concerning the nature and treatment of the disease.

I do not wish to be considered invidious in my reference to the living or the dead, but I must in justice say, that so far as I have been able to observe, the best information on the subject as it was regarded at that time, or viewed prospectively, is that left to us in the writings of that able man, the late Dr. Compton, of Mississippi. He was endowed with a diversity of talents, and after having devoted a number of the valuable years of his life to the care of the insane, he withdrew from the field of public usefulness early in 1878, shortly to perish a victim to the pestilential epidemic of yellow fever that prevailed that year in most of the States bordering upon the Gulf of Mexico.

All persons engaged or interested in the care and treatment of the colored insane during this decade, realized that there was a large increase in the number under treatment, and of applications for admission to the hospitals, but no one was prepared for the remarkable revelations of the tenth national census, taken in 1880, which reported 6,157 insane, in a total colored population of 6,580,793. This very great increase in the colored insane in proportion to their population, as compared with the census of the decade immediately preceding, at once excited in those whose duty it was to provide for them, a new interest with more scientific tendencies than had previously prevailed. From this time on the causes

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of insanity in the colored race, the susceptibility of the latter to the invasion of the disease, its curability in the results of treatment and of pathological research, were topics which received thoughtful consideration in the reports of those institutions in which insane colored people were treated, while the question of custodial care, still a very important problem, continued to be enlarged upon.

In our *résumé* of the history of insanity in the colored race we have comprehended a period of thirty years, at the beginning of which the subject had been little thought of. Before a quarter of a century had elapsed, it had grown to be one of primary interest to the philanthropist and psychologist, and at the present time, after the expiration of twenty-seven years, during which the former slave has been free, the question becomes one of magnitude to the people of the United States; for in these years the disease has increased so rapidly that it is quite evident that the proportion of colored insane to the entire colored population is fast approximating that of the white population, which was reported by the census of 1880, as one in each five hundred.

What the census of 1890, which is now being taken, will reveal, no one can tell.

What has caused this great increase of mental disease in the colored race? Briefly, a combination of causes, the stirring events, irregular habits, the new and exciting requirements incident to their emancipation, life of freedom, and advancing civilization.

To explain: they are naturally timid, suspicious and emotional, sensitive to the calamitous effects of war, excitement of politics, and the influences of religion, to the agitations of which they have been greatly exposed during the past twenty-five years.

Previous to their emancipation, the health and morals of the slaves were carefully preserved, and inebriety, excessive venery, and venereal diseases were closely

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guarded against; since their liberation, through over-indulgence, exposure and ignorance of the laws of health, many have suffered from the effects of these fruitful causes of insanity. Untutored in a knowledge of the world, and without a sound philosophy or a religion deeper seated than the emotions to sustain them in adversity, many minds have failed under the constant strain of their advancing civilization.

There is considerable diversity of opinion with reference to the difference in types of insanity affecting white and colored people. My impression is, *cæteris paribus*, that they are essentially the same in both. The more active forms of insanity, usually classified under the term of mania, are, for obvious reasons, most frequently found in hospitals. Those forms included in the classified melancholias, often escape recognition and proper treatment, for the race superstitions lead the friends of persons suffering from this form of disease to conceal the true conditions, and to attribute the mental disturbance to the occult influences of "voodooism," "conjuration," or evil spirits, the effects of which have to be counteracted by some fetish, charm or "mystic spell." While being thus "doctored," the patient either dies of inanition or sinks into the harmless fatuity of terminal dementia, in which state he can be cared for at home.

Paralytic demeptia is a well defined and readily recognized form of disease in the colored race, though perhaps the delusions of grandeur, usually present, are not so exalted as in white paretics. The physical signs are equally well marked, while pathological investigation invariably confirms the diagnosis.

Suicidal tendencies are unusual among people of color, and in an experience of twenty-two years, but one case has come under my observation, and he strangled himself to death in the criminal department of the hospital with which I am connected, with part of a sheet attached to the head of his bed.

Heredity has played little, if any part, in causing

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insanity in the colored race. It is too early in the history of their freedom for the degenerating effects of civilization to be manifest in the progeny of the recent slave. The opium habit and the ill effects resulting therefrom, I believe, are rarely met with.

The relative curability of insanity in the two races, is a question upon which there are also differences of opinion. My own belief is that where the circumstances are similarly favorable, the results of treatment will be about the same in both.

In confirmation of the opinions advanced, I here introduce a condensed table of statistics, compiled from the records of the Government Hospital for the Insane, where, owing to its situation at the capital of the nation, and its methods of administration, the results of clinical observation are most likely to have been systematically recorded from its beginning.

There were admitted in the period from January 1st, 1855, to June 30th, 1889, 906 colored persons (532 males and 374 females) whose mental diseases were classified as follows, viz.:

Acute mania	365
Chronic mania	149
Melancholia	93
Dementia	147
Senile dementia	29
Epileptic dementia	50
General paralysis of the insane	38
Imbecility	23
Dipsomania	12
Total	906

This table shows that there is no race immunity from the attacks of the ordinary types of insanity, and that the manias are largely in excess of any other form.

Discharges of colored persons from January 1st, 1855, to June 30th, 1889:

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	Males.	Females.	Total.
Recovered - -	165	90	255
Improved - - -	49	49	98
Unimproved - -	12	3	15
Died - - -	192	140	332
Total - - -	418	282	700
Remaining under treatment June 30th, 1889 - -	114	92	206

This table in all its details compares favorably with similar tables given in reports of hospitals where a like number of patients, irrespective of race or color, have been treated.

Summary of total admissions of colored persons from January 1st, 1855, to June 30th, 1889:

	Males.	Females.	Total.
Percentages of recovered -	31.02	24.06	28.15
Percentages of improved - -	9.21	13.10	10.90
Percentages of unimproved -	2.63	1.07	1.99
Percentages of died - - -	36.09	37.43	36.65
Percentages remaining - -	21.05	24.34	22.31
Total - - - - -	100.00	100.00	100.00

If the statements of distinguished alienists that of all the insane who receive treatment not more than one-third recover is accepted, this table, showing 28.15 as a total percentage of recoveries on admissions, needs no further comment at this time.

Under direction of Dr. Godding, the medical superintendent of the institution, the patients have been photographed for clinical purposes and for future reference in the further study of mental and nervous diseases; and more for the purpose of illustration than for scientific demonstration, I introduce photographs of a few characteristic cases, with apologies for all artistic defects.

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No. 1 represents a typical case of chronic circular mania, and shows the patient while in his most comfortable condition.

No. 2 represents a case of acute mania (in a deaf mute) with delusions with reference to sex. He thought himself a mother deprived of her offspring.

Nos. 3 and 4, two well defined cases of paretic dementia.

No. 5, a case of epileptic dementia, induced by injury to head, abnormal pride and self-esteem being marked features.

No. 6, a case of chronic mania with perversion of all the moral instincts.

No. 7, a case of chronic mania (the suicide referred to).

In the line of investigation and the preservation of data which may be of value to the future scientist, under the direction of the medical superintendent, my colleague, Dr. Blackburn, pathologist of the hospital, has been keeping, after a method of his own, a record of the measurements of the crania in all cases in which he has performed autopsies. Thus far, his work in this direction has done little more than to confirm more fully the work of the older craniologists, who demonstrated that there is a material difference in the shape and dimension of the head of the Caucasian and colored race. The distinguishing features of the two races, in this particular, are well shown by comparing the diagrams of the crania of twenty-four individuals, the entire number recorded in this manner, and a like number of crania of whites, taken indiscriminately from the records.

To conclude, the African negro and his descendants have occupied a prominent place in the history of the United States of North America. Much has been done for the race and more remains to be done, but grave disturbances are no longer feared by the American people.

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Apropos to the subject, in anticipation of the prospects of America, one hundred and sixty years ago, Bishop Berkeley wrote, "Westward the course of Empire takes its way." The enlightened world turned to view the fulfillment of that prophecy.

Behold the West to-day! The empire of intellect as exemplified in the nineteenth century, in its march has held its true course, until the civilization of the occident encroaches upon the barbaric customs and traditions of the orient, pushing them to the wall and dragging them from the temples.

Less than half a century ago, Victor Hugo gave to the world this prophecy, "Africa will be the continent of the twentieth century." The dawn of its fulfillment is seen in the closing hours of the present century; but who can tell, what the twentieth century's civilization will do for Africa, as it disseminates from the path blazed by Stanley through the boundless forest of the dark continent?

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The Evolution of Delusions from Imperative Conceptions.*

By Jas. G. Kiernan, M. D., Chicago,

Fellow of the Chicago Academy of Medicine.

THE rapidly increasing literature anent imperative conceptions exhibits a tendency to regard these as distinct in kind from other morbid mental phenomena. This is illustrated in a recent contribution by so conservative an alienist as Hack Tuke,† who claims that while imperative conceptions frequently occur in persons with markedly insane taint, this is not necessarily a factor. Common to all these cases is the bondage under which the victim lies to pursue a certain trivial or disagreeable line of thought associated with sanity in other respects. It is easy to see how this view should have gained dominance, since the essential feature of the imperative conception is its recognition as an abnormality by its victims, and its relative frequency as compared with other abnormal mental manifestations.

The intimate relation between this phenomenon and delusions however strongly impresses the student of these in the insane. Some years ago‡ I reported a case in which, as later observed, the transition was clearly traceable.

Case I. was that of an Irish-Celtic female who had been an intelligent, modest, affectionate wife up to the time she was attacked by typhus fever, accompanied with high temperature and delirium. On recovery therefrom there was observable an hitherto absent coarseness and a tendency to malicious mischief toward her husband, whose sense of propriety she took an especial delight in outraging. She indulged in sprees, not because she liked alcohol, but because the shock given to her husband

* Read before the Chicago Academy of Medicine.

† *British Medical Journal*, August 23rd, 1890

‡ *Journal of Nervous and Mental Disease*, 1886, page 168.

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caused her exquisite pleasure. Her conduct was so demonstrably out of accord with her surroundings that the trial jury readily found her insane despite the outrageous immorality on which the diagnosis was chiefly based. In 1885, when she passed from my observation, she clearly recognized the nature of every act she had committed. She gave the following description of her case: She is "insane, a thief and a liar," and from the "nature of her mind," she believes it all to be curable by medicine. Sometimes she has "weak spells of mischief," which she can control if people do not look down on her and treat her as a "bad woman." She displays great talent at repartee. At one time she took great pleasure in pulling hair and soiling clothing. Later she explained that she had a "great power" on her to do this. The "will part of her mind was weak," but "kindness and doctor's talk about her insanity" made it stronger when she had "weak spells of mischief" only. She has "strong spells of secret love," when she smashes windows to feel "happy" from seeing the "blood run" from her cut fingers. These are evidently erotic attacks. She uses obscene language if she cannot smash glass and see the blood run. She is healthily depressed after these attacks from a sense of shame, for her former modesty for the time being dominates her. While it is evident that her acts are performed under the influence of imperative conceptions, these acts are often very complicated. For example, she took the window from its frame and noiselessly put it over the door transom, suspending it by a sheet. By the time the attendant could reach the room she would be in bed, apparently asleep. At nine o'clock one night, she noiselessly took a pail apart and left each stave adroitly balanced on the transom of the door.

Her "strong spells" came on suddenly like "fits of the falling sickness;" she "knows what she is about, but can't help it." She does "not hear voices nor any nonsense of that kind," but this "power of the strong spells" comes on her in "thoughts like fits do over people with the falling sickness."

These spells are preceded by a 'dull head," and then she "knows that the power of the strong spells" is coming on.

This "dull head" was evidently of the type of that patient of Conolly Norman,* who was a victim of "grüb-

* *Journal of Mental Science*, October, 1888

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elsucht" (prying mania), he had a "sense of numbness," of "emptyness;" a "drumming, stinging pain on the vertex; a stupid feeling, with a dreadful buzzing sound in the ears." These symptoms have raised a suspicion in my mind that labyrinthine vertigo may underlie some states of mental uncertainty. Four years later, in 1889, when my patient again came under care, she was morally obtuse. The eroticism had become open indecency, unattended by glass-smashing, except at rare intervals. Markedly systematized persecutional delusions had developed, which were accompanied by hallucinations. The patient's logic was now exceedingly perverse. She no longer recognized the abnormal nature of her imperative conceptions, and acts previously due to them were now the outcome of auditory hallucinations.

A case in which another stage of the transition from imperative conceptions to delusions occurred, is cited by Prichard* from Jacobi:

Case II.—The patient had the delusion that a person was concealed in his body, with whom he conversed. He often perceived the absurdity of this idea and grieved in acknowledging and reflecting that he was under so groundless a persuasion but could never get rid of it. It was curious to observe how, when he had but an instant before cried, "What nonsense! Is it not intolerable to be so deluded?" and when the tears accompanying these exclamations were still in his eyes, he began to talk apparently with entire conviction about the whisperings of the person in his belly who told him he was to marry a princess.

The conversion of the imperative conception into a delusion proceeds in the manner outlined by Laségue† in his study of consecutive hallucinations.

The patient reasons that among the numerous ideas which strike him, there are some, the origin of which he recognizes and some which he does not. There are then for him two individualities, one of which is himself and the other is a "he" which is and is not himself, but a species of parasitic being which has taken control over him. It is "he" who commands, maintains and ordains,

* "Treatise on Insanity," page 34.

† *Annales Medico-Psych.*, Jan.-March, 1881.

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and the patient is unable to detach himself from this parasite. How has this new "*ego*" obtained control over his thoughts and imposed on him its will? By the the ordinary process of thought? No; but by something or someone which speaks to him. When the patient has obtained this formula he has the explanation of his condition. Auditory hallucinations form as a mode of communication between his thoughts and the parasite which interferes in his existence. It is an elaborated transition between the ideas of self and the ideas of another.

The further transition of hallucinations thus formed is excellently illustrated by cases reported by Séglas,* Kurella,† Workman‡ and myself.§

CASE III.—(Séglas): The patient heard epigastric voices which sometimes obliged her to pronounce certain words against her will. At times she felt these voices were spoken in her mouth and she was constrained to move her tongue but her mouth remained closed. She understood what they said from the movements of her tongue.

CASE IV.—(Kurella): The patient, a persecutional, delusional paranoiac, believed that a demented fellow-patient could impress words on him. Of these, bystanders at the time of impression were not aware, while the victim was.

CASE V.—(Workman): A female patient believed that the devil had taken up his abode in her mouth and carried on a conversation to induce her to do evil.

CASE VI.—(Kiernan): The patient developed from certain epigastric sensations a delusion that he had a "doctor" in his belly, who was constantly talking to him. The sound, however, did not come through his ears, but through movements of his tongue. A step further and the parasitic "doctor" would absorb his host.

The phenomena denominated by Meynert, "delusions of memory," result from imperative conceptions. An

* ALIENIST AND NEUROLOGIST, Vol. XI.
† *Centralbl. f. Nervenheilkunde*, Oct. 1, 1889.
‡ ALIENIST AND NEUROLOGIST, Vol. XI
§ *Journal of Nervous and Mental Disease*, 1879, page 90.

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imperative conception is remembered not as an unreality, but as a fact. This mental state closely resembles that produced in an hypnotized person when "suggestions" made during the hypnotic state are remembered after consciousness is regained without recollection of its origin. The aid these delusions of memory give to the development of delusions from imperative conceptions is very patent.

For the production of hallucinations from imperative conceptions, in the case first cited, it was only necessary that the relatively healthy mental background become distorted; that the mental "chorea," so to speak, become a mental "epilepsy." Such transformation occurs in imperative conceptions in an otherwise healthy mind. Spitzka* reports a case wherein after years of alternate recovery and relapse, the patient, who at one time recognized the absurd nature of her ideas, gradually came to speculate on the possibility of these being produced by someone inimical to her. Imperative conceptions, on the other hand, are often recognized as such by paranoiacs. In the famous case of Haslam†, the "air-loom" was used in "dragon-flying," whereby an idea was lifted into the brain, where it undulated for hours together; the victim was unable to rid himself of an idea so insinuated. The "air-loom" was also used in "lengthening the brain." As the cylindrical mirror distorts the countenance, so this distorts ideas, and the most serious subjects are made silly and ridiculous. The "air-loom" was also used in "thought-making;" while one of the conspirators sucked at the brain, another pressed into the vacuum ideas very different from his real sentiments; thus his mind was physically enslaved. Dr. Harriet C. B. Alexander‡ has had under observation the case of a female paranoiac, who had obscene thoughts enforced on her by electricity and was thereby compelled to utter them.

Hallucinatory phenomena of paranoia may long exist

* "Manual of Insanity."
† ALIENIST AND NEUROLOGIST, Vol X.
‡ ALIENIST AND NEUROLOGIST, Vol. VIII.

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unassociated, side by side, with imperative conceptions. Dr. Theodore Diller* reports the case of a paranoiac who after ten years of demonstrable insanity, had not connected her "inward promptings" with hallucinations.

The physical substratum of these states has been pointed out by Spitzka,† who says:

Meynert, many years ago, called attention to the presumptive physiological *role* of certain arched fibers, which are known to unite adjoining as well as distant cortical areas with each other. I should, if asked to point to the chief factor on which the higher powers of the human brain depend, lay less stress on the cortical development, as such, than on the immense preponderance of the white substance, due to the massive associating tracts. Although the projecting tracts are also larger in man than in any other animal, yet so great is the preponderance of the associating mechanism that the elimination of the former would not reduce the white substance of the hemisphere by one-half its bulk. Both projecting and associating fiber masses increase in a nearly geometrical progression as we pass from the lower animals to man; but the ratio of progression of the associating fiber masses exceeds that of the projecting tracts. There are certain convolutions which are almost exclusively connected with *fibræ arcuatæ;* that is, with associating tracts, and which enjoy but little direct connection with the bodily periphera. It is reasonable to believe that such cortical areas, so connected, play an important *role* as a substratum of the abstractions. Such cortical areas and their subsidiary associating tracts, bound into the still higher unity of the entire hemisphere, constitute the substratum of the metaphysician's "*ego*." A disturbance of the intricate relations which are involved in the material basis of the "*ego*," must be accompanied by a disturbance of the "*ego*," or may even render an "*ego*" an impossibility. It is on accurate connection of projection areas with projection areas, and of these with "abstraction" areas that the faculty of logical correlation must depend. The correction of the countless errors made during a lifetime is possible only by an influence analogous to inhibition, exercised by the association fasciculi, and the proper aim of every really educational system is to develop this control of the various cortical screens on each other; a correction which, with approaching maturity, is delegated to the "abstraction" field.

Conolly Norman,‡ discussing the psychic basis of imperative conception, points out that:

"Grübelsucht" (prying mania) consists essentially in the possession of the mind by an imperative mode of thought taking the form of

* ALIENIST AND NEUROLOGIST, Vol. XI.
† ALIENIST AND NEUROLOGIST, Vol. VIII., page 300.
‡ *Journal of Mental Science*, 1888.

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perpetual interrogation, a constant urgent morbid impulse to inquire into and investigate everything, an incapacity to accept contentedly the ordinary postulates of knowledge, and finally a total inability to fix attention upon anything except the spinning of an endless web of meaningless questions.

It seems to me, however, that this condition is not an active obsession, like an imperative conception properly so-called, but a disturbance of the "*ego*," leading to uncertainty, and hence, to attempts to resolve this uncertainty. In imperative conditions, properly so-called, there is both the uncertainty and an active obsession. Disturbance of the "abstraction field" results in the uncertainty underlying the "abulia" ("will-power loss") of melancholia and "grübelsucht." Ordinarily, the functions of the "abstraction field" are performed in what may be termed an automatic manner. Physical exhaustion and other states of constitutional disturbance may destroy this automatism and the individual becomes actively conscious of the will-power needed to control conceptions constantly received from sense impressions. Upon the degree of weakening depends whether simple uncertainty, the morbid analysis of "grübelsucht," or the well-marked imperative conception with its transformation into the imperative act, result. If the "abstraction field" be still further involved, the phenomenon described by Laségue results, followed later as the parasitic "*ego*" gains dominancy, by delusions of personality.

It is usually assumed that the "*ego*" is a centralized entity when in reality, as Ribot* points out:

The "*ego*" is a co-ordination. It oscillates between two extreme points—perfect unity and absolute incoordination else it ceases to be—and all the intermediate degrees exemplified without any line of demarcation between normal and abnormal, health and disease; the one trenching upon the other. Wherefore the "*ego*" in the psychological sense is the cohesion, for a given time, of a certain number of clear states of consciousness, accompanied by others less clear and by a multitude of

* Works Humboldt Library.

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physiological states which though unaccompanied by consciousness are not less, but even more effective than the conscious states.

If the condition resulting in imperative conceptions occur in an otherwise healthy mind the conception may never develop into a delusion but disappear with improved health. In states of systemic exhaustion, as in the case first cited, true impulsive insanity may result, developing into delusional insanity with impulsive acts, based on hallucinations uttered by a parasitic "*ego*." Later still this parasitic "*ego*" may gain dominance and, as in cases observed by myself* and Langlois,† the patient, recognizing the improper nature of certain acts, punishes the parasitic "*ego*" by beating his own head.

The favorable prognosis in cases of imperative conceptions given by Spitzka‡ and Conolly Norman‡ will depend on the neuropathic state of the patient. My experience agrees with that of Tuke,§ who says that while prognosis is not, as a rule, favorable, and the particular obsession cannot be gotten rid of, still the patient might pass for sane in the society in which he moves. Spitzka's case, already cited, demonstrates that frequent relapses tend to weaken the mental background and predispose to delusion. This is borne out by a case reported by Dr. Harriet C. B. Alexander.‖

Case VI.—A hereditarily neurotic unmarried girl came under care for mysophobia. She had a patulous capacious vagina and was, in all probability, addicted to masturbation. She was much exhausted physically and suffered from profuse leucorrhea. On the treatment of this last with boracic acid and the general use of tonics, she recovered from the mysophobia, but it returned on temporary exhaustion from a moral shock, which produced amenorrhea. She regained health under electrical treatment, but overwork once more brought on her mysopho-

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* *Detroit Lancet*, Vol. V.

† *Annales Medico-Psych.*, T. VI., S. IV., page 80.

‡ Op cit

§ *Journal of Mental Science*, 1890.

‖ *Medical Standard*, Vol III.

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biac ideas. She is under treatment with the electric breeze of the static machine, but conceals delusions of persecution, now developing, from the physician now treating her.

Imperative conceptions occur in that "*ego*" destroying disease, epilepsy. One epileptic, cited by Dr. Harriet C. B. Alexander* in illustration of the untoward effects of the bromides, exhibited coprololiac (foul language) tendencies between the attacks during the period of lucidity. The improper nature and abnormal character of these utterances she fully recognized. To enable her to control them she tied a cloth around her mouth, which aid to her will was usually effectual. Five years later most of the coprololiac tendencies were changed to auditory hallucinations and the bandage was no longer used. Schüle and Krafft-Ebing express the opinion that imperative conceptions and allied states are expressions of degeneracy, but they certainly occur in temporary neuropathic states produced in otherwise healthy individuals which disturb the unity of the "*ego*." When imperative conceptions, however, occur in the degenerate, the cases cited demonstrate that after several recoveries and relapses, fixed and insistent ideas may result which sometimes develop into delusional insanity. Furthermore, the cases cited from Haslam, that reported by Diller and that observed by myself, demonstrate that imperative conceptions may either act as supports to pre-existing delusions or may remain independent of these. The case first cited by myself demonstrates that on the basis of a neuropathic diathesis set up by typhus fever, imperative conceptions sometimes develop into consecutive hallucinations, followed by systematized delusions.

The course and influence of these "states of uncertainty" will therefore turn on the organism attacked, whether it be the victim of acquired or inherited defect or previously healthy. That they are potent factors in the production of delusions seems demonstrable. The

* *Medical Standard*, Vol. I.

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disturbance of the unconscious states which, as Ribot shows, make up a potent element of the "*ego*," by the congenital or acquired visceral innervation deficiencies in paranoia, explains the ready systematization of delusions in this psychosis. The deficiency in visceral innervation aids, in lieu of inhibiting, imperative and other abnormal mental conceptions.

DISCUSSION.

In the discussion Dr. Moyer expressed the opinion that some normal mental states became the basis of imperative conceptions when they passed from the domain of automatism into consciousness. He, himself, when walking, while preoccupied, is in the habit of touching various objects in passing; the occurrence of splinters in his fingers being the only, but very unpleasant reminder of these unconscious motor expressions. He had now under observation a young woman of decidedly neurotic heredity—a sufferer from violent headaches, and marked general vasomotor disturbances, who had acquired the habit of counting objects that came within her vision—the buttons upon a garment, figures of wall paper or carpet, windows, bricks in a wall, etc. That this habit had passed beyond the stage of unconscious nerve action, was shown by the fact that a mere habit of the lower centers had reached the dignity of an imperative conception, because the patient was no longer able to control the morbid impulse, and could help counting objects only when the mind was intensely occupied by some other way.

In regard to the danger of such imperative conceptions passing into hallucinations, he concurred with Dr. Kiernan; whose opinion he would ask incidentally as to his agreement in favorable prognosis based on visual hallucinations in connection with the following case, which illustrated the passage of imperative conception into visual hallucination: A young physician, as a result of over-study, want of sleep and anxiety, became the victim of an imperative conception, in that he thought some one was trying to injure him, and that he must be constantly upon the lookout. The imperative conception to look for someone soon passed into the distinct visual hallucination of the persecuting individual, who proved to be a rather large man with reddish whiskers, but with features poorly defined. Curiously enough he always presented himself at the right of the patient, and never passed beyond the middle line to the left side of the visual field. The patient, at first able to correct the evil presentiment and overcome the impulse to look for the evil genius as soon as the hallucination presented itself, lost all self control, and traveled from city to city, trying to shake off his phantom. Finally his conduct became so disturbed that he was taken up and sent to his friend s

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With quiet and appropriate treatment he soon recognized the hallucinatory character of the vision, and was fully restored. In a diagnostic point of view it is well to remember how different this condition is from that in paranoia, in which a delusion of persecution is built upon a tissue of hallucinations and illusions, or from pure logical perversion without sensory aberrations. In the case cited we have a simple subjective depression, probably having its origin in a disturbance of the vascular supply of the brain. The next link in this morbid chain was the development of an imperative conception, to yield in its turn to the hallucination.

DR. SANGER BROWN said that the term, imperative conception, is susceptible of almost indefinite extension. It may be a prominent factor in the mental operations of those whose mental integrity is never questioned, as well as a potent causative influence in determinating the nature of the manifestations in any of the most typical forms of insanity. It may be represented by the act of the child wrecking a toppling tower of blocks, or the mother who takes the life of her helpless offspring. Alienists have generally restricted the application of the term to those cases where conduct, prompted by imperative conceptions, has been of such a nature as to render some special form of external restraint necessary; and where illusions, delusions or hallucinations were not present, at least without having given the matter much special attention of late, expressed in general terms, that is the view he had held, and consequently he regarded it as belonging in the category of primary or early defect, and having in common with all the members of this group, as an essential element a persistence of the mental characteristics of childhood which are thrown into greater prominence in consequence of the imperfect development in other directions. He did not think these cases tend strongly toward delusional states, and when delusions do occur they are likely to be unobtrusive and variable. Delusions are more prone to appear in a mind ever so much developed, but in which certain essential parts of the structure for some (somatic) reason fails to functionate as they had been accustomed to do. A sharp distinction should be drawn between imperative conception, resulting from delusions, and those not so caused. Perversity is very closely allied to imperative conceptions. Indeed, he believed some sort of perversion will be found combined or associated with it in most instances. An analysis of mental operations, both under normal and pathological conditions, with a view to defining the relation of impulse and imperative conceptions—for imperative conceptions may in some respects be regarded as a persistent impulse—to these various processes is highly valuable and interesting, and demands an investigation of forces and influences, ever so primitive in the evolution of the intellectual faculties.

DR. W. L. AXFORD asked if Dr. Samuel Johnson, the author of "Rasselas," whom Boswell had immortalized, was not the victim of imperative conceptions when he persisted in touching posts, which, according to biography, evidently entered into the domain of consciousness since when he failed to touch a post he suffered until he

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could repair his omission. In connection with the migraine ophthalmic phenomena reported by Dr. Moyer, the late lamented Dr. Norcom expressed the same idea naively and tersely, when he said that if he saw half a dog or half a chicken walking along the street, he knew he was going to have an attack of migraine.

Dr. Ewell asked if the hypnogogic hallucinations, which result from the

"Dreams which float before the half shut eye,"

did not persist after waking, and sometimes directly, sometimes indirectly from the operation of the "delusions of memory," form the basis of imperative conceptions?

Dr. Frank S. Billings asked if alcoholism was not a potent cause of imperative conceptions. He knew of a case in which a man after slight indulgence in alcohol was compelled by an irresistible impulse to visit houses of prostitution. Coition under such surroundings was repugnant to him, and he struggled against the tendency, but had to yield.

Dr. Kiernan in closing the discussion said that he had called attention to the relationship between delusions and imperative conceptions, because a very great tendency had been exhibited to conclude that a great gap lay between these phenomena. This tendency needed correction in his judgment; not the tendency to regard delusions, as imperative conceptions. Dr. Moyer had incidentally pointed out the unconscious physiological states to which Ribot referred. These, even when they rose slightly into the domain of consciousness, could be checked by logical inhibition of a healthy mentality. Dr. Kiernan was of opinion with Dr. Moyer that visual hallucinations were of less serious prognostic significance. The child displayed ready acceptance of conditions allied to imperative conceptions, because it had not been trained to distinguish between the objective and subjective. In some instances defect of the associating mechanism prevented this distinction being acquired, but lack of training, as in the savage, also prevented its acquirement. The points to which Dr. Kiernan had specially desired to call attention were that imperative conceptions resulted from disturbances of the "*ego*," which led to states of uncertainty owing to unconscious states rising into consciousness. He also wished to emphasize the method of evolution from such conceptions into delusions in predisposed cases. The case cited by Dr. Billings was possibly impure. The influence of genital excitation by alcohol could not be excluded. The case of Dr. Samuel Johnson had been discussed at some length by Dr. Spitzka and himself.* Johnson had positive hallucinations, and heard his mother call him "Sam! Sam!" in the market-place, while she was miles distant. Blaise Pascal was a clearer case. He always saw at his table side a "blazing gulf" which he could cause to disappear by placing a chair therein. This case was closely akin to the

* Alienist and Neurologist, 1887.

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hallucination and a very slight abulia would have made it such. Hypnogogic hallucinations were present in most men, and at times engendered many mental abnormalities other than hallucinations. Visual hallucinations were often based on residua of former normal perceptions for the optic nerve had a very slight power of temporary registration, unlike other nerves. Its wide expanse in the eye, exposed it also, to more influences from circulatory disturbance of peripheric origin than other nerves, whence it happened that scotomic dots readily formed, in predisposed cases from coexistent disturbed mentality, an illusional basis of hallucinations. Auditory hallucinations were usually terminal or consecutive to other mental abnormalities.

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NOTE ON THE VIRILE REFLEX.

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

IF you take a perfectly healthy individual, whose spinal cord is entirely normal, especially in its genito-spinal center, and place him on a couch without head-rest, supine, and nude about the loins, and make the sheath of the penis tense by clasping the foreskin with the left index finger and thumb at about the place of the frænum, and pulling it firmly towards the umbilicus, placing the middle, ring and little finger low down upon the dorsum of the virile organ, for perceptive purposes, and then sharply percuss the dorsum or sides of the penis, near the perineal extremity, a quick and very sensible reflex motor response or retraction of the bulbo-cavernous portion will be felt to result from this sudden percussional impression, like that which follows, though less pronounced, in the testicles, after sensory irritation of the inner aspect of the thighs, and known as the cremasteric reflex. The reflex jerk is away from the irritating impulse, though it is down towards the perinæum in the penis reflex, while it is upwards in both the cremasteric and patellar tendon phenomena. I have not seen this phenomenon described before.

This reflex symptom is of important clinical and physiological significance. Its full value for diagnostic or prognostic purposes have yet to be determined by further investigation than I have given it. But I have learned enough to confidently commend it to neurological clinicians.

I have called it the virile reflex, because it seems to be actively present in all healthy adult males with normal spinal cords, whom I have examined, and absent in infants and feeble, or absent in male children who have not attained the age of puberty. A number of years ago I

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ventured the assertion that the absence of the cremasteric reflex would be found of significance in the determination of impaired virility from sexual excess and masturbation. This subsequent experience has only confirmed. Now this new sign—the penis percussion reflex—present, impaired or absent, gives us another valuable evidence of the vigor, impairment, loss or abeyance of the sexual powers in man.

After prolonged excessive venery it becomes impaired or disappears, to return again with sexual recuperation.

After excessive masturbation, long continued, with accompanying neurasthenia, I have found it impaired, but seldom entirely absent in young subjects. It is not impaired in masturbation when the habit has not destroyed the sexual power. It disappears in some cases of chronic meconism, and becomes abeyant in long and beastly intoxication, though often excitable in acute alcoholism. This subject needs further investigation.

It is lowered and abeyant in the later stages of typhoid fever, and I have found it also in the moribund state. I have found it absent in old men who have acknowledged and sought treatment for entire virile incapacity.

It is often, but by no means uniformly found in sympathy with the other reflexes in spinal cord disease of the lumbo-dorsal spine, as the quadriceps extensor femoris tendon reflex, the anal, vesical and cremasteric reflex, the achilles reflex and ankle clonus.

A kind of erector penis clonus, characterized by a succession of jerks, continuing after the percussion or while the foreskin is kept stretched, much like the characteristic ankle clonus, having been elicited in one case of transverse dorsal spinal myelitis with double ankle clonus only to fade away as the ankle clonus disappeared. I found it absent in another case.

This phenomenon may also be elicited by suddenly jerking the foreskin after it has been made tense, or by pinching the theca of the penis when it is in this stretched condition. This reflex may be reinforced like the knee

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phenomenon. Electrical excitation will also evoke it. A clonus may sometimes be elicited in this way.

Some skill in palpation—a sort of *tactus eruditus* is necessary in examining for this sign, the characteristic jerking back of the bulbous urethra within the sheath of the penis being felt only when carefully sought for. It is not ordinarly to be seen.

This sign does not always sympathize with the other reflexes in spinal column or cord disease. I have lately found the sign absent in the case of a married man, aged forty-five, sent me by Dr. Charles Barck, the accomplished ophthalmologist of the Marion-Sims Medical College, who diagnosed white atrophy of the retina. This man had also unequal pupils, exaggerated patellar reflexes, and other evidences of *sclerose in plaques*. He gave a history of syphilis, and confessed to feeble virile powers. In him the virile reflex was scarcely perceptible. I found it absent on the same day in another, but older patient, with optic atrophy unequal pupils and cerebral sclerosis, which I regard as one of multiple cerebro-spinal disease. The optic atrophy was diagnosed by Dr. Post and Dr. Wolfner. This man's age however is fifty-six, but the sign is not normally absent at that age in healthy men. I have found this sign absent in the status epilepticus, but not necessarily modified in hemiplegia. It was exaggerated in a case of paraplegia of cerebral origin.

It should receive further consideration at the hands of neurological clinicians, for it appears worthy a place in clinical neurology with Westphal's paradoxical contraction, Erb's reaction of degeneration, or any of the hitherto recognized diagnostic reflexes.

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NEURASTHENIA.*

By P. J. KOWELEWSKI, M. D., Karkow, Russia.

NEURASTHENIA is so widely diffused and so extensively discussed that knowledge of its existence has passed into the domain of general medicine. Writers like Beard, Hughes, Mann and others of America; Arndt, Zeimssen, Berger and others of Germany; Muchin, Jakoblew, Rosenbach, Dragomanon of Russia, as well as English and Italian authorities, have extensively analyzed the disease. Detailed consideration of semiology and ætiology would hence be superfluous, since but little that was new could be added to the results of the authorities mentioned. The factors constituting the essential nature of neurasthenia are of more particular interest. Evidently it is a neurosis in which no organic lesions are found on autopsy, *i. e.*, a functional disorder. If such be the case the question naturally arises, How is it hereditarily transmitted, especially in cases where it is not the result of neuropathic or psychopathic taint but of other taint, luetic, rheumatic, gouty, etc.?

The theories advanced hitherto as to neurasthenia, explain only the more prominent facts in the smaller group of cases but fail on application to other cases. Beard, the first investigator in this direction, claimed that neurasthenia results from diminished supply of nerve force, in consequence of insufficient nutrition of the nervous system. This view is probably close to the truth, but it fails to explain what is "nerve force," and where the diminished nutrition of the nerves is to be found. Hence it is mainly a reassertion of the problem in a new form rather than an explanation of the nature of neurasthenia. There is observable in neurasthenics a deportment and a disposition which bears a certain resemblance to the impulsiveness

* *Centralblatt f. Nervenheilkunde*, Sept., 1890.

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and extreme excitability of childhood, on the one hand, and the results of rapid exhaustion and fatigue on the other. Arndt* has endeavored to explain this by a theory based on the findings in some neurasthenics of fatty degenerated nerve cells with nerve cells in an embryonic state. Some portions of the nervous system have an appearance of fœtal or embryonic tissue. The ganglionic cells are imperfectly developed. The communicating fibers are decreased. The cells are indistinctly defined owing to imperfect differentiation and separation from the parent tissue. The nerve fibers are exceedingly thin and fragile. In some places they are entirely wanting, and replaced by neuroglia tissue. Such changes are only occasionally found and principally in the sympathetic system. Arndt claims that these findings show that neurasthenia is due to an embryonic condition of a greater or smaller portion of morphological elements of those affected. Were this theory supported by sufficient data, it would account for the hereditary cases, but fails totally in the cases where neurasthenia develops in hitherto healthy organisms. Russian ætiological researches later conducted on functional neuropathies by Dr. Wisedensky, demonstrated that, no matter how long any particular organ be irritated, its nerve trunk does not give evidence of fatigue or organic lesion, and that it may functionate without harm for a prolonged period. The central nerve cells however exhibit different results when unduly long excited. Anfimow and Sadowski have observed that when the peripheral nervous system is subjected to long continued mechanical or electric irritation, the excitement originating in the peripheral cells will cause the central nerve cells to succumb to the over-irritation rendered evident in organic change, in the shape of neurotic coagulation, vacuols, etc.

These experimental results seem to indicate that changes may arise in the central nervous system analogous to those resulting from mental overstrain. The sub-

* "Die Neurasthenie," 1885, page 110.

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division of labor of modern life compels individuals to over-exert certain portions of their central nervous system while neglecting others, thus producing an undue exhaustion of certain tracts. When to these strains are added the influence of stimulants and other features of modern life, the impression naturally occurs that in neurasthenics those nerve elements, which are worked beyond their capacity, may suffer changes analogous to those induced experimentally by Anfimow and Sadowski in animals.

This theory might explain cases of acquired neurasthenia, but only cases in which more or less pronounced alteration of the cell element of central nervous system may be assumed.

According to another theory, neurasthenia is dependent on mental exhaustion and over-stimulation. This theory has been excellently formulated by Hughes.* In our time mental work is prosecuted to a greater degree than in former generations, while the surrounding social and economical atmosphere contains more stimulating than invigorating elements.

Hughes says:

> We are too much absorbed by work, and "work forever" with no time to breathe free, has almost become the watchword pedagogically, socially and politically. But our organism is so constituted that corresponding relaxation is one of the most essential demands, and an absolute requirement to the integrity of the body. The most important factor in recuperation is sleep, the balm of injured souls, and the bath of oppressed labor. And this necessary compensation of the losses, the deficit, and the exhaustion of our mental existence is being neglected. All the modern forms of mental labor, our diversions, our amusements are relegated to the very hours of the day that should be devoted exclusively to sleep. Night, designed by Nature herself for rejuvenating sleep, is to not a few the main time for work, although the organs, fatigued during the day (the brain and heart), are in need of rest; the exhausted organism is prodded with stimulating substances (alcohol, coffee, tea), instead of yielding to its demands for rest. As a result of such unreasonable methods of life we find many workers declining mentally at a period when they should shine with brightest light. We see how constant worry, a constant overloading with mental work in place of recuperation, chase each other, as in rivalry, to a premature grave. Uninterrupted work exhausts and weakens the nervous system in such

* ALIENIST AND NEUROLOGIST, 1889.

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a direction as to induce more or less complete paralysis of the vasomotor system, and through this, congestion and an abnormally increased flow of blood to the cerebrum. Following this there supervenes insomnia with attendant oppression and languor, and, conditionally—progressive paralysis. Stimulants operate in a similar manner; mineral deposits are formed in arteries—so-called atheromatous degeneration of the cerebral arteries—which increase with advancing age. Excessive mental labor, further. exerts a deleterious influence on digestion, the gastric secretion, under disordered innervation, being diminished in quantity and unfavorably altered in character; not less deleterious to the organism are the concomitant perturbations of the vagus and sympatheticus, with their neuralgias, headaches, slight derangement of sensibility and innervation, the frequent precursors of serious cerebral attacks.

This is really not a theory of the nature of neurasthenia, but merely an exposition of the mechanism, the action of social conditions which gradually, step for step, superinduce neurasthenia.

We have devoted much space to the hypotheses of Arndt and Sadowski. These are acceptable to us since they pretty clearly elucidate those facts which lie openly before us, but the nature of which, nevertheless, remains perfectly incomprehensible.

The alleged embryonic and fœtal conditions of certain sections of the central nervous system of neurasthenics explain one class of cases of hereditary neurasthenia; those in which infants, born under abnormal generative conditions, develop with organic changes of certain portions of the central nervous system, in consequence of which these parts remain in an embryonic condition during life.

(*To be Continued.*)

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The Germs of Delirium.*

By Dr. Eugenio Tanzi,

Of the University of Genoa.

FEW of the phenomena of psychology have so much importance as the *myth*. The fables, not yet extinct, which slumber, or are dying out in our enlightened brains, constituted so great a part of ancient thought as to hold in it the place of logic, of science and of poetry, explaining every phenomenon, solving every doubt and animating everything. Sometimes, even now, the myth awakes impetuously, in the very midst of the coolest and most positive civilization, and with horrifying explosions of fanaticism it shows how deep are its roots in the mind af man.

Modern ethnologists, multiplying their studies, with a wide range on primitive religions, have regenerated mythology and converted it into a most valuable auxiliary to psychology. In mature civilization there happens the same event which often occurs in the person who reaches adult life, that is, the repossession of the records of infancy. The religious sentiment has been sounded and laid bare at so many points, that the whole of a very deep and formerly unknown *stratum* of human intelligence has been brought to light. At the same time, the languages, customs and passions of peoples in a state of nature, have been restudied with fresh vigor; the chronicles of our remote predecessors have been subjected to revision and are now no longer consulted merely as monotonous records of battles, but earnestly questioned as to psychological testimonies of a long past era; the usages, sayings, songs and prejudices of the common people, before passed over in silence, and despised, have

* Translated by Joseph Workman from the *Rivista Sperimentali*, 1890.

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been collected and reproduced with a faithfulness, which, in modern phraseology, we might well style phonographic; and hence has come to light the *folk-lore*. The most diversified researches and the most solid reconstructions permit us to-day to recall the moral figure of primitive man, in his inmost, and as we might also say subjective, manifestations; and they prove to us that his intelligence did not, in its origination, escape the greatest absurdities. That which now appears to us monstrous was not born of chance, nor from mere verbal equivocalities, but from the brain of man himself, as the natural and legitimate fruit of his own free activity.

The progress of *folk-lore* has dissipated the theory of Max Muller, who accepts the marvelous legends of antiquity as sapient and profound allegories, in which the personages represent planets and natural forces; and their actions which are so often wicked, foolish or incredible, he thinks alluded to just so many astronomical or meteorological phenomena. If, at a later date, proceeds this celebrated mythographer, names and things came to be taken literally, and were regarded as objects of religious faith, this resulted from a series of *glossological transformations*, which, by little and little, put the original allegory out of sight, and the words being corrupted, the meanings were finally obliterated; and hence arose the phrase in accordance with which mythology would simply signify *a disease of language*.

At the present time very few psychologists accept this specious hypothesis by which Max Muller vainly strives to trace a sort of retrograde evolution. Though true in some isolate cases, it is artificial and false the moment it pretends to the value of a general explanation. Numerous irresistible proofs demonstrate that the origin of myths was not philological, but intellectual: that they were not derived from exchanges and degenerations of words, but from the errors and the ingenuity of thought. Otherwise the appearance of the same myths among different and far distant peoples, whose languages

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had never the least relation to each other, would be inexplicable.

Analogous legends and equal superstitions have been developed in the various regions of the earth and among races the farthest apart, not because the people transmitted them by changing the form and debasing the primitively logical and pure contents of them, but because they constitute a necessary phase in the intellectual evolution of man; a phase through which every human society is obliged to pass in its infantile age.

The longing to grasp the causality of phenomena, and the instinct of personification, as Friedlander well says, are the two factors which among all nations have given life and form to religious representations. The uniformity of myths in the different regions of the earth, impossible of explanation by the laws of phonetic transformations, are well explained by these common characters, or by admitting a unity of type in the constitution and the tendencies of the human mind.

By this method the study of mythology, from being simply æsthetic, as it was in its origin, having become in the course of this century, methodically but exaggeratedly philological, to-day changes its base and augments its own importance, by assuming a psychological character and value. If the graceful and most abundant material that forms the pagan mythology, sufficed at first to inspire the literary masterpieces of the classics and the artistic productions of the Renaissance; if at a later period, when enriched with Egyptian, Latin, Chaldean, German and Indian gifts, it furnished material for the ingenious, but almost always erroneous, and distilled charades of the philologists; to-day, completed and transfigured by means of the documents of savage and illiterate mythology, which extends from Polynesia to America, central Africa and Siberia, it rises to the dignity of a scientific archive and forms one of the poles of collective psychology. From the assemblage of so many concordant facts, the darkest corners, which are at the same

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time the most ancient and essential provinces of the human mind, have been illumined; and it now most clearly appears that logical and vigorous thought is a recent acquisition, whilst all minds, during the first periods of civilization, are irresistibly carried away towards mysticism. All that in our days seems concreate with man—analysis, critical sense and moral sense—is therefore, as Schwartz has written, the result of ages.

The right and complete conception of the principle of causality, constitutes, in its turn, an acquisition quite modern. It is of no service to oppose to this truth, the rigorous philosophic systems of antiquity, in order to infer from them that this conception had always flourished. Let us only think of the seven heavens of Aristotle, and the crystal rock of which the seventh must have been composed, and it becomes evident that even the brightest geniuses were content with a very little stuff for the construction of their cosmoginal edifices. Even the positive *Pythagoras*, if we must believe what Porphyry says of him, did not hesitate to affirm that in the sound of a shield percussed, the voice of a dragon was concealed; and *Vinson* intimates, without academic reticence, the numerous and grave absurdities that blemished the elevated philosophy of the Arabians, such as the division of the heavens into ten parts and the fantastic functions which they ascribed to each of these parts. In the brightest genius there was therefore intermixed an ingenuous contempt for the law of cause, which choked the voice of reason and cast the thinker, without redress, into the arms of mysticism, before logic was awakened for its treatment. We must come down to *Seneca* to find the first doubt—only a doubt, not a denial—as to the solidity of the sky. What more? In the good old time of the sixth century, in the famous university of Salamanca, there was yet given from appropriate chairs instruction in magic in connection with meteorology; necromancy and alchemy, without anyone being found to laugh.

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That symbolism has prevailed in every age, and that it is really a fundamental tendency of man, is proved by very many records. I shall note only a few, in which the ethnic coincidences are still the more surprising that they refer to legends altogether peculiar, or, as we might well say, specific. The fable of Prometheus, that is, of a hero of civilization who discovered fire and fell a victim to the gods, after having devoted the booty to the service of his fellow-men, is not a legend of the Greeks alone, but is found thousands of miles from the zone of their culture and language, among the Maoris of Gippsland, who ascribe the theft of fire to a man, who was afterwards changed into a bird. Elsewhere it is a falcon that steals the fire to make a present of it to men. In Nova Zembla, fire was under the power of Manika, from whom it was carried off by Mani with the assistance of a bird. The Ahts of North America relate that fire was snatched by certain animals from a fish that had the custody of it. The Egyptian story of the two brothers is, with a few variations, repeated, more or less, everywhere—in France, Italy, different parts of Germany, Hungary, Russia, Lithuania, the Peloponesous, Asia Minor, Abyssinia, India, and among the Romans, beyond all suspicion of communication.

Baptism as a ceremony (an act so little natural) is far more ancient and more widely diffused than the Christian religion. The Germans immersed their children in water when giving them their names. Achilles was bathed in the Styx by his mother; and with the Persians, the Hindoos and the Egyptians, religious lavations were used in the most remote times. The same may be said as to divine consubstantiation, which the Christians raised to a dogma, in the Sacrament of the Communion, and it is met with in the traditional religion of the Caffirs, outside of all influence of missionaries.

Even the trick, well known to the Italians, of loading a city, a village or a personage with all the weight of national ridicule by making it the butt of a multitude of

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jests, anecdotes and inventions, that represent it as the emporium of every stupïdity, yet exists so universally, that Abdera, Calinopoli and Cuneo have their sisters of misfortune even in America and Asia.

If in these particularities man everywhere exhibits the same tendencies, the accord must, beyond all doubt, be much more accentuated in his fundamental psychical manifestations. Since then, modern mythology, through the labors of historians and explorers worthy of belief, aims at establishing, on the basis of this accord, the unity of human tendencies in the various epochs and the various races of mankind, it is my purpose to demonstrate, by recourse to the same fountains, that the same uniformity is verified between the sound man and the lunatic, but more especially the raving man.

We all carry within us the germ of delirium, because we inherit it from our forefathers, and because it never departed from the normal functionality of primitive man. Why this germ flourishes luxuriantly in some persons, and in others does not give forth a bud, we shall understand presently. In the meantime it is enough to have established the analogy.

II.

Not one of the principal elements of paranoia has escaped our retrospective researches. The delirium of persecution, and especially that of poisoning, religious delirium, erotic delirium in both its forms, the platonic and the obscene, ambitious delirium and the hypochondriacal; lastly what is most typical, and as we hereafter will show, less known in paranoia; in short, all their symptoms are to be found, if we will only search for them, in the history of the ancients and in that of contemporary savages.

Having enunciated our thesis, it is now our part to search for the proofs of it, and these I have patiently and abundantly collected from the writings of persons who have not been animated by any preconception or engaged

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in reciprocal opposition of opinions and objects, and yet are concordant here and there in the same or analogous testimonies. This circumstance augments the value of the documents I have here brought together, the scattered and involuntary declarations of faithful and quasi-passive expositors. Bastian alone alludes several times, but merely incidentally, to a few superficial resemblances between the savage character and that, not indeed of the paranoiac, but of the lunatic. All the others either have no thesis in view, or though they may have an object, it is quite different from that which I have in this memoir undertaken to elucidate.

1st.—*Delirium of persecution, Pantophobia, Personification.*—The invincible inclination of the paranoiac to invent persecutors in order to explain all that happens to him, is well known. To use the happy expression of Tylor, he thinks every *thing* around him some *personality*, just as the child that falls against a chair, scolds it, or as Xerxes flogged the sea because it destroyed his fleet. The paranoiac, the child and the primitive man vivify nature; and when afflicted by bodily troubles or by moral sufferings, they attribute the blame to a living persecutor, who is not even thinking of them or is not existing; their case is but a particular one of that process of personification from which in a field more fertile and more wide, religious myths have their origin. Every fact is an act and therefore supposes an author; this is the reasoning which the primitive man anthropomorphically deduces from his own acts, and above all from the sentiment of intentionality and voluntarily that accompanies his own actions. Hence, for example, the indigenous Tahitans think that not only the trees and the fruits, but even the rocks which tumble down from the mountains and crush them, have a spirit; the Negro who is about to undertake anything serious, commends himself to the first object he meets on his path, be it only a bone or a piece of wood, not doubting to find in it an intellect capable of understanding his wishes, and a will

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ready to accede to them. More frequent than any other is the personification of evil. The Chinese child dares not to enter temples, because he believes they are peopled with phantoms with out-thrust tongues, staring eyes and threatening countenance. In Paris, there is the *moine borru*, that goes about the streets to cut off the heads of such children as put them too far out of the window. The adult Negro sees all around him a jumbling crowd of fetishes, coming and going. The Indians, who complete every natural phenomenon by annexing to it a Manitou that produces it, have similar visions.

The god, Horey, growls in the woods of Senegambia, calling for victims, and the mournful voice of the Wile is heard in the forest. The Calmucks hear the god Lun Chan whizzing through the air. A thousand dreadful demons assail the unarmed man and howl in his ears or drag iron chains before his eyes, move tables and benches, rock the cradles of the new-born, tear leaves out of books, upset vessels and rummage everywhere unwet. In the middle ages these were known and were distinguished by a thousand names, in the Netherlands, even the sun, the moon and the wind are wicked beings that devour Christians. It is stated that the peasants of Upper Brittany listen with terror to the tales told of the dead, who come back to life, and they firmly believe them. The belief in evil spirits is general in Ashantee, and farther to the south in Bengal.

The souls of the beheaded, spirits and goblins, the dead, the devil, witches, the fates, magars, sea sirens, dwarfs, etc., etc., live and even yet palpitate in the souls of the people of Sicily. In collecting their macaber stories, *Pitre*, who for twenty years had laboriously and intelligently studied the survivals of the popular marvels in his country, was unable to escape the feeling of consternation, stupor and chilling which struck him in presence of such a revelry of mysticism, which, when not moderated by the beneficent intervention of the authorities and thwarted by laws and customs of higher

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enlightenment, must appear as nothing short of real delirium.

"In the middle ages," writes Arthur Graf, "all nature appears as contaminated and fallen into the power of Satan. She is demonized. The spirit of Satan pervades her and holds her in subjection. The friar who lives immured in his convent as in a fortress, contemplates her with a vague sense of terror, and he sees in her the marshaling of his numberless foes. The deep, dark forests, the frowning crests of the mountains, an immense rock hanging on the edge of a precipice, a horrid, gloomy valley, a waveless lake in the middle of a desert plain, a torrent that rushes foaming and groaning between overturned huge stones—these are to him the aspects of a terrifying scene, behind which the demons are weaving an immense and formidable net, and the impetuous potency of evil is every now and again breaking forth, and penetrating into his refuge."

Nocturnal persecutors, also, both male and female, so often spoken of by our paranoiacs, but especially by the female division—these obscene and mysterious beings, who would seem to be the product of a morbid moral filthiness, have their legitimate ancestors, not only in the cycle of Christian legends, but far away in the oral traditions of the islanders of the Antilles and of Nova Zembla, in the Navigators' Islands and Lapland. Belief in the existence of these lust-inspiring personages was so universal and so lively that *Saint Augustine* (in his work, "*Te Civitate Dei*," xv. 23) seriously discusses the matter without denying their reality, and *Lipsins* (in the seventeenth century) asserts that they were still very numerous.

2nd.—*Delirium of poisoning.*—The extreme precautions used by the paranoiac to keep his food pure, his obstinacy in preparing and cooking it by himself, his abstinence from everything excepting raw eggs, or milk just drawn from the cow, and finally, his absolute sitophobia, are the ordinary symptoms by which the delirium of

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poisoning is manifested. In some cases, however, the fear of poison is often so merely instinctive and forgetful that the subject of it limits his precautions to a few ridiculous operations; though he reasons vigorously on everything else, his logic falls short in this matter, and permits him to fall into the most flagrant inconsistencies when he lapses into this delirium, which is more automatic than considerate, and is generated just as it is appeased, by a nothing. The savage exhibits the same fears and the same inconsideration.

In the province of Friesland there are families having the odor of magic, and they are able to transform every mouthful of food into a hurtful substance. The Egyptian is wont to hide very carefully the victuals he has procured, because of his dread of the evil eye. The Ovampi have the habit, when they eat in the presence of a stranger, of rubbing some butter over his eyes and of throwing water on his face, believing that this serves to prevent him from poisoning the food. The Abyssinian carefully closes the door, and lights a little fire, as an additional precaution every time he sits down at table. The people of the Hebrides do the same. Similar superstitions are manifested by the Maldives, the Bolandese, the Esquimaux, the Indians and the islanders of the Pacific. And are not the same facts revived on every re-appearance of cholera or any other epidemic among ourselves? What physician, on proposing a remedy on such occasions, has not encountered a look of distrust or a sarcastic smile from the six-hundredth poisoned man? This fear, however, vanishes with the cessation of the epidemic, but in the paranoiac it remains through life.

Whoever may wish to investigate more thoroughly the *rôle* played by poisoning, in the imagination of various peoples, may consult the records of Norse mythology, and then leaving northern Europe, let him pass to southern Africa, and record the reception which Schweinfurth met with in 1870 from Munsa, King of the Mambuti. This polite and hospitable sovereign always ate alone, and his

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cook was jealously guarded by a woman, who forbade all access to her.

3rd. *Religious Delirium.*—No asylum is without its prophets, its eternal fathers and its madonnas; excepting the doleful enclosure, all remind us of that classic sample of a religious paranoiac, Lazzaretti, of Arcidosso. It is therefore unnecessary to enlarge on the delirium of religion. Few sentiments are so deep and essential in man as that which draws him to adore the unknown and the transcendent. In the very bosom of European culture, and despite the violent corrections of governments, religious mysticism, from time to time recovers its domains. Not merely a few suggestioned neuropathics, but entire populations, amounting to millions, who, in Russia, whilst we now are writing, being unable to satiate their fantasy with the too elevated and colorless principles of Christianity, irresistibly reject the path which an artificial civilization would oblige them to travel, and, returning to customs more conformable to their degree of intelligence, they cultivate with a fervor which is redoubled by opposition, a new religion, full of vitality and efficiency, which impel the proselytes to acts of fanaticism, most courageous, and most inconsistent with the instinct of self-preservation.

The *raskol* is split up into a thousand sects, which are formed around individual points of a rite. These sects patch up a liturgy, and they reproduce, like our paraniacs, the sophistries of Bizantine formalism. The part of religion, now most neglected, but which, in the estimation of persons of good sense, proves so valuable to us by never being named, and which in our eyes has no value beyond its antiquity, is to the Russian sectaries an object of fervid interest, and the most lively controversies. With these people religion not merely exists, it also grows, displaying the activity of a vigorous organism and an exuberant vitality.

In the *raskol* is affirmed the resistance of a primitive people, confronting political and social reforms, of foreign importation, for which the people are unprepared. In all

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these reforms, especially in changes to foreign customs, such as the law of the beard and the bearded, the *raskolnik* discovers only the work of the devil. Hence the cloister, isolation, flight into desert places, homicides, suicides on a very large scale, systematically carried out, and in many forms. Death by famine, by the baptism of blood, and of fire, destroys thousands of voluntary victims. Fathers and mothers, from a sentiment of religious piety, frequently immolate to the gods their consenting children.

But what is most interesting to observe is that these votaries are not recruited from among the abject and miserable, but belong to the richest and the most moral of the population, and they are the best contributors (? to the national revenue—*Trans.*) And that they are not at all poor in spirit, or led away by a few fanatic lunatics, is proved by their enormous number, which, according to Leroi Beaulieu, amounts to twelve or fifteen millions, though the statistical officials, who are interested in lowering the figures, register only a million and a half.

As to the rest of the people, the orthodox Russian, is not so fully emancipated from his ancient tendencies—and certainly the vulgar Catholic is not—as completely to rebel against them. Intermixed with the Judaic mythology, there yet exists in his imagination and his heart, the *vodiany*, or spirit of the waters; the *rousalha*, a species of naiad or national siren; the *lichii*, god of the woods, and the *domovoi*, the genius of the domestic hearth, and, finally, God, himself, is but the supreme magician.

In their songs, legends, traditions and rites the Russian people are substantially bi-religious; from beneath the Christian vesture the pagan lining peeps out. And thus it is with all nations and all individuals, in whom irreligiosity, scientific objectivity and the other intellectual habits of modern culture, have not displaced, but have simply been superimposed on primitive mysticism, which is ever ready to re-appear. Not alone mysticism, other paranoiac symptoms, also, which at first sight seem to be amongst the most monstrous, and the most repugnant to

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the nature of man, lurk secretly, and re-appear and predominate in certain contemporary sects. Mutism, which is sometimes obstinate in our deliriants, is the fundamental canon of the *Silents*, recently signalized in the Lower Volga and Siberia. These mutes are, by choice so attached to their own faith that neither punishments nor transportation suffice to make them speak.

4th. *Ambitious delirium.*—There are few paranoiacs, even the most querulous, who are exempt from a morbid ambition, and all the maddish writers and sectaries are shamelessly presumptuous. Among savage tribes it may happen that Europeans are regarded as gods, but oftener they are looked upon as demons. Contempt is therefore more frequent than admiration. Besides, their acts of homage proceed more from surprise than from conviction, and they always leave a very wide margin for exaggerated self-esteem. In 1744, the Iroquois made various offers to the government of Virginia, to give Indian education to all the youth who were willing to accept it. Pride is very conspicuous in ethnical designations, as we have before observed, and these wonderfully concur with the glorious auto-denominations of the paranoiac. The Athabascans style themselves *Turné*, that is to say, men; the Arikarris, *Sahnish*; the Iroquois, *Oukwe*, which means the same, that is to say, gentry, or men *par excellence*; the Zingaro, in the same illusion, calls himself *rom*; lastly, as is universally known, by the Arii (a tribe of the Scythians), all the non-Arii were regarded as speechless, and therefore, merely brutes: to the Greeks all foreigners were barbarians; the Slavs did not hesitate to call the Dutch *niemcy*, or mutes, whilst they arrogated to themselves the divine faculty of speech. In a period not very far back, Pope Paul III., felt compelled to declare that the American Indians were men; their European conquerors did not seem to think so.

The tiles, prisms and cylinders of clay on which the Assyrian kings recorded their own great deeds, remain as an impudent self-glorification. These exalted potentates

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always acted under the will and protection of the gods, of whom they were the chosen favorites; they speak on every occasion of their own majesty and potency, and of the prodigies they had accomplished; they are the kings of the world, the just, the powerful, the unequaled, the generals of numberless legions. It is a curious fact that the most modest of the inscriptions and eulogies is *Sin-Akhi-Grib*, which, perhaps, is also the most glorious.

The Roman emperors, who proclaimed themselves gods, had unconscious imitators among savages. Juikila-kila was wont to say, "I am God," and the reliable *Lubbock* adds, he was firmly persuaded that he was not a man as the others. And then, behold the Sultans! Are not they the shadow of God, the bright Majesty, the sacred Presence, the Asylum of the World, the Great One who sitteth on the royal cushion and hath the sun for his crown? It may be objected that most of these examples are the mirrored images of powerful personages, whose vauntings, though exaggerated, were not wholly irrational. But nothing is so universal as vanity. We are always assuming and self-satisfied in secretly contemplating and judging ourselves, and not many of us would sincerely wish to exchange with our neighbors. Pride and ignorance are always in direct proportion, and it is very fortunate that the exigencies of society oblige us to adopt a feigned humility; in other words, the pride of the strong silences that of the weak, yet the one does not fall short of the other.

5th. *Erotic delirium.*—This is a particular form of the ambitious delirium, which, if not too often as a lasting symptom, is almost always presented as an early episode in the life of the paranoiac, just as in the mediæval literature, alongside the languid trovatore, the sensual cynic strung together his verses, so find we in paranoia, the extreme expressions of sexual love—the platonic delirium and the obscene. Chaste, fatuous, sentimental and credulous, without any initiation, adequate to the winning of

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real affection, if only platonic, of the damsel loved, the paranoiac most usually has never known her, or has never spoken to her; or he falls in love with an unapproachable princess, or it maybe with some old withered hag; and finally, whoever may be the object of his tepid desires, he is quite content with some excessively insignificant and ridiculous outward signs, which to any rational person would appear merely accidental, and not to be regarded as proofs of love returned. The characteristic of this form of paranoia, which we would style *asure*, is therefore an absolute absence of passion and seriousness, conjoined with a disgusting affectation of sensibility and energy.

Now it is impossible to observe a delirium of this sort without thinking almost involuntarily of the knights-errant, the gay science and the courts of love. Was not the first canon of the perfect cavalier that of renouncing the possession of his mistress? To her he dedicated his enterprises, with her he was united by a true bond of feudality, so as to become to her as a liege to his sovereign, but he might, yea, he *must* wed with others, and only with the beloved one was matrimony forbidden to him. Geoffrey Rudel was inflamed with the Countess of Tripoli, whom he had never seen. The attendant knights of the past century were but the last degenerate priests of this feminine worship.

It will be said that erotic sentimentalism, which is as common with women as with men, is an isolated manifestation of the Christian of the middle age; that it arises from a momentary aberration of an adolescent literature, and not from a fundamental tendency of thought. This is incorrect. To sigh for a great and potent being, who might raise us out of our misery, rescue us from our afflictions, comfort us and exalt us to her own heart, to await with ardent faith her coming, to be delighted with her arrival—is not this the sum total of every erotic romance? And is it not, at the same time, the canvas on which religious mysticism has always embroidered all

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its legends? The Hebrews, Egyptians, Greeks, Indians, Persians, and even the masculine Germans of the North, all concurred in these delightful expectations, though followed by such manifest illusions.

If, ceasing to be manifested in a collective form, mystic sentimentalism is changed in the consciousness of the individuals into the erotic form; if the Redeemer becomes a lover, or Jesus becomes Lohengrin, this goes but to confirm the intimate relationship between mysticism and erotism, two things which, when the one does not generate the other, proceed, at the least, commingled. The artless optimism, by means of which the thing wished for is taken for the real; the thirsting of ideality and the facility of satisfying it at any muddy pool, or yet worse, with the mere sight of water—all this is quite characteristic of the erotomaniacs, not less than of the tranquil mystics. What wonder then, if the personage who must incarnate one or the other of these ideals, the religious or the sexual, should sometimes serve the double use?

But without recourse to these close associations, which may appear to be a dialectic subterfuge, history has more than once scented out the cavalier romanticism, far removed from European manners and the adorers of the Madonna, even among the warrior Semitic tribes in the desert. Antar, the legendary preislamite hero of Arabia, slew a man because he was wanting in respect to an Arabian woman. And even at the present time among the Bedouins of Nedjd, the custom obtains of enthroning on a camel in the midst of the tribe, a virgin, selected from among the most beautiful, to encourage to victory. and to cover the fleeing with sarcasms.

Parting with all sentimentality and assuming a decisively cynical aspect, eroticism attains to the delirium of coitus and the *phallus*. A similar worship, far from being limited to the history of sensual antiquity, is found among the rude populations of New Guinea, the Papuans, the Arabs, the Indians, and in the very land of *prudery*,

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England. Fricco, third in the triad, with Noden and Thor, is no other than the god of sensuality, "*cujus simulacrum*," says Tacitus, when speaking of the Germans, "*they paint with a huge priapus.*"

Half bears and half Amazons, an evident cross between the romantic ideal of chivalry and that of the sensuality of primitive peoples, but whatever it may be, always involved in mysticism, were the Valkyrie, who fought around Oden and goaded the warriors on to battle, offering themselves as a reward, in the Walhalla, to the fallen, but sometimes with an anticipation rather earthly, and not very correct, to the survivors also.

This belief in the possibility of carnal intercourse based on miracle is so rooted, that in the very seventeenth century, fourteen religious ladies swore falsely, but in good faith, that they had been seduced by a certain curate of Loudon to participate with him in the Sabbath of the witches; nor could all the fourteen be regarded as hystericals, or as victims of a propagated suggestion, for only four of them belonged to the same convent, and the majority were not yet nuns. On this head that holds good which we have before observed in relation to the delirium of persecution, and to the incubi and succubi, as to the faith, once universal in the existence of male seducers and mysterious sirens, whom *Tylor* has traced in the Antilles and Nova Zenibla, not to say anything of the writings of the fathers, which are crammed with them. A woman who was every night tormented by malignant spirits, in the form of serpents, is mentioned in the apocryphal "Gospel of the Infancy," in which the narrative is ornamented with particulars more or less indecent. Let us figure to ourselves whether this sort of obsession must not have been popular outside the classes of the erudite and the theologians.

6th. *Hypochondriac delirium.*—In paranoiacs hypochondriac delirium is more frequent than the erotic; it is a simple variety of that of persecution. What characterizes this psycopathic symptom is the mystical and

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transcendent interpretation of the paræsthesias, or painful sensations, which may sometimes be real. Nor ought we to see in these interpretations, the effort of a mind cultivated and accustomed to the subtleties of reasoning, or of self-observance, for the most refined hypochondria has its antecedents in the most rude peoples. Among the Caffirs, yawning is the entrance and sneezing the quick exit of some prenatal spirit; and if the latter is a signal of good augury, the former is, on the contrary, a very sad one. According to Dalton, there is in Bengal an aboriginal tribe of anarian race, the *Hos*, in whose belief, all the diseases of men and animals proceed from one of these two causes, either the fury of a bad spirit, or the enchantments of a witch. The same, according to Codrinyton's testimony, is the fact in the New Hebrides. In New Caledonia, according to the report of Erskine, murdering witchcraft was practiced in 1853 by tribal enemies, and in the Andaman islands, by the influence of *Erem*, *Angola* and *Juruwin*, evil spirits. The same ideas are professed by the Negroes of central Africa, according to *Duff* and *MacDonald*, and according to *Rink*, by the Esquimaux; and it is not for nothing that among the Redskins in North America, everyone wears round the neck, as a protection against diseases, a medicine bag, just as our forefathers wore ear-rings to protect them from disease of the eyes. In Congo, all diseases are cured by blowing against the wind, which is presumed to be the cause of them. In the Marquesas Islands, the evil spirit, in person, penetrates into the sick one, causing his sufferings; but as no one dares to confront so potent a being, the doctors, in order to get him to withdraw, coax him with soothing frictions, which are quite different from those of massage.

III.

Besides the various deliriums which are the most known in paranoia, other more recondite and almost unfailing elements, which we learn to decipher in the

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neologisms, and the symptoms which are detected by a minute clinical analysis, are frequently brought to light when we read with the eye of the alienist, the impartial pages of demopsychology. Of the number are *logolatria*, and especially the formalistic worship of *names* and *numbers*; the passion of the *enigma*, and that of *magic* and *conjurations*; the impulse to a *wandering life;* the *intercurrent episodes*, consisting in exaggerations of emotional states (as accesses of mania, melancholy or stupor); *double personality*, and *hallucinations*, which though they may be presented with the deceptive appearance of an accidental morbid phenomenon, yet have their counterparts in the history of men in a state of nature.

[NOTE BY TRANSLATOR.—It is here proper to observe that the author published in the preceding number of the *Rivista Sperimentale*, a memoir on the *neologisms* of the insane, the materials for which must have cost him a great amount of labor and research, though they may not have taxed his patience so much as, it is to be feared, they might some of his readers, especially on this side of the Atlantic. The neologisms are new coined words or phrases, chiefly issued from asylum mints. They, no doubt, sometimes by conventional compact, pass as current money with those who live in close intimacy with the issuers, but as the determined purpose of the inventors was that of concealing their thoughts rather than of imparting them, unless to a very select few, it was necessary to frame them so as to secure this end. They are, in fact, quite appropriate representations of the jargon shibboleths of lunatics, or the inane gabble of children; it cannot be necessary to extend this explanation for the benefit of the readers of the ALIENIST, the great majority of whom must be very familiar with the oracular deliverances of the insane.]

1st. *Logolatria.*—The chronic raver, just as the scholastic formalist, has a species of adoration for certain words. The paranoiac neologism is the rite of this worship, to which the term logolatry is quite appropriate.

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In the eyes of the logolater, be he sane or insane, the word is something divine, in whose mystic bosom repose a thousand arcane meanings, generators of infinite wisdom, to him who succeeds in penetrating their mystic contents. The invention of a word is to these illusionists to propound and it may be to solve, a problem. The word, despoiled of all apparent meaning, as those of the last of our groups, has therefore a high paranoiac value, because it is, by him who created it, elevated to a divine formula. According to Origen words have, from first to last, a hidden power, which the magicians and the sages are permitted to discover and to utilize; but especially in the names of the gods are, syllable for syllable, contained the elements of universal truth. Tertullian and St. Chrysostom did not hesitate to declare that the word should be believed in and not our senses. To the Brahmins the name of God is an inarticulate *scientific word*, and he who pronounces it grasps the mystery which is concealed in it.

Our children also amuse themselves with empty words, pleased with them, admiring them, and singing them, without at all caring for their senselessness. They articulate and invent words for the mere pleasure of verbigeration, a pleasure which is perhaps the germ of logolatry. "*Tous les chemins vont a la ville*," shouts the French child, "*lire tire lire, laire, taire laire ; est-ce que vous ne le saves pas? lire lou fa.*" So it is with young people who, in the new pleasure of talking, neologize even uselessly, and hobble the unfortunate language with synonyms which complicate without enriching it.

The Australians, who are without expressions for the most elementary things, have plethoric and intricate dialects excessively rich in doubles. In certain American tribes, the brother is indicated in a different manner by another brother, and by a sister, and a younger brother is, in conversation, designated by an older one by a word different from that used by the latter in speaking of the former. With the Caribs, if directly asked anything, the

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parents receive the names *baba* and *bibi* from all their children, without distinction; but if it is necessary to speak of them in their absence, the sons call the father *youmaan* and the mother *ichanam;* the daughters call the father *nouhouchili*, and the mother *nouhouchouron*. The Andamanc language varies the generic name of the child with the sex and the age of both the named and the namer: the verbal multiplication resulting is enormous.

Madame de Savigné, jesting, wrote of a certain treatise, that she heartily wished to have made a mouthful of it and swallowed it. This process would have been literally adopted, and with all seriousness, by more than one logolator to whom the book had been equally pleasing. The Zingari and the Mahomedans have recourse to stratagems of this sort, in order to cure diseases; Noferkephtah, after copying the formulas of the book of magic and loosing them out in water, could not see what better to do with them than to swallow them; a truly paranoiac expedient, if there ever was one.

Among the Abipones of Central America, the nobles disdain the language of the vulgar, and add to words prefixes and suffixes which change their entire aspect, just as modern children do in school; and as the Indians in Peru, so have the Eries in Polynesia, a sacred idiom, different from the usual; among the Caribs the language differs between the two sexes. The same spoliation of words, by doubles and trebles, is presented among our neologistic paranoiacs.

2nd. *Prejudices as to names.*—The great importance attached by paranoiacs to their own names is clearly seen in the fact that they very often change them, and they obtain from them forecasts of high destinies. At other times they read in the names of others, a threat against themselves, or a specious decoy. The autodenominations, which make a part of our collection, amount to nineteen, and they do not fail in surplus names for enemies and protectors. Not all the paranoiacs who

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bedeck themselves with glorious titles and borrowed names, are slaves to vanity. In this *heraldic delirium* there is often, rather than vanity, a feeling of veneration for a symbol, and the blazon which in the present day is not aspired to, or respected, except as a mark of wealth or social influence, once had a worship almost idolatrous. The totem, the fetich, the stem, three degrees of the same scale; are they not?

The potency of a name among peoples in a state of nature, is generally recognized. The Caffirs, like the paranoiacs, often change their names, and in choosing a new one they take care to conceal its value. With the Samoiades it is a gross imprudence to name their own god whom they call *Nap* or *Non*, and it is strictly enjoined to have recourse, if possible, to periphrases, with a preciosity of language, which is at once rustic and paranoiac. Among the same people a new name is given to the adolescent on reaching puberty, but before selecting the name of a relative, they must ask his permission. The Russians do not dare to give a Christian name to any pagan. In the conversation of the Masai, the dead are never designated by the name they had in life, but receive a posthumous name, which is never changed. Among the Calmucks, when a name is to be given to the new-born, the father accepts that of the first animal seen by him, or the first word heard by him; not indeed that every word is alike fit for so serious a business, but on the contrary, because there resides in it a supernatural virtue, which is communicated to the infant. The Tscheramissi act similarly. Those who are present pronounce a series of names whilst the child cries, and the moment it stops crying the *last* name offered is chosen.

If an Indian in Brazil is asked the name of his family, he will reply by giving that of his sworn enemy, as does the paranoiac in subscribing himself *Antichrist*, under the conviction that he thus brings misfortune to him, and saves himself from it. The Arab children also are instructed not to make known their names to strangers.

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In Polynesia it is usual to change names at every new treaty of friendship, and the same custom obtains among the Mohawks of North America, and among several peoples in South Africa. In certain provinces of Germany, just as among the Samoiades, the name of the Divinity was not pronounced, under the fear of his apparition; and the persuasion was general, that the destiny depended on the name.

3d. *Prejudices regarding numbers.*—Returning to the characters of paranoiac neologisms, we observe some of these that show in the neologists a special predilection for the numbers three, seven and thirteen—all prime numbers and eminently cabalistic. The superstition of numbers is as ancient as number itself, and as widely diffused as are the superstitions. In the benediction of the font, practiced according to the canons of the Eighteenth Council of Toledo, special invocations were sung by the catechumens, who were obliged to repeat them seven, five or three times, six, four or two persons being the number singing; and finally the entire chorus completed the ternary, quinternary and septenary numbers.

According to the Basilidian gnostics and the Egyptians, there were 365 intelligences interposed between our world and the upper one; and by this number the demons might, by conjuring them, be denoted. In the Apocalypse 666 is given as the number true, *par excellence*. The *philosopher's stone* was triune, not different from the *Nonio Trinio* of the *Triodologia* and other paranoiacs, entities that figure in our neologisms.

In the German mythology, the number of the Valkyrie, who took part in battles is prescribed, and it varies between three, six, nine and thirteen; and among the various names of Odin, were those of the twelve months of the year, presided over by twelve divinities dwelling in twelve different palaces.

The Hebrews regarded as sacred the numbers twelve and thirteen; hence the thirteen branches of the Edomites, the twelve of the Ishmaelites, the thirteen of the

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Abrahamites and those of the Joktanites; hence, too, the twelve Apostles, twelve months, and the twelve tribes of the twelve sons of Jacob. If with this alchemy of numbers, the ancients, in their own way, embellished the past, and corrected history, what wonder that at a later date, they undertook to avail of it in predicting future events? The scholastic was not altogether exempt from this prejudice; and it was not by mere chance that the poem of *Dante* was divided into three parts, with thirty-three cantos in each.

4th. *Enigmas, Conjurations, Magic.*—The neologisms of paranoiacs become obscure and often undecipherable, because the relation which connects them with the thing symbolized, is most complicate and also most superficial. People but little civilized proceed analogously in their symbolical ideographism; they are very fond of association by enigma. A hawk on a post intimates the idea of the divinity; a feather of an ostrich represents their conception of justice. When we reflect on the abstruseness of such hieroglyhpics, it is not to be wept over, that certain paranoic neologisms, equally obsure, must wait for their *Champollion.*

From the enigma, which may even assume a monumental form, as in the pyramids, the treasuries, the labyrinths and the scamander, proceed the conjuration, magic, and all those arts and manœuvres—paranoiac, savage, medieval—which, by means inexplicable aims at ends impossible; such as *alchemy, chiromancy, necromancy, lottery, astrology, hermetic science, aeromancy, hydromancy,* etc., etc., etc.

The Negroes of Calabar predict from the cry of the owl, whether their lots will be good or bad, according as they hear it on the right hand or on the left. With the Calmucks white falcons are the bearers of good fortune on the right, but of misfortune on the left. And as the haruspice had an opposite signification on the opposite sides of the body, so is it modified by its presentation, behind or before, above or below. In this prejudice the

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credulous inhabitant of Siberia does not much differ from our paranoiac, who subjects everything to the antagonist action of the *voice* and the *froia* (*vide* Neologisms, Index 123, 124.)

Sneezing, yawning and spitting have, among various peoples and sects, a special efficacy, inasmuch as they permit to enter, or oblige to depart from the respiratory organs, the harmful spirits. The Caffirs, the Zulus, the Persians, the Tyrolese, the Celts and the Icelanders concur in this singular superstition, which has many proselytes among the paranoiacs who dread the *Peronenti* or the *Soffio del Dragoni* (*vide* 74, and others of our collection.)

In the Basilicate, the prayer commences with the exorcism of water. The French child that is caught cheating in play, makes amend for his offense by spitting on the ground, whilst his little comrades cry out, "*Eh bien, crache barat.*" Prayer itself is to children and the vulgar, but a magic formula, so that in them are found the tendencies and the proceedings of the paranoiac who invents deprecations and conjurations. In the middle age sortileges were objects of universal belief, and entire populations were regarded, and regarded themselves as gifted with magic power. Was this an isolated case, an accidental aberration? By no means: it was a universal fact, a law of thought, for we find it everywhere. The Mayas in Central America believe, as do all other savages, in magic; a magician can slay, with a look, any unlucky one who displeases him. The children, usually very amiable, of the Negriti, are not rarely very ill-tempered, in the filthy state in which the parents keep them, in order to preserve them from the evil eye. At the close of the last century there bloomed, as a reaction to the encyclopedia, a hermetic literature of the most curious sort, which three centuries before would have been normal. These are the last erudite manifestations of a tendency which to-day is affirmed, roughly, among the insane.

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5th. *Nomadism.*—This is so frequent that it has merited in paranoia, the name of *errabond insanity*, and other similar names. The paranoiac is a born traveler, and he is often trapped into asylums very distant from his birthplace. In Russia the passion of the *mougik* for a wandering life is well known. The forest, as the sea, has its sirens, who render privations sweet and make him disregard the dangers into which he runs, with the phrenzy of the enamored. Delighted with adventure, thirsting for the unknown, neither severity of climate nor the hostility of peoples, repel the Zingaro, just like the paranoiac, from that wandering life, which reminds us of the migrations of antiquity, and seems to be a bold protest of nature against the sweets of civilization.

6th. *Intercurrent episodes.*—In the paranoiac there are developed episodically, acute processes of the psychoneuroses, without any relation with delirium.. Superimposing on paranoia, it may happen that they remain there, and degenerating into chronic dementia, they thus abort the prior affections; sometimes recovery takes place, after their forming, in the course of the paranoia, nothing more than a parenthesis. These facts denote a predisposition, in the paranoiac, to acute processes of mental disease, and they proceed from a congenital disquilibriuin of the affective functions. But such a disquilibrium and such a predisposition, do not pertain exclusively to paranoia, for we meet with the same fusions, melancholia or contemplative excesses, or, at the least, with manifestations but little distant from the episodes of which we have spoken, in the savages of every region. Let the reader judge: "The American Indians," writes Waits, "are men of great and strong passions. In play, in the chase, and in war, they pursue their special ideal with so much energy and perseverance, that we are astonished on contrasting it with the apathy, drowsiness and phlegmatic inertia to which they abandon themselves as soon as their aggressive impulses cease. They show that these states of overaction, which are often prolonged,

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are not free of artifice; they pass, with the same exaggeration, into periods of profound calm and silence. They therefore pass from one extreme to another, and very much resemble the melancholic and nervous types (*sic*). This tendency to extreme emotions is also manifested in the indigenous American, in his extreme readiness to be terrified by insignificant causes, and to lose his sleep because of bad dreams, which disturb him, and in the moral domain because of his acute sensibility when confronting the judgment of others and public fame."

Not only the intercurrent episodes, but even sleeplessness, pantaphobia, vanity, a strange mingling of the somatic symptoms of the psycho-neuroses, with the psychical phenomena of paranoia, color this picture with such liveliness that the opinion expressed by this celebrated ethnographer, that "savages resemble the melancholic and nervous types," appears most appropriate. Maniacal exhaustion, according to other writers, is so common among the Negroes as to become, in their eyes, an indication of moral energy and perfection, so much so that the Bien, independent princes of the *Niam-Niam*, magnify their own authority by accesses of fury, real or simulated, and everybody knows what sort of a devil-possessed being a Negro is, when he dances and poetically details his own great exploits; also what surprising exaltation the modern Hungarian exhibits in the intoxication—for so it well may be called—produced in him by music.

7th. *Double personality.*—Two of our neologists present more conspicuously than any of the others, the not very common phenomenon of double personality: *Gerardi*, who was for some time *Papeschi* ("Neol.," 193), and *Restelli*, who is at once *Restelli* and *Bonaparte* ("Neol.," 187).

Among savages the idea that everyone has a double is very common. The *ego* that is awake is supposed to be different from the *ego* that sleeps. Another duplicature is determined by death, which kills one of the two previous personalities, leaving the other unhurt, and this one (which is the *perispirit* of the Spiritualists) continues to live as a

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spirit—a sort of fume-vapor—but with a life so material that meats and beverages suitable for him are placed in his tomb. It would seem that the conception of a double *ego* proceeds from the sight of the shadow—that unreachable phantom, inseparable from man, who ends by regarding it as another self.

With the Dakotas of America, at least after death, the soul is divided into four parts: one remains, to wander on the earth; one rises into the air, a third flies into the kingdom of spirits, and the fourth remains with the dead body. It is not to be wondered at if these four spirits, all dwelling together in the living man, should sometimes disagree and so puzzle him that he might not know to which of the four he should give heed. It is not therefore correct to represent the change of personality as the loftiest of the peaks—the *ne plus ultra* of delirium—the tip-top of paranoia. In hypnosis the suggestion of another *ego* is one of the easiest things imaginable. It is often quite spontaneously developed in dreaming, without any necessity for ascribing it to the general mutations of cenesthesis, which, so suddenly manifested, would be inconceivable.

8th. *Hallucinations.*—It is useless to spend time over the nature and the importance of paranoiac hallucinations; all writers are agreed. To this capital symptom (be it the cause or the effect of delirium), at least eighty per cent. of the paranoiacs pay tribute. Who would, on the other hand, believe that gross, indolent savages, may, in like manner, without being taken with fever or infective diseases, become the victims of potent and terrible hallucinations? Yet demopsychology shows that this happens frequently. The converted Zulus see serpents with ferocious eyes; leopards in the act of springing on them, and enemies with long spears. The inhabitant of Greenland, in a contemplative state, sees trooping before him a procession of human and animal figures, which he regards as so many spirits. The medicine men of certain American tribes see the mouth, and touch the scales of a serpent, that, according to them, is the cause of *zoster* (herpes.)

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The Esquimau who wishes to become *angikok* (magician), isolates himself, and fasts until an elementary spirit of nature consents to be his *familiar genius;* he then enters into commerce with fantastic beings, whom he sees and hears, and accepts as real—and then he returns to his people, to exercise the functions of a diviner, a physician or a priest. Among the Redskins, there are ceremonies which are usually accompanied by incoherences and hallucinations.

A missionary of the last century, *Dobrizhoffer*, a truthful and valuable ethnographer, though sometimes a little simple, relates that he was present in Paraguay at a strange magic ceremony; it was that of transforming, in the sitting posture, men into tigers. The crowd that contemplated freely all the phases of the metamorphosis, did not in the least doubt its reality, and was therefore the prey of a collective hallucination, to which—as the culmination of the magic—the narrator himself could hardly be a stranger. In fact, although he denies that he participated in the superstitions of those hallucinated savages, he sometimes expresses the suspicion that magic may be effectually exercised by means of the suggestion or assistance of the devil.

On the night after the first battle against the sons of Tarquin, the Romans were encouraged to retake arms by by a very loud voice; they fought and conquered. In Scotland the cry of the dead is believed in; it is believed in because there is someone who has heard it, and continues to hear it, and he states that he found it just like the last moans of the dying. This cry is called *taisk* in some parts, and *wraith* in others.

Children would not participate, with so much liveliness and interest in the fictions that make up their sports, if in playing they were not half hallucinated. It is quite true that without any disease or strong emotions the most simple and primitive being may enter into a hallucinate state. The announcement of that child who distinguished with precision, in the sound of the bells,

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the announcement, "*Harè! the Pope has arrived*," has a strong imprint of probability. It is the same with the paranoiac when he converts his own merely subjective hearings, or real sounds altogether elementary into words, phrases or continuous discourse. Further, even in the ordinary mode of perceiving external objects, no one will have failed to observe how quick and vigorous children and savages are. The most informal sketch of a nose has for them the full value of an entire portrait, so that the world appears to them peopled with brilliant images, which escape the sight of the adult and the civilized. This perhaps, is the reason why the memories of chlidhood are so pleasing to us; and it is also perhaps a mixture of hyperæmia and hallucination, that induces the Negro to talk so often to himself, in long solitary dialogues, which on an alienist, journeying in the centre of of Africa, might make him forget for a moment, his nostalgia of the madhouse.

These examples might be multiplied to infinity, so great is the concord and the abundance with which ethnographers and mythographers have related them. But without becoming ingulfed in quotations we hold it as demonstrated, that *all the germs of paranoia, without exception, pre-existed in primitive man.* But not from this fact should we assume that he was in all, and through all, the equivalent of the paranoiac. In what they differ, and what other characteristics should be conceded to the latter, in order to complete, with fidelity, the description, is that which we shall presently endeavor to settle, by summarizing in a brief conclusion, the result of our researches.

CONCLUSION.

Two works of Theodore Meynert, but little known and rather brief, depict with masterly touches the psychological figure of the *delirious idea*, as this genial biologist represents it. According to him the idea of the raver is already preformed, in the states of an unconscious ele-

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ment, in every normal brain. "The mental functions, which usually are associated, have the virtue of suffocating (we would say, of inhibiting) or of so elaborating it that no trace of it remains in consciousness, excepting rare and fleeting appearances, which have no importance. In order that the raving idea may acquire the energy and supremacy required to render it clear in consciousness, the devastating action of a mental disease is needed. The mental disease determines a twofold series of effects: 1st, it interrupts the normal associations; 2d, it facilitates by this means, the production of abnormal conscient images, which acquire all the greater intensity the less they are diffused to other territories. In other words the delirious idea, which lurks inconscient in the sound brain (we would say, and developed) attains by the sole fact of its isolation, the same intensity as the spinal functions exhibit when those of the brain cortex are silenced, and which certain muscles show when their antagonists are paralyzed. No longer then elaboration nor inhibition, on the part of associate processes; but free extrinsication in the field of consciousness, now disencumbered of correcting images, and consequently undefended." (Thus far, Meynert.)

This theory, intuitive rather than demonstrated, presents an evident lacuna. The delirious idea, if not a conscient process, at the least as an element of unconscious ideation, is here affirmed as pre-existing, and already prepared. But what proof of this, what argument, what indication? Manifestly none at all.

If we reconsider a little the semiopsychical documents which we have in our hands, however trivial may be the acceptance we accord to them, it is sufficient to enable us to educe from the theory of *Meynert* a series of supports, which seem to us a foundation and a clearness quite unexpected. The fact being established, that ideas and tendencies, altogether analogous to those of the raver, are met with—plain, conscient, active—apart from any mental disease, then have we exchanged into a *psychological*

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postulate, that which was advanced by Meynert, only as a simple hypothesis. The delirious idea, we maintain, is so innate in man, that with some people it constitutes the most elevated expression of normal thought, which is greedy for the explanation of the genesis of natural phenomena. It is the first attempt, necessarily rude and mistaken, with which men of little experience and slender intellect try to interpret that which they see. Why do all these interpretations of nature, and with them all the mystic tendencies they have favored, fall, at a later period, into disuse, so as to become inconscient, and to surprise us as a monstrous novelty whenever they re-appear in the delirium of insane persons? It is because human thought is continuously progressing. Its evolution, both in the individual and the species, may be conceived as a series of acquisitions, or, as we would say with *Sergi*, of stratifications, which not only increase, but also transform the active assemblage of the conscient functions; and into this unceasing metamorphosis, not the covered-up inferior strata, but only the formation of the upper new strata enters. That is to say, the more recent mental processes and habits overpower and render obsolete the more ancient, and no longer permit their hereditary transmission, or their development, unless in a subservient form.

A perturbating cause may break up the equilibrium of ideation and restore to the delirious idea—slumbering in latent vitality—that predominance which it had when it reigned alone in the virgin consciousness of the primitive man; and then we have delirium in the clinical sense of the word, delirium which may be defined as a re-appearance, under a conscient and quasi-spastic form, of a superstition subconscient, in a developed brain.

A similar re-appearance may be effected in two different modes; that is: 1st, directly—from *intrinsic excess* of function, or, 2d, from *intrinsic defect* of the modifying or inhibiting functions.

The first takes place in those psychic degenerations, in which prejudices and mysticism are presented, and pre-

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vail in consciousness, from an arrogance spontaneous and all their own. Not indeed that the degenerate brains are devoid of moderating functions, and unfitted for the psychical processes which we call superior, but merely that these functions are overpowered by the irregular and exaggerated development of some of the inferior functions or processes. The second is verified in the acute mental diseases and their chronic *reliques*, which frequently present the spectacle of a systematized delirium, altogether similar to the paranoiac form; not because of some anomaly of the psychic development, but rather from the fact that, under the influence of a cerebral affection, those functions which are last organized, and are, therefore, gifted with less stability, are the first to be suspended or terminated. Then, to use the saying of the *comari* (Neapolitan rough), "when the cat's away the rats can play;" not, however, from increased vitality, but from suspended or insufficient supervision.

Guided by such conceptions we have decided to construct a theory, which, though it may explain only as a dream the innermost machinery of delirium, has certainly the advantage of clearly showing its psychological genesis and of bringing into unison all its varied forms. This is not altogether superfluous, when we reflect that delirium is the true principal symptom of psychiatry, and that nothing related to it should be regarded with indifference by the alienist or the psychologist. Further, at the present, we cannot pretend to go. In fact, the material substratum, be it static or dynamic, certainly cannot unveil to us the characteristics which contradistinguish it in our eyes, when confronted with the substrata of others, perhaps more complex, but certainly equally connatural, in man. To search for such material characteristics is an undertaking quite as difficult and vain as that of determining the organic differences of men who speak different languages, or who disagree in tastes, or profess opposite political opinions.

Without, therefore, aiming at objects so Utopian, we

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shall content ourselves with formulating our conclusions in the few following principles:

1st. Delirium is determined by the *appearance* and *supremacy* of certain images and tendencies, which may be summarized in the term *superstition.*

2d. Similar images and tendencies are found as a unique and undesirable manifestation of the primitive man, and they are yet inherited, but enfeebled in the developed man.

3d. Between the group of these primitive ideas and that of the more recent, there is in the *sound* and *developed* man, a disparity of energy and an *antagonism* of function, altogether to the advantage of the latter.

4th. The clinical genesis of the delirium—whatever it may be—consists in the *victory of the superstitious tendencies*, which return to their first post; by which the type of the intellectual constitution is so modified that, at the same time, developed and savage, it degenerates into a real caricature, and bears in its deformity the stamp of its *morbid origin.*

5th. The supremacy of the superstitious tendencies is effected, in the paranoiac, by a congenital mastery of development, and in the non-degenerate insane person, by a supervening *paralysis* of the superior functions.

Mysticism, the pivot of our theory, is then the element which we find sufficient for the differentiating of these three beings: the *primitive*, the *normal* and the *delirious* man; and to distinguish, among the delirious, the non-degenerate from the degenerate. In fact, though common to all these, mysticism is that peculiar something in which everybody, by differently employing it, finds a mode of making himself recognized by other persons.

To the primitive man it is the small treasure of a great poverty. To the civilized normal man it is the cast-off garb of consciousness, which is soon to be lost on the way; a last surviving memorial, about to be drowned in the unconscious. In the paranoiac it is the revival of an obsolete function that rises out of ruins; the vanquished

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that again stands erect. In the non-degenerate insane man it is the deplorable residue of a disaster; the little and the worst that disease has spared.

Finally, with very different attributes, mystic prejudice belongs to every brain. Master, servant, rebel or survivor, it makes a part in some way or other, in every ideation. In the primitive man it intervenes as sovereign to govern all things; in the normal man it is reduced to a state of lethargy, as a poetic tendency, or an accessory play of thought; in the insane it reacquires, either by its own force, or by the paralysis of the contrary tendencies, once more the primary.

From brutalism to reason, from reason to delirium, and from one delirium to another, there are, then, not excluding the evident and undeniable differences in degree and proportion, such close relations as prove the universality, and the necessity of psychological laws.

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SELECTIONS.

CLINICAL NEUROLOGY.

CHOLERA IS A NEUROSIS: THERAPEUTIC CONSEQUENCES (By Alexander Hackin, M. D., F. R. C. S.)—The word cholera, as we understand it, is a generic term, serving to designate different affections, viz., cholerine, cholera infantum, summer diarrhea, sporadic cholera morbus and Asiatic or epidemic cholera. These affections, generally regarded as distinct, are in our judgment of one character, and although presenting degrees, they bear the same etiological relations, are dominated by a common pathological principle, and consequently, may be subjected to identical treatment.

Moreover, a large number of eminent authors, Indian and European, have given expression to an opinion similar to our own. Orton, cited by Aiken, maintained in 1832 that cholera presents as many diversities of aspect and symptom as scarlet fever, for between serious cases and those of only ordinary intensity, a disparity fully as considerable is to be remarked.

According to Sir James Jayrer, cholera presents phases and symptoms, whose gravity varies from simple *malaise* to profound collapse. It is often stated that epidemic cholera differs from Asiatic cholera. To us, cholera is cholera, whatsoever be its manifestations; its epidemic character, its intensity, are only phases—accidents of character.

In his communication to the Epidemiological Society of London, Dr. Scriven admits that sporadic and epidemic cholera are of precisely the same nature, just as sporadic small-pox resembles the epidemic type.

Dr. Guérin read before the Academy of Medicine of Paris a note in which he maintains that the distinction made between the different forms of cholera is purely arbitrary, and that this affection exhibits special variations of intensity. Dr. Dutrieux Bey, of Alexandria, regards the distinction made between Asiatic cholera and cholera nostras (sporadic cholera morbus) as purely artificial and arbitrary. In a report on cholera, addressed to the Government of India, Surgeon-Major J. M. Cunningham says:

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"An isolated case of measles or small-pox, differing from the numerous cases, constitutes an epidemic, and yet these affections, just as with cholera, have their epidemic and dormant phases." The opinion of Petenkoffer that the dejections of persons suffering from cholerine or from diarrhea, are as capable as those of cholera patients of provoking infection, only confirms the etiological unity of this disease.

Practical medicine has suffered much from the invasion of new theories, as well as experimental methods. Traditional pathology has given way to experimental pathology, and the spontaneous maladies to those which may be artificially provoked upon the inferior animals. Etiology has assuredly been much simplified by the discovery of the microbe, but it is very doubtful whether scientific medicine has profited much by these methods; observation has been diverted from the right path of clinical observation and therapeutic experience by the fallacious charms of the germ theory. In most instances, it seems to have caused physicians to forget their mission, to have prevented the relief of the sick, and to have produced misconceptions of the disease.

Time has only confirmed the words of Trichum, when, apropos of the cholera bacillus, he adjured the members present, despite the murmurs of some, not to believe that this discovery definitely settled the question, any more than the knowledge of the bacillus of tuberculosis would exterminate pulmonary phthisis (Koch, Grancher, Saint-Martin). However, be the origin of cholera as it may—either miasmatic or bacillary, telluric or meteorological—its neurotic character is most clear.

Cullen, in his Synopsis, has ranged cholera and diarrhea under the order of neuroses and class of spasms, and Dr. Henry MacCormac, whose pupil I was during the cholera epidemic of 1834, at the Belfast Hospital, regarded this affection as provoked by a lesion of the sympathetic system of the abdomen. The results of observations and experiments, made since that time, only serve to confirm my conviction on this point.

Mr. Sedgwick attributes all the phenomena of cholera to the troubles produced in the functions of the centers of the sympathetic system. Delpech has found traces of inflammation of the semi-lunar ganglions in patients who had succumbed to cholera. Dr. Johnson admits that the specific poison acts first on the blood or the intestinal

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tube, then on certain parts of the nervous system, particularly on the sympathetic and the nervous centers. According to Claude Bernard, the coldness and the symptoms of collapse, depend upon a considerable hypertrophy of the sympathetic nervous system.

The influence of the nervous system is accordingly very manifest even in the predominant symptoms, whether subjective or objective. The vomitings, and the numerous stools, evidently are connected with the attack upon the nervous apparatus of the stomach and of the intestines; the choleric crisis, the cramps, the vertigo, the anxiety, the spasms, the tremblings, have a nervous origin. It is to the vasomotors then, that we must refer the depression of the functions of respiration and circulation, the gravest symptoms of cholera. Proofs of this nervous origin may be found in the rapid deaths due to dry cholera, which are to be observed during certain epidemics, and in which the patients had enjoyed apparently good health; the fatal result being preventable by the use of hydrocyanic acid or the dilute virus of the *Upas antiar*. The prompt cures which we may observe in cases, apparently the most desperate, conflict with the opinion that we have to deal with serious organic affections.

Admitting this idea, it seems natural that MacCormac should seek to discover a remedy which exercises a favorable influence on the nervous system, and that with Carfisse we should seek, although without result, a means of acting on the sympathetic nerves without touching the remaining parts of the nervous system.

Later, Claude Bernard published his scientific researches which threw a new light on the pathology of cholera and the *rôle* of the sympathetic system in this affection. These investigations permitted the institution of clinical observations and experiments based on this physiological discovery, in order to discover the remedy sought.

Pursuing the idea of MacCormac, elucidated by Claude Bernard, it seems to me that we shall find in the antagonism of the pneumogastric nerves the means of checking the action of the sympathetic nerves in cholera.

But since 1866, there has been no epidemic of cholera, and I have been forced to test the theory practically in treatment of cases of cholerina, or English cholera. In every case I observed that by stimulating the pneumogastric in the neck, or by developing its inhibitory power, the vomiting, the stools and the cramps were arrested.

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The demonstration had not been completed when, during the summer of 1887, a very severe epidemic of cholera broke out at Malta. This mode of treatment was employed with a superiority of results as evident as in the less grave epidemic in which we had used it in England.

The simplicity of the treatment is a high recommendation.

In all attacks of cholera, whatever the stage, it is sufficient to apply with a brush the epispastic liquor of the British Pharmacopœia on the branches of the pneumogastric in the neck, on the mastoids, under the eye, covering three inches of surface. The effect is generally instantaneous; the stools, the cramps and the vomiting cease; the pulse regains its power and the warmth returns; the patient falls asleep, and all the morbid phenomena are annihilated before the vesication is to be seen.

In the crises of cholera these applications to the vagus seem to paralyze completely the sympathetic nerve in the stomach or the intestines. In general, it is preferable to produce the vesication on the right side. Coleman having demonstrated that the right pneumogastric commands the slender intestine: but, if necessary, the vagus of the left side can be put under contribution. The vagus is an inhibitory nerve and possesses an action antagonistic to that of the sympathetic nerve on the heart. By stimulating the sympathetic part of the heart, its contractions are augmented; but by acting thus on vagus, we can determine the arrest of the heart in full diastole.

The stimulation of the vagus gives rise to an important indication; that is, the re-establishment of the cardio-inhibitory functions of this nerve, which are evidently absent in cholera. The violent contractions and the palpitation of the heart cease; the energy of its cavities, especially of those of the left side, returns; the congestion of the pulmonary and cutaneous systems disappears. Simon and others have shown that in cholera the left side of the heart is generally empty, whilst the right side is distended and filled with blood. Sieluna and Bruce, performing autopsies on patients who succumbed at Malta during the epidemic of 1887, always observed the cavities of the left heart empty, and those of the right heart filled with blood.

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George Budd, in an article published in the *Medical Chronicle*, Vol. XXI., reports concentric hypertrophy in cases of sudden death from cholera. He cites, besides, M. Jackson, who in a report on cholera in France, in 1832, notices the fact that the hearts of persons who succumbed, often presented hypertrophy of the left ventricle.

This antagonism of the vagus and of the sympathetic nerves was announced to the Society of Biology of Paris, in a communication read by M. d'Arsonval, and which was made a part of the unedited labors of Claude Bernard. It treated of the antagonism of these systems and of the nerves and compared their relative actions to that of the tympanic cord and of the salivary glands.

Chirmak the elder, has shown that with the dog the stimulation of the vagus is prevented by the concomitant stimulation of the sympathetic. On the other hand, according to Foster, the injection of the submaxillary glands, which follows the stimulation of the tympanic cord, presents a great analogy to the inhibition of the heart provoked by stimulation of the vagus.

From these physiological details, we may readily deduce the mode of treatment which I have proposed. The practical application of admitted physiological and pathological principles, and the discovery of constant relations of cause and effect, suggest the idea of a well-defined law in this affection.

The action of the epispastic liquor has in every case proved sufficient to arrest an attack at the outset, but, as in cholera, every moment is precious, great profit may also be derived from the rapid action of the galvanic current, and from mitigated cauterization by the Mayor hammer.

According to Prof. Pisani, Chief of the Health Service at Malta, cholera made its appearance on the island on the 25th of July, 1887, and the mode of treatment, which I have indicated, was employed on the 31st of the following August. In his report addressed to the Government, Pisani remarks that:

"In several cases, the amelioration was very rapid, sleep following the stimulation produced either on the right side or on both sides. Particularly in the hospitals at Zabbor, Zeitum, and Manod, did we employ for the same purpose powerful applications of the epispastic

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liquor to the pneumogastric of the right side, even to both sides, and to that part of its course comprised between the mastoids. The action was marvelous, for the patient at once fell asleep."

Dr. Inglott, Surgeon of the hospital at Zabbor, says:

"Dr. Hackin has found a means of acting directly on the sympathetic nerves, sparing the other parts of the nervous system. This consists of the counter-irritation of the vagus. The treatment has been completely successful, and the results of my experiments made at Malta during the last epidemic, concord perfectly with the opinion of Dr. Hackin. It has often succeeded in grave cases where other treatment has proved futile, not only in my hands, but also in those of my friend Dr. Cannatacci, at the hospital of Zeitum. We worked together, and every day exchanged observations on this important subject. Dr. Hackin's treatment has often given us astonishing results, and my sincere conviction is that he enabled us to save several patients from death. I recall, amongst other cases observed at the hospital of Zeitum, that of a poor child of eight years, who was so cold that there seemed no hope of saving his life. All the internal remedies had proved useless. When I saw him in the morning he was dying; in the afternoon he was convalescing; and all this had been accomplished by profound vesication on the vagus."

I conclude, without hestitation, that the treatment of Dr. Hackin is the best and most prompt which can be applied in all dangerous cases of cholera.

Dr. Cannatacci, in his report on the cases observed by him at the hospital of Zeitum, observes that if this mode of treatment has completely failed in several cases, on the other hand, in the great majority it has yielded results so astonishing as to partake of the miraculous. He cites the cases in which it rendered the greatest service, and concludes: "The treatment of Dr. Hackin is the most useful in Asiatic cholera."

I conclude by citing examples of the action of this mode of treatment in the three principal divisions of cholera:

1. *Cholera Infantum.*—On Sept. 24th, 1884, I was called to Upton-Belfast to attend a child six years old, and arrived at half-past eleven in the morning. I found the child in the arms of its mother, and all its limbs swaying from side to side. He was enfeebled, cold; had

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vomited and had repeated passages. They told me he had been seized at 6 o'clock in the morning, and had vomited at least every quarter of an hour before my arrival. The mother had given milk and lime-water, without result. I prescribed no medicine, but, after placing the child on its back, applied the vesicant liquid under both eyes and to the neck. At the end of a half-hour the child fell asleep, and slept all night. The next morning, about 10 o'clock, I found the child in its mother's arms, having had no more vomitings or stools.

2. *Cholera Nostras.*—Sept. 18th, 1883, Constable C. called on me at half-past eight to attend Policeman Banack. When I arrived he presented the following phenomena: Vomiting, feeble pulse, violent cramps, palpitation of the heart, great debility, coldness of the extremities, numerous rice-like stools. He told me that on arriving at the police barracks, he had been seized with profuse vomiting, then, after the lapse of a half hour, with numerous stools and cramps. The attacks succeeded each other every quarter hour. I administered no medicine, but applied the epispastic liquor under both eyes, assuring him that none of the symptoms would return. I saw him again at half-past ten; he was convalescing, and had no more passages or attacks of vomiting.

3. *Cholera Asiatic.*—Case related by Dr. Inglott. Malta: Giuseppo Jalt, 42 years, boatman, residing at Nicolo San Francesci Zabbar. This patient had been attending his wife assiduously. She refused the treatment of Dr. Hackin, and died of spasmodic cholera thirty hours after the attack. I was called to attend the husband, for he refused to be taken to the hospital.

One hour after the death of his wife, he presented the following symptoms: Intense diarrhea, rice-like in appearance, eyes glaucous, lips violet, body cold, voice feeble, pulse slender, respiration anxious, thirst intense, painful cramps in the lower extremities, general debility, urine suppressed.

Treatment.—Injections of ether; profound vesication applied to the vagus—the two sides and of the neck. Two hours later, I returned to see the patient, who had slept nearly an hour. The cramps had ceased, the pulse had regained its vigor, and the patient urinated readily. I was called again in the afternoon. The patient was still

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feeble, but in full convalescence. The treatment had acted in a manner fairly miraculous.

These clinical observations require no comment, and it would be useless to dwell on the importance of the rapidity of treatment, in an affection where moments are so precious, or to direct attention to its soothing effects. The sleep which it produces and which succeeds to the most violent suffering, the re-establishment of the balance between circulation and respiration, tend to abort the malady and to oppose a typhic condition or secondary fever.

The happy results, obtained with this topical agent in all the phases of cholerina and Asiatic cholera, confirm the presumption that these two maladies are only pathological phenomena of the same affection, as also the truth of the apothegm of Dr. Petra, of Athens:

The treatment of maladies is a part of their pathology. The nature, the power of the remedy, the modifications which follow its applications, are the surest guarantees of their nature and their tendency.—*Selected from Medical Age.*

HEMIPLEGIC EPILEPSY.—The difficulties that still beset the path of cerebral surgery are exemplified by a case related by Abbe, before the New York Surgical Society (*N. Y. Med. Jour.*) The patient, a man aged forty-four, had a mitral murmur; no paralyses, no deviation of tongue, no anæsthesia, pupils reacted to light, knee-jerk absent; the other reflexes present, the plantar exaggerated. There was a purulent discharge from the left ear, with perforation of the drum. Skin dry, tongue brown but moist; pulse 80, temperature normal. The man was somnolent. An hour after admission he had convulsive movements of the right side, beginning in the foot. Next morning he had a limp. After breakfast another convulsion of the right leg, followed by transient paresis and hyperæsthesia. The urine was acid, s. g. 1,042, with no albumen or casts, but 32 grains of sugar to the ounce. During the following week the urine increased from 40 ounces to 86; several attacks of anæsthesia of the right arm and leg occurred daily, with loss of power. He could stand but could not walk. No optic symptoms. Hesitancy in speech and difficulty in pronunciation. Mind dull, memory good. The convulsions recurred several times daily, with more pronounced aphasia, and extended

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to the face (right side). Temperature 101° F., and evidences of mastoid suppuration. It was thought possible that there might be pressure upon the centers for the leg, arm, face and for speech, from perforation and extension of the suppuration. The mastoid was opened, and a loose requestrum removed. The convulsive twitching continued, and on the third day following, the indication of irritation of the cortex being pronounced, with slow pulse, wholly localized convulsions and more complete aphasia, it was decided to trephine in front of the lower end of the Rolandic fissure. No gross lesions were found either at this time, or at the autopsy, five days later.

The conclusion was that this train of remarkably delusive symptoms resulted from the diabetic toxemia; the mastoditis determining the irritation of the left convolutions.—*Times and Register.*

MULTIPLE NEURITIS, OR BERI-BERI, AMONG SEAMEN.—Dr. J. J. Putnam reported about twenty cases of a disease resembling beri-beri, but possibly another form of multiple neuritis, occurring among fishermen in northern latitudes, and referred to a similar series of cases reported by Dr. F. C. Shattuck in 1881. By correspondence with physicians in the seaport towns, Dr. Putnam had ascertained that, besides the larger epidemics, sporadic cases had occurred from time to time. One physician had reported frequent cases of swelling and numbness of the hands, attributed to handling fish. The influence of alcohol and the metallic poisons could be excluded; and since the outbreak had occurred only now and then, the influences to which the seamen were habitually exposed could hardly be considered as the whole cause, though insufficient food had seemed to play a part in some instances. Most of the patients had recovered, but some had died.—*N. Y. Med. Jour.*, July 19th.

EPILEPSY IN ITS SOCIAL BEARINGS.—Epilepsy in its relations to marriage is of the highest importance. The physician is here placed in a very difficult position. He has his choice between betraying his patient's confidence and revealing the state of affairs to those interested, and of keeping silent, and thus allowing a grave injustice to be inflicted. Benedikt (*Wr. Med. Woch.—Deutsch. Med. Zeit.*) believes a general congress for medical ethics should

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be called, for the purpose of pointing out to the physician the proper course to be pursued in such and similar cases. In Germany, a physician lays himself liable to prosecution if he reveals anything about a patient's illness without the latter's consent. We do not believe that the laws are so severe here, or if they were, that a jury would punish a physician for giving out professional secrets in such an emergency. An agreement by the profession on the course to be followed on such occasions would probably be of great effect in influencing proper legislation.—*Weekly Med. Review*, Aug. 23, 1890.

THE TETANUS GERM.—Dr. M. Reynier, in the *Revue de chirurgie*, gives the result of various experiments on animals with a culture of tetanus germs. In every instance, after the inoculation the typical symptoms were developed, and death followed in a short time. The microscope demonstrated the bacilli of Nicolaier in every case.—*New York Medical Journal.*

A CONTRIBUTION TO THE ETIOLGY OF JACKSONIAN EPILEPSY.—In the *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, Dr. K. Yamagiwa calls attention to two cases of severe cortical epilepsy in which *post-mortem* sections of the brain revealed disseminated patches of *Distoma pulmonale* in the cortex. Microscopic examination showed, in connection with the parasites, giant-cell and round-cell infiltration, thickened blood-vessel wells, and new connective-tissue growth. Further research disclosed the Distoma in the lungs.—*New York Medical Journal.*

CLINICAL PSYCHIATRY.

NEED OF PHYSICAL DEVELOPMENT AND PHYSICAL CARE TO LESSEN CRIME AND THE NUMBER OF CRIMINALS.—Dr. T. M. Dunagan (*Memphis Medical Monthly*, August, 1890,) says criminality is a mental disease. "Who can fail to see this that beholds a wretched criminal, answering for a hideous crime, whose life is but one long, dark day of distress and misery, made more miserable by constant and excessive manual labor, whose brother, inheriting the self-same nerve pathology, has for his portion an outbreak of insanity?"

After drawing attention to the facts that in times past

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the insane were imprisoned, starved, scourged and burned because they were thought to be possessed of devils or bewitched, the writer says:

"I regard criminality as much a disease as insanity. Sin in all its forms is most closely allied to, if it is not actually, a diseased state which the subject himself has no power to control. Ask the periodic drunkard to explain why he should turn from the high and holy road of temperance to that of a moral brute. He will tell you that he has a peculiar and indescribable weakness at such times, a weakness which he has no power to overcome, but like fuel to fire, when once under the dominion of this slimy monster its wild and uncontrollable flames consume alike reason and self-control, making of such unfortunates physical, mental and moral masses of suffering and destruction. To me alcohol and opium addiction is as much a disease, *per se*, as is phthisis pulmonalis. We discard entirely—in fact we deny, the abuse of alcohol as being simply a violation of moral and social obligations, but upon the other hand modern research clearly sustains the hypothesis, that chronic or acute alcoholism is the sequence of disease, being as it certainly is, as much a diseased condition as any other abnormality to which an individual is heir."

The writer believes that much criminality and other forms of morbid brain action may be much benefited by a stricter observance of physiological laws—the rules looking to the cure of physical disease and the more perfect development of the physical man. The good will not be so apparent to the present generation, but will accrue to succeeding generations. T. D.

EXHIBITIONISM; A SEXUAL PERVERSION.—M. Magnan has recently presented to the Societe de Medecine Legale the history of two cases showing that variety of sexual perversion not infrequently observed among men living in cities, known as "exhibitionists," or those having the propensity to expose their genitals in public places or to individuals, usually women, whom they meet in unfrequented places. According to the report of these cases in *Progres medical*, one of the subjects presented unmistakable hereditary defect, and both showed present typical degeneracy. The author classes these persons with the kleptomaniacs, the pyromaniacs, and the suicidal and homicidal insane. These degenerate beings are ordinarily

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a great trial to the police, and are exceedingly shrewd in the avoidance of arrest; but imprisonment has little deterrent or reformatory influence upon them. They are seldom persons who have a steady form of employment. It is probable that they are psychically incapable of acquiring a regular trade or business, or of applying themselves to its pursuit.—*N. Y. Med. Jour.*

PSYCHIATRY.

BLOOD OF THE INSANE.—Dr. W. Johnson Smyth (*Journal of Mental Science*, Oct., 1890) concludes that in insane patients, there is a very marked deficiency in hæmoglobin. That the deficiency is greatest in secondary dementia. That there is no very marked difference in its amount in melancholia, epilepsy and paretic dementia, albeit, Dr. Smyth has found very high percentages during the exalted stage, that the number of red corpuscles in these psychoses is below the normal standard. That the number of red corpuscles is least in secondary dementia and greatest in paretic dementia. The variations in epilepsy blood-plasma density varies, becoming greater as convulsive seizures occur. These results contract somewhat with those of Dr. S. Rutherford Macphail (*Journal of Mental Science*, Oct., 1884 and Jan., 1885), who found that anæmia is undoubtedly associated in many cases with mental disease. The blood in secondary dementia is deficient, hæmoglobin and hæmacytes, and deterioration advances with age. The blood of masturbatory lunatics is deteriorated in a marked degree. The blood is below normal in paretic dementia and the deficiency in the other states is too trivial to be of importance when it is remembered that the normal specific gravity of the blood is about 1055, and that in each c. m. of normal blood there is an average 5,000,000, it can readily be seen, in psychoses where the specific gravity is greater than normal, and where red corpuscles and hæmoglobin are deficient, that the blood-plasma is unusually dense. It is densest in secondary dementia and resembles the excessive density of senility, where mentality totters as a general rule is greater in the active stages than in the inactive and quiescent stages. While there is a deficiency

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in epilepsy the decrease is not so marked as in ordinary dements at the same age.

ANOTHER MIND-READER.—P. Alexander Johnstone, whose peculiar powers have of late mystified many Chicagoans, recently performed successfully the great feat of finding in a hotel register a name which had previously been determined on by a committee. It was following an attempt to do this that Bishop lost his life.

The committee drove in a hack from the Auditorium Hotel to the Grand Pacific Hotel by a difficult route, and going to the hotel register, selected a name. Leaving one committeeman, Mr. Charles Lederer, in charge of the register, they returned to the Auditorium, where Johnstone had remained in custody of one of the committeemen, so that there could be no possible apparent chance of collusion. They bandaged Johnstone's eyes securely. The sequel was astonishing. Johnstone instantly rushed down to the carriage and drove blindfolded to the Grand Pacific, avoiding cable cars and thousands of vehicles on the way, rushed to the register, turned the leaves rapidly, found the name and repeated it, giving number of page and date of month. Johnstone, on his way home from the hotel, was taken with a severe chill, which threw him into a cataleptic fit. His friends at first pronounced him dead, but after working over him for two hours, life was again perceptible.—*Weekly Medical Review.*

SUDDEN DEATH IN PSYCHOSES.—In an address at the annual meeting of Alienist Physicians, Dr. Brie, of Bonn, discussed this subject of sudden death taking place in lunatics, where disease had not been previously suspected. In four cases, marked disease of the cardiac muscular structure was demonstrable in the form of advanced fatty degeneration, with some arterio-sclerosis of the coronary artery in two cases. Myocarditic processes, with hypertrophy of the heart in the two others, and in all atheromatous degeneration of the aorta. Regarding the explanation of these degenerations he looks upon them as an expression of permanent trophic disturbances of innervation, and dependent on the cerebral disease that is the foundation of the psychosis, *i. e.*, provided there are no other more evident causes to which the changes can be referred.—*Med. Press*, Jan. 29, 1890.

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HYPNOTISM IN BELGIUM MADE A MISDEMEANOR.—The Academy of Medicine of Brussels, have memorialized the Belgian Government in condemnation of all public hypnotic exhibitions, a regulation has been adopted forbidding them. The only uses of hypnotism hereafter legally to be practised will be medical and therapeutical. The practice of hypnosis on girls under the age of 18 years is made punishable by fine and imprisonment.—*Jour. Am. Med. Asso.*, June 14, 1890.

EFFECT OF THE PASTEUR INSTITUTE IN PARIS.—In the first five months of 1888 there were two hundred and eighty applicants at M. Pasteur's laboratory from the department of the Seine alone, all of whom had been bitten by dogs either known to be rabid or suspected of being so. This number was but little short of the corresponding total for the whole year of 1887, which amounted to three hundred and six.—*Medical Record* August 30th, 1890.

DOUBLE CONSCIOUSNESS.—Ansell Brown left his home, assumed another name, and lived some time without knowledge of his previous existence. On regaining control of his proper identity he returned home. Hypnotism was tried upon him. Under its influence the man's mind could be made to revert to incidents in its fictitious existence, while of his real identity he would then know nothing.—*New York Medical Journal.*

INSANITY IN ITALY.—It is stated that insanity is constantly on the increase in Italy. The proportion of lunatics to the entire population is nearly as one to one thousand, whereas seven years ago it was as one to one thousand four hundred and seventy-six. Among criminals the proportion is very great, being, in exact figures, 12.25 per thousand.—*N. Y. Med. Record.*

DANGERS OF HYPNOTISM.—Hypnotism is apt to be a dangerous mental poison, and as such it needs to be fenced round with as many restrictions as the traffic in other kinds of poison. Narcotics of any kind are not to be handled by the ignorant, and are liable to reckless abuse by the feeble in mind or body.—*Brit. Med. Journal.*

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NEUROTHERAPY.

BORAX IN EPILEPSY.—At the meeting of the Cardiff Medical Society, held April 3rd, 1890, Dr. Stewart, assistant medical officer at the Glamorgan County Asylum, related cases illustrating the value of borax in epilepsy.

1.—A girl admitted, aged 13, had epileptic seizure dating from birth, occurring in numbers varying from two to twelve per day, and chiefly by night. She had been under treatment repeatedly, but without benefit. .Without treatment the fits during the first week were twenty-six in number; under borax they were reduced to twenty-four in the second, and eight in the third week. After an interval free from fits of sixteen days, four occurred on two successive nights; then, after another interval of nine days, a single fit took place, and since then there has been no recurrence of fits—that is, a clear interval of over a month.

2.—This patient began to suffer from nocturnal epilepsy at 18, and came under treatment five years afterwards. The case was complicated by serious cardiac disease and stenosis of the mitral orifice. Without treatment the average monthly number of fits were one hundred and one, and under borax this was reduced to twenty in the first month, seven in the second, one in the third, five in the fourth, none in the fiith, and one in the sixth.

3.—This patient had whooping-cough at 7, followed by hemiplegia, imbecility and epilepsy. The average number of fits a week, when no special treatment was employed, was 3.5, and bromide failed to effect any reduction; after two and a half years' treatment the weekly average had risen to sixteen. Under borax the weekly average during the first month was reduced to 15.5, and during the second month to 11.5. The diminution took place chiefly in the nocturnal seizures. In four, five and seven, in which the fits occurred both by day and by night, bromide exercised a decided influence upon the diurnal seizures, leaving the nocturnal practically unaltered, and in these benefit was experienced from the combined use of bromide and borax, three doses of the former during the day and one single dose of the latter at bedtime.

6.—This patient, epileptic and imbecile from birth, came under treatment at 35. The fits were of the noc-

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turnal type, were uninfluenced by bromide, and were slightly diminished by borax.

Dr. Stewart concluded that borax exercised a peculiar influence over nocturnal seizures, and that it was in cases where the fits were entirely of that kind, that the greatest good might be expected; that bromide, on the other hand, exerted a more powerful influence over diurnal seizures, and that, in cases characterized by both day and night fits, a combination of these two remedies would be productive of most benefit.—*Journal of American Medical Association.*

THE TREATMENT OF DYSPEPSIA BY CANNABIS INDICA.—At the Academie de Medicine, M. Germain Sée read a paper on the Treatment of Dyspepsia and Certain Other Gastric Affections by Cannabis Indica. He said that the drug should be employed in the extract, at the dose of one-third of a grain three times a day. It acts by suppressing the painful sensations experienced after the ingestion of food, and excites the appetite. However, when an excess of hydrochloric acid is present in the stomach, large doses of bicarbonate of soda should be given at the end of the digestion in the stomach; that is to say, four hours after food had been taken. The Indian hemp had no effect on atony or dilatation of the stomach, but it acts favorably on spasm and vomiting of a nervo-motor origin. In the case of pyrosis the effects of the drug were very pronounced. In conclusion, M. Sée said that Cannabis Indica was an effectual sedative to the stomach.—*Med. Press and Circular.*

[Cannabis Indica and bismuth have been for many years past a favorite prescription in the management of apepsia nervosa in our practice, given one hour before meals or regular meal times, and the results have been most salutary. We have usually supplemented this treatment by gastric solvents after meals and constitutional remedies.—EDITOR.]

CORTEX EXCISION IN THE PSYCHOSES.—This operation was performed four times on an excitable and melancholic chronic dement with amelioration of the symptoms, also in one case of acute dementia with stuporous melancholia and one of irritable dementia. Good results followed.

Burckhardt's chief indication for operative interference

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are auditory hallucinations. In one case of forty years' duration, a part of the temporal convolutions were excised and transient delirium resulted from the excision. In another patient, with similar hallucinations, this symptom partly disappeared after excision of a portion of the first temporal convolution. A second operation caused temporary aphasia.

Another hallucinated patient improved after operation as to the hallucinations, but died of meningeal hemorrhage and convulsions.

The gravity of the prognosis is the author's justification for this *dernier* operative procedure.—*Trans. Tenth Int. Med. Cong. Berlin.*

SPARTEINE AS AN AID IN CURING THE OPIUM HABIT.—In a paper on this subject in *La Bulletin Medical*, October 15th, 1890, Ball points out the objections to a sudden stopping of a large amount of opium. The principal dangers are delirium tremens, mania, sudden collapse, and uncontrollable sexual desire. In gradually diminishing the amount, several drugs have been recommended to supply the stimulation which the patient craves. The author has had very good results with the sulphate of sparteine. When the daily amount of morphine is reduced to a grain and a half, a small amount of sparteine is added, which is increased as the morphine is decreased until the patient gets two grains of the former a day, and none of the latter. The sparteine is kept up for some time, and then gradually discontinued. It may be given hypodermically, mixed with the morphine.—*Medical Age.*

PHENACETIN AS A HYPNOTIC.—It is almost insoluble in water, soluble in alcohol, almost tasteless, may be given like sulfonal, in wafers and compressed tablets, as a powder or with brandy. As an antipyretic and antineuralgic it is not as potent as antipyrin and antifebrin, but it is much less a cardiac depressant. In the insomnia of overwork, of nervous irritation, in febrile states, or from headache, it is a hypnotic of great value, in doses of five or ten grains, repeated if necessary. In sleeplessness of intense neuralgia, less than a gramme, repeated two or three times, as needed, is not likely to be effectual, the fact having been first ascertained that there is no intolerance of the drug.—*Boston Medical and Surgical Journal.*

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COCAINE ANÆSTHESIA BY KATAPHORESIS.—Dr. A. Harris thinks kataphoric instead of hypodermic is the proper application of cocaine where local anæsthesia is required, as the toxic effects of the drug are less liable to be observed. He uses a ten per cent. solution, with which a flannel-padded positive electrode, corresponding to the size of the area to be anæsthetized, is saturated. The large negative electrode is soaked in salt solution and placed in a suitable position on the surface of the body. A continuous current of twenty-five milliampères is then passed for forty minutes. Failure with this method is due to the fact that the currents are too weak, applied for too brief a time, that the operator does not understand the apparatus, or that a reversed current is used.

NOTE ON CHLORALAMIDE.—Dr. Warren B. Chapin (*N. Y. Med. Jour.*) says: The cases in which I have used chloralamide have been mostly those of insomnia of a very persistent character, in some of which all other hypnotics had failed. Although my experience with the drug has been confined mostly to one class of cases—those of insomnia depending on some nervous affection—I have seen enough of its action to convince me that not only does it fail to possess all the virtues attributed to it, but, owing to its uncertain action and the many unpleasant symptoms which it produces, it is inferior to most of the other new hypnotics.

BROMIDE OF GOLD IN EPILEPSY.—The monobromide of gold has been employed in Russia, Germany and Belgium as a nervine and anti-epileptic. Dr. Goubart, of Brussels, has reported that, in a certain proportion of cases, it has been better borne than any of the bromides. According to him the initial dose for adults should be one-eighth of a grain, to be increased gradually to one-fifth; for children, from one-twentieth to one-tenth of a grain. The drug is a yellowish gray friable mass, insoluble in water.—*Jour. Amer. Med. Association*, Aug. 2, 1890.

PAPINE.—John Muir, M. D., of Pierrepont Manor, N. Y., Member College Physicians and Surgeons, Ontario, Canada, Ex-Vice-President Ontario Medical Council, speaks of Battle's Papine as a prompt, efficacious and unobjectionable substitute for opium. A patient, more

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than usually intolerant of other preparations of opium, bore it well and derived manifest benefit from its use.

PARIS PASTEUR INSTITUTE.—During the month of May, 146 persons were treated at the Pasteur Institute in Paris. Thirty-seven of these were bitten by animals in whom rabies was experimentally determined, ninety-one by animals whose condition was certified by a veterinarian, and eighteen bitten by animals suspected to be rabid.—*Journal American Medical Association.*

NEUROTOXICOLOGY.

POISONING BY ANTIFEBRINE.—"Dr. J. Vierhuff, of Subbath, in Courland, communicates to the *St. Petersburger medicinische Wochenschrift* the notes of a case of antifebrine poisoning, which show what dangers people run who dose themselves with drugs of this class. A healthy young married woman, who had been in the habit of taking antifebrine for headache, feeling the pain come on early one morning last summer, took, fasting, about a teaspoonful of the drug in some water. In about ten minutes, the headache not being relieved, she repeated the dose, which her husband remarked might prove dangerous. She consequently took a glass of milk and some alum water in order to produce vomiting, which she succeeded in doing, but immediately afterward giddiness, singing in the ears, throbbing in the temples, and a dull pain in the head, together with a feeling of weakness, came on, and the face assumed a livid hue. When seen four hours after the drug had been taken the face was a livid color, the lips blue, the pupils contracted, but the heart, temperature, and mental condition were normal. An aperient and a stimulant were ordered. Shortly afterward the patient became suddenly collapsed, the pulse could not be counted, and the breathing was very shallow; in fact, the woman appeared to be dying. The soles of the feet were brushed, vinegar was rubbed on the face, and cold water sprinkled over face and chest; also a mixture of camphorated oil and ether was ordered for injecting subcutaneously. While this was being procured several syringefuls of dilute spirit, which was all that could be obtained, were injected and the patient was brought round, though for three hours and a half her condition

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appeared hopeless. Then, after recovering somewhat, collapse again came on, and recourse was had to an intravenous injection of a solution of common salt, which appeared to act most beneficially. In about fourteen hours after the drug had been taken the patient was out of danger. After that she continued to improve, though she complained of debility and pain in the limbs for a week. Dr. Vierhuff remarks that the serious symptoms were probably due largely to the patient's taking the antifebrine on an empty stomach."—*Lancet.*

POISONING FROM ANTIPYRIN.—The *Medical Record* says that seventeen fatal cases of poisoning from antipyrin occurred in one week in Vienna, during the prevalence of the influenza. In many of these cases the drug was bought by the victims themselves, without a physician's prescription; but, partly in consequence of these fatalities, it is now illegal to sell antipyrin except upon a written prescription from a physician.

FORENSIC NEUROLOGY.

WATSON'S CONCLUSIONS ON SPINAL CONCUSSION.—1. Concussive accidents never produced pathological changes in the cord unless great force has been applied to the spine. These cases are generally complicated with vertebral fracture or dislocation, rupture or stretching of vertebral ligaments, or distant injuries so severe as to quickly prove fatal.

2. The symptoms develop immediately, and are rarely intensified by morbid changes in the cord; exceptions, fractures, dislocations, and slowly developing hemorrhage causing pressure on the cord.

3. It is very difficult to demonstrate stretching of vertebral ligaments on living subjects. The lesion is frequently overlooked on autopsy.

4. Injuries of the cord, with visceral injuries in addition, develop symptoms dependent on the existing complication. The termination of the case rests on the character of the traumatism.

5. Concussive force, though remotely applied, frequently results in the production of severe and even fatal

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traumatisms in various organs within the three trunk cavities.—*Med. Record.*

LOMBROSO ON CRIMINAL ANTHROPOLOGY.—Lombroso argues that an attentive study of the physical organization of the habitual criminal shows him to belong to a degraded type of humanity, the product of hereditary degeneration. The peculiarities observed are not constant, but certain traits are repeated more often than with normal beings. By arranging these traits in the mind the type is conceived. Lombroso acknowledges that his type fails completely in 60 per cent. of his criminals; in a few cases, too, individuals have most of the marks without being criminals; and one case has even been mentioned of an unfortunate man who bore all the stigmata of criminality without being a malefactor. Nevertheless, certain bodily peculiarities are found to be commoner with criminals than with normal individuals, and the occurrence of a greater number of these peculiarities makes him approach nearer the type. The principal peculiarity of these stigmata are smallness of the head, asymmetry or abnormal forms of the skull, unequal size of the orbits, teeth irregularly placed, abnormal forms of the palate, and increased size of the lower jaw. There is also a great variety of irregularities in the shape and position of the external ears. The stature is generally low; left-handedness is commoner than in honest men, and in some cases the left hand is longer than the right, and the stride of the left leg is greater. The sensibility to pain is deficient, and the perceptions of taste and smell have been proved to be less accurate than with ordinary beings. The brain of the criminal presents miscellaneous irregularities; various anomalies of the gyri have been pointed out by Professor Benedikt and others, and the relative size of the cerebellum to the cerebrum is increased. Peculiarities in the skeleton, such as asymmetry of the thorax and deficiency in the number of vertebræ, have also been noticed. The type is much more decided with the males than with the females of the criminal classes.—*Brit. Med. Jour.*, May 24, 1890.

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EDITORIAL.

[*All Unsigned Editorials are written by the Editor.*]

Address Notice.—Please note that the editorial rooms of the ALIENIST AND NEUROLOGIST are at 500 N. Jefferson Avenue, St. Louis.

Hypnotic Suggestion Before the Law.—The Eyraud-Bompard Case.—Was Gabrielle Bompard Influenced by Eyraud to Commit Crime?—This trial, in its psychological aspect, is the most remarkable of modern times. No plea since the days of Cotton Mather, when witchcraft occupied the public mind and theories of obsession were offered in extenuation of reputed crimes, has possessed so much interest to students of psychology and psychiatry. The names of the medical experts appearing as witnesses on both sides of the case are those of men distinguished for their contributions to science and their studious research. Both Prof. Liegeois and Prof. Brouardel, the first testifying in favor of hypnotic influence, and the second controverting it, are eminent in the medical profession of France. The hypnotic school of Nancy is justly renowned, and the conclusion of Prof. Liegeois, a pupil of Bernheim, that Gabrielle Bompard was a hypnotic subject, carries with it the weight of an authority respected wherever hypnotism is studied and understood. But Charcot and Brouardel are likewise at least fully as eminent.

There seems no reason to doubt that the girl was susceptible of mesmeric influence, and more or less under the dominion of Eyraud, who was, at least the leading agent in the murder. Whether Bompard was a willing or unwilling subject does not appear from the testimony as transmitted over the cable. The girl's previous life, however, her early history of evil habits and neglected education requiring unusual restraints and coercions, as set forth in the address of the Procurator-General, would indicate that she was an apt and consenting accessory to the crime.

The condition of hypnotic criminal suggestion is a subject yet to be elucidated by science and before the courts. Notwithstanding the uncertainty which invests this case, great crimes may be committed under hypnotic

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suggestion. This possibility has been demonstrated by Mesmer and his pupils, by Charcot and Bernheim, but before any of these, with the exception of Mesmer, the previous experiments of Braid, the Manchester surgeon, also show its possibility. There is no reason to doubt, from what we know of the possibilities of Braidism, or hypnotic suggestion, that crimes as well as the cure of diseases may be accomplished through its influence.

But crime under the influence of hypnotic suggestion would be what is implied in the expression—an act, every step of which would be suggested by the hypnotizer to the hypnotized. If all the steps necessary to the accomplishment of a crime are anticipated by the hypnotizing agent having a criminal intent, the subject would doubtless carry out minutely all the suggested details; but the intervention of any circumstance or eventuality not reckoned upon by the hypnotizer in planning the execution would undoubtedly upset entirely its involuntary execution.

The difficulty in the way of accomplishing crime under hypnotic influence would be in the operator's failing to anticipate every possible resistance, and providing for it by suggestion. It is owing to this fact—and it is fortunate that it exists—that crimes under hypnotic influence can very seldom occur. To illustrate: A villainous hypnotizer with murderous intent suggests to the subject of his influence that at a certain time he shall proceed to a certain house where he will find his proposed victim lying in a certain room, in a certain bed and in a certain position. The successive steps of this crime are all carried out by the subject, but the victim does not happen to be at the place suggested. The individual acting under suggestive control can do no more in the accomplishment of this intended crime except he awakens from his hypnotic trance and completes the act under the impulse of his own normal volition. This fact, then, would render the perpetration of crime under hypnotic suggestion ordinarily impossible. The subject, acting hypnotically, is liable to encounter in almost every instance unsuggested and unprovided for contingencies.

When the plea of hypnotic influence is advanced in extenuation of crime the presumption from what we know of this phenomenon would be against its entertainment. The scientific and the legal presumption would in such a case, I think, be identical—that is, against the theory of hypnotic irresponsibility. For the reasons here made

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apparent I think that the startling fears expressed in many quarters as to hypnotic power being generally abused, are groundless, and that while crime may be perpetrated under its influence, the difficulties in the way of its operation are sufficient to hold its abuse in check. Nevertheless, in criminal procedures, as well as in civil ones, courts ought not to lose sight of this possible "undue mental influence." Its tendency is to develop a morbid condition of the mind and an unstable state of the psychical centers. This is a substitution of one disease for another, and is profitless in a medical sense. The practice of mesmerism destroys the subject's mental equipoise, renders him more or less abeyant to that of the operator, and obliterates his normal individuality. For this reason, to practice it indiscriminately, is criminal, and should be made so by the law, as it is in many countries. [We acknowledge our indebtedness to a city paper for having called out this editorial in an interview.]

The Therapeutic Role of Somnavolism (Hypnotism.)—The term somnavolism, which we prefer as more expressive of the true hypnotic state than hypnotism or any of its common synonyms, Braidism, Mesmerism, etc., means an absence of the will of the individual by induced sleep. It means a condition of induced sleep in which only the normal will of the individual has taken its departure, and the will of another holds sway over his mental operations. Secondary to this the natural conscienteousness of the person somnavolized or hypnotized, and his normal mental spontaneity seems also abeyant to the operator's will and obedient to his every suggestion.

This is an abnormal and morbid state of the mind and will, and ought never to be induced in a person except for good reason, based upon a thorough knowledge of the mental powers, accompanied with a conscienteous regard for the preservation of their integrity. Somnavolism as ordinarily induced, is a step in the direction of that gravest of mental maladies—insanity. When disease of the brain brings about such impairment and perversion of the will, its victim is insane. Hysteria is a perversion of the will coupled with mental vagaries, caprices and distortion of sense perceptions, not far removed from the conditions induced by artificial somnavolism. Hysterical hypnotism is not uncommon, and hysterics make the best and aptest subjects of the hypnotic influence. Somnambulism is a morbid condition allied

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to it, which we treat remedially, and endeavor to prevent for the good of the victim's brain.

In short, all automatic states of mind and brain are abnormal and subjects for the consideration of psychiatric physicians. All alienists know how often these automatic states, of which the hypnotic condition is not the least, are the precursors of hopeless insanity. For this reason the hypnotic condition should not be brought about in an impressible subject except for grave therapeutic considerations, such as the substitution of the restraint power of suggestion over morbid habits in individuals in whom that power has been lost through disease of the nervous system, so far impaired as to be practically annihilated, as in dipsomania, aggravated hysteria verging on hystercal mania and allied states. The will-power in these conditions is already impaired to such an extent that somnavolism cannot impair it further, but, on the contrary may, by substitution, re-establish normal self-restraint over the morbid impulses and by being judiciously withdrawn, as neural stability returns under well adapted neurological treatment, may not permanently harm the unfortunate patient.

Other states of insanity may be justifiably treated in this way, likewise hysterical paralysis, hysterical blindness, narcotic inebriety, etc., when the diagnosis can be unerringly made, but never epilepsia or real organic blindness, as Mesmer once attempted in Vienna, to his discomfiture.

We have no moral right to diligently endeavor to arouse the hypnotic condition in those whose nervous systems are in so stable a state that instability has not already expressed itself, in some of those morbid conditions of will perversion, which render the subjects willing victims. We may substitute our own stronger wills to guide them in the direction of regaining their own self-control, but we have no right to bring about avolistic states—somnavolistic or hypnotic—which are always abnormal, unless there is pressing therapeutic necessity for such procedure, and then the remedy should only be employed by competent neurologists who know what they are doing, what they ought to accomplish and when they should withdraw the influence.

There is another aspect of somnavolism not hitherto dwelt upon, which claims consideration. It is the *rôle* it is capable of being made to perform in the detection of crime. If it be possible under any circumstances to

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accomplish crime under its influence, it is equally possible to compass its detection by the same means. The secrets memory records of the criminal mind (*particeps princeps*, or accessory), may be unfolded under the psychical control yielded in the somnavolistic state to another. This is evident to all familiar with the subject, and needs no extended demonstration. It is the antidotal influence of this mysterious state.

The Vascular Theory of Sleep.—Brown-Sequard has successfully combated the theory, so ingeniously advanced by Hammond and others, that sleep is due to cerebral anæmia. The French physiological *savant* has often seen hyperæmia of brain, medulla and cord during sleep, and has also, with Goltz, seen sleep recur in animals deprived of their cerebrum.

Peripheral irritation inhibiting mental activity, exhausting the power of action of muscles, exhausting the diaphragmatic and cardiac power—in short, irritation and the natural sequent exhaustion is Brown-Sequard's rational explanation of the cause of sleep, and in our judgment this is the true *rationale* of this wonderfully conservative physiological process.

While admitting the contraction of the blood-vessels of the retina and of the cerebral lobes, implying anæmia of the brain, as a phenomenon of incipient sleep, he regards it as one of the conditions confirmatory of previous irritation.

The anæmia theory of the causation of sleep has served its theoretical purpose and gone the way of so many other theoretical misconceptions in physiology. This theory was never accepted by the writer, because it did not harmonize with all the facts of clinical observation, while physiological experiment only partly suggested it as a suitable explanation. The brain needs blood during its reparative periods, and it gets it in abundant quantity. The lower animals and man sleep well after full, satisfying, agreeable meals. Cerebral anæmia may come later as a sequence of completed recuperative sleep, and the brain does rest and repair in spite of the anæmia and hyperæmia. Hypnotics of the narcotic class, opium, alcohol, etc., do not deplete the brain of blood, while the bromides do. Yet the brain sleeps under both. It sleeps under digitalis, ether, chloroform and chloral, and before the circulation falls. Cerebral anæmia is rather

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a sequent than an antecedent condition. The varying circulation phenomena attendant upon the different kinds of sleep are dependent rather upon antecedent or subsequent ganglionic and vasomotor impression, and sleep is a thing apart from the vascular phenomena attending. The spring that widens or narrows the cerebral arterioles and excites or exalts vital motor centers in the cerebro-spinal axis may be variously touched during the somnic state, according (perhaps) to the reparative needs of the exhausted organism, or the influences of its environments; and it is remarkable how much in spite of adverse environment, tired nature will accomplish in the securing of sleep, as for example the tired soldier sleeping on the march, or in the saddle, or on the battle field amid the roar of musketry and cannon. The circulation need not subside, and must not of necessity be reduced in order that sleep may come, nothwithstanding a certain physiologically quiescent condition of that great cerebral irrigating mechanism—composed of the circle of Willis, etc., is favorable to the induction of the most healthy sleep—sleep is not necessarily induced through the vasomotor mechanism of the brain.

A Much Needed Legislation.—Under this caption an editorial in the *Southern Medical Record* is so appropriate to the needs of our own State, and to every one of the many States of the American union, not provided with a hospital and suitable laws for the care and cure of the inebriate, that we give it space in our pages, commending its suggestions to the Governor and Legislature of Missouri. When States license the selling of poison it should provide an antidote for the poison's victims. Free whisky and free inebriate asylums should go together.

"Now that the representatives of the people are assembled at the capital in the capacity of legislators, it is in order for us to make such suggestions as will more fully acquaint them with our wishes and necessities.

"Some provision ought to be made for the care-taking and refo-mation of the unfortunate inebriates of the State. It is a crying shame that nothing has been done in the Empire State of the South to give this greatly needed relief. The world is very uncharitable towards the victims of alcohol. Prohibitory laws have proven a failure; public sentiment is morbid on the subject. Temperance union movements have done much good in edu-

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cating public opinion, but cannot reach these poor, ruined individuals. What shall be done with them? If inquiry be made' it will show that a large per cent. of the crimes committed—especially the homicides—are due to the effects of whisky, or some other alcoholic liquor. The sale of intoxicants is licensed and the revenue turned into the public treasury, but there is no provision made to reform the miserable drunkard. Why is this? It is because of the *false opinion* that is abroad that drunkenness is a *sin* but not a *disease*. Such belief obtains only among the uninformed. But we will not stop here to discuss the question. We know whereof we speak when we say that inebriety is one of the most intractable diseases known to the science of medicine. It makes a physical, mental and moral wreck of the individual, unless restored by appropriate treatment. Leaving all other questions aside, we feel that if the State of Georgia would establish and endow an asylum for these unfortunate citizens, it would prove a most economic legislation. The cost of keeping and prosecuting criminals, and providing for the insane in the asylum, would soon diminish sufficiently to admit of the establishing of suitable hospitals for the inebriate without any increased expense to the State. Humanity cries out, the heart-broken wives cry out, and the worse than fatherless children cry out for something to be done in this behalf. Legislators have promised to make needed reforms. Here is their golden opportunity. We are confident that Governor Northen will stand by them; that the people will give them their hearty endorsement, and when they return to their homes, it will be said, 'Well done, thou good and faithful servant.'"

Jefferson Medical College.—The popular view, says the *Times and Register*, of the situation at the Jefferson Medical College, is shown in the following conversation:

"Why does not Jefferson bring Dr. I. N. Love, of St. Louis, here, to fill Bartholow's place—an able therapeutist, brilliant lecturer and immensely popular man?

"It is not so much brains that are wanted as it is a fat contribution to the Building Fund."

We have nothing to say against Dr. Love's qualifications. On the contrary, we know them to be all the position demands, and that he would adorn the chair if

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called to fill it it, but as a disinterested observer as well as interested friend in what pertains to the welfare of "Old Jefferson," we cannot believe the Faculty of this time-honored school mean to make wealth an essential qualification. Your informant, Mr. *Times-Register*, must have been afflicted with auditory hallucinations.

Morbid Jealousy.—There is now on the boards of the Palais-Royal Theater in Paris, relates the correspondent in that city of the *Courrier des Etats-Unis*, a comedy entitled "*Friends' Wives*," and repeated nightly with much *éclat*, wherein everything is strained in order to caricature the type of a jealous husband. The semi-maniac spies his wife incessantly. When, for example, she is permitted the luxury of a street promenade, the husband assigns to her, in minutes and seconds, the length of time she may be absent, while imposing upon her the route she shall take, and the places she may visit. The better to assure himself of her fidelity to his injunctions, he attaches to her a pedometer, which he carefully adjusts at her departure, and registers on her return!

The authors, and especially the auditors, laugh immoderately over this time-worn theme. But, says the correspondent, the medical profession do not laugh. On the contrary, they envisage this eccentric condition as one of serious character, constituting in fact a distinct mental disease. A French physician, he says, Dr. Emile Laurent, has just published a special treatise, as a result of his study of this morbid psychological state, wherein he paints the man or wife, who is pushed to extreme jealousy, as not only speeding along the high-road through the borderland of mental dethronement, but as having actually trespassed its boundaries.

This discovery is not a recent one, and if we mistake not, Dr. Dorez has preceded Dr. Laurent, in the Paris field, with a monograph on the same subject. As the work of Dr. Laurent has not yet come under our eye, we can only vouch for the fidelity of the translation of the two following cases, which, although alleged to have been scientifically observed, are but the versions of a daily newspaper, for the entertainment as well as instruction of its readers.

The genial correspondent of the *Courrier* deplores the threatened loss to the dramatic and newspaper world of the subjects of marital jealousy, and questions the present right

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of the alienist to clothe them with the sanctity and panoply of disease. But he feels sure of his ground as a nosologist and declares that all victims of jealousy, whether morbid or normal, should be classed in the category of "persecuted persecutors." He is even so enterprising as to predict that if these interesting sufferers are finally relegated to the domain of the alienist the latter can only hope to cope successfully with such patients and their infatuations through "*la suggestion hypnotique*," to which remedial agency a nervous system already torn with "trifles light as air" should prove paramountly accessible.

CASE I.—A gentleman occupying a high social position was married to an eminently respectable and refined woman. He, nevertheless, soon fell furiously suspicious and misinterpreted her most simple and reasonable acts. One evening his wife, who was an excellent musician, entertained a drawing-room company, in his presence, with selections of piano music. The pleasure which her skillful execution, as well as her politeness conferred, elicited manifestations of applause. Throughout the entertainment the husband exhibited pain, and assumed an air of defiance toward the audience, which ended in his abruptly leading his wife from the room before the conclusion ot the piano exercise. Thereupon followed, in private, a terrific scene, and a demand by him upon the poor woman for explanation by what right the listeners, who were mostly strangers to her, indulged in tokens of approval!

His subsequent decline was so rapid that, although a man of marked intellectual superiority, he sometimes beat his wife while imagining that she grossly deceived him, and lied in her expostulations. He would sometimes temporarily recover his mental equilibrium, and give way to copious remorse and despair at the indignities he had inflicted. But he speedily relapsed into his outrageous suspicions and behavior.

He retired with his wife to a remote country estate, the better to recover his peace of mind. But his delusion continued, and he constantly upbraided her with the concealment of her lovers, even there. His violence increased, and his wife sought a separation as a means of preserving herself from his maniacal fury.

CASE II.—Another case is related, here a woman, in illustration of the progress of marital jealousy into a state

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of absolute and unmistakable insanity. This person is at present an inmate of the St. Ann Hospital for the Insane.

The woman, married to a Government employe, became speedily distrustful of her spouse. She began close espionage of him, strangely misinterpreted his conduct, and discovered grounds of alarm in his most insignificant goings and comings.

The husband at first treated her caprices as ridiculous pleasantries, which excited little else than his surprise. But the unfortunate woman, no longer mistress of herself, and under the ban of a fixed idea, was by no means in jest. She formulated against him the most absurd charges, and beset him at the door of the Government building, where she endeavored to enlist the sympathy of public visitors, haranguing them in most extravagant terms, and loading her embarrassed husband with charges of the most disgraceful liasons and odious conduct.

Her repeated acts of vengeance, for purely imaginary outrages, culminated in her consignment to treatment in an asylum. W.

Psychoses from Eye Operations.—Dr. Frankl (*British Medical Journal*, 1890) discusses thirty-two cases of insanity after eye operation, which he divides into four classes: The first consisted of patients between thirty and ninety years old. The psychosis was an acute hallucinatory confusional insanity with auditory and visual hallucinations of a terrifying nature. The second class comprised seven patients of alcoholic antecedents. The third class comprised seven aged individuals in whom simple confusion and stupor, without hallucinations, followed operations on the eye. Finally, there were three patients in whom operation was followed by somatic conditions which caused death. During these affections inanition and delirium were observed. The operations were chiefly for cataract. Mental disturbance was also noted after iridectomy, operations for strabismus and enucleation of the eyeball. The prognosis of the psychosis was not always favorable; it might last for months and years, and frequently ended in dementia. These cases might be reckoned among those in which mental derangements followed surgical operations in general. They were, however, proportionately so frequent after operations on the eye that other causes had to be sought for: The numerous nerve-tracks connecting the eye with

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the brain; eye lesions also occasionally produced psychical affections. Irritation of the sensory organs might also be reckoned among the causes of insanity; predisposition created by the depression caused by blindness. Dr. Frankl cited cases in which mental disturbances occurred during the time blindness was coming on, and recovery followed operation. The advanced age at which operations for cataract were frequently performed. This was, however, only true of a certain number of cases, as psychical diseases after eye operations had been also noted in young persons. The influence of the darkness cure was also very important, as darkness had a depressing influence. There were individuals who became affected with hallucinations on mere closure of the eye. Dr. Schmid-Rimpler had seen cases of mental disturbance from shutting out light without operation. Psychical affections followed operations which did not require the darkness cure, but it was positively certain that the longer the darkness cure lasted the greater was the disposition toward mental disturbances. M. Parinaud (*Reveil d'Ophthalmogie*, 1890) believes that the cerebral troubles should be attributed to the prolonged deprivation of light, and to the meager diet to which the patients are restricted. Grandclément and Galezowski consider that the atropine installations are not without influence. Chibret, of Clermont, sees the cause in alcoholism. Ledda relates two cases in which the delirium was clearly due to atropine. In one the delirium preceded operation. Sichel reported eight cases in 1863. Others were published during the same year by Borelli, Magne and Lanne. Saltini published four cases in 1881. Sichel ascribed the occurrence to the bandaging of the eyes. Borelli thought that it was due to the regimen and a certain predisposition to mahia. Saltini declared that etiology is complex. He denied the influence of atropine, and deemed it the result of a special idiosyncrasy, darkness, diet and restlessness. Ledda recognizes several causes of the psychosis. He mentions the character of the patients, their predisposition to insanity and intoxication by atropine. The predisposition to cerebral trouble may be natural to the individual, or the consequence of the abuse of alcohol. This idiosyncrasy existing, darkness, the moral impression produced by fear of losing the sight, or the nature of the diet are sufficient to produce the delirium. Consequently the surgeon should

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endeavor to forestall the occurrence. Ledda advises the administration of chloral and potassium bromide before the operation, or the institution of some preliminary treatment in order to test the susceptibility of the individual. Schnable, of Vienna (ALIENIST AND NEUROLOGIST, 1885), had twelve such cases result in one hundred and eighty-six cataract operations. In his opinion senility is a predisposing factor. Landesberg (*Journal of Nervous and Mental Diseases*, 1886) had three similar cases to those of Schnable. Kiernan in discussing these cases (*Medical Standard*, 1888) ascribed them in great part to the same causes which produce mental symptoms after other operations; agitation about the results of the operation, senility and antecedent predisposition, hereditary or acquired, or resulting from periods of evolution, such as puberty or involution such as the menopause or senility.

Cystorrhagia in the Insane.—Dr. Manton (*American Lancet*, 1890) reports the case of a middle-aged female melancholiac under treatment in the Eastern Michigan Insane Hospital, who had been in poor health physically, and shortly after admission began to suffer from morning sickness and vomiting. Occasionally the vomiting would appear at other periods of the day. About ten days before he saw the patient, an abdominal swelling which extended nearly to the umbilicus, and was hard on pressure and dull on percussion, was discovered. As the patient was obstinately constipated, an ordinary enema of water was given. The dejection that followed was copious, and the vessel contained, besides the feces, a quantity of blood with several clots. When the woman was put to bed again, it was noticed that the abdominal tumor had disappeared, and as she still continued to "flood," it was thought that an abortion might have taken place. The flowing continued for several days, and there were numbers of clots, apparently from the vagina, found on the napkin. Pain and tenderness in the vesical region and the discharge, at this time, of a copper-colored, highly offensive urine, indicated bladder complication, and this organ was daily washed out with a warm antiseptic lotion. At the time of Dr. Manton's visit the patient was in a feeble state, but there was no apparent cause for the condition save a general flagging of vitality. The abdomen, especially in the blad-

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der region, was quite sensitive to pressure, and there was a terrible stench from the bladder discharge in spite of the utmost cleanliness and the use of antiseptics. He could detect no swelling, although the skin of the abdomen had the appearance of that of a newly-delivered woman. The uterus was not enlarged; the cervix was hard and slightly lacerated, but the os was not dilated. The bladder was hard and corrugated. The only abnormal condition found, aside from the bladder-thickening, was a small firm nodule behind and apparently attached to the uterus. On account of the exceedingly offensive discharge from the bladder, and to explore its cavity to determine the presence or not of fungus growths, he next day dilated the urethra. Neither new growth, dilated veins (hemorrhoids) or ulcerations were found; and the vesical mucosa, as determined by the endoscope, was of a pale gray color. The patient reacted well from the anæsthetic, and for a time seemed somewhat improved by the operation, but she finally sank, and died three days later, apparently from exhaustion. The treatment of the case consisted principally in washing out the bladder with antiseptic lotions, and sustaining the patient with the most nourishing and easily assimilated foods. Dr. F. W. Brown, Pathologist to the Hospital, failed to discern any morbid changes in the abdominal viscera except in the bladder walls. The mucous membrane of the viscus was of a dirty gray color, and the entire wall was enormously thickened—in places as much as one-half inch. There was no indication of hemorrhage, either on the surface of the membrane or into the substance of the walls. The female bladder is capable of somewhat greater distention than that of the male, hence cystorrhagia from all sources would be found to be more frequent in the former than in the latter. Dr. E. W. Christian has reported a case of a male patient who had been ailing for some time. One day the doctor's attention was attracted by the peculiar appearance of the abdomen, which on examination proved to be due to the distended bladder, which reached the umbilicus. The catheter was passed and between two and three quarts of urine removed. Following this, the patient suffered a good deal for several hours. On the following day the catheter was again passed, and about a quart of dark coffee-ground-colored urine withdrawn. This color remained after filtering the urine, showing that the blood was thoroughly

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disintegrated and its coloring matter set free. At the next visit the patient seemed to be doing well, but five minutes after the doctor had seen him, he expired suddenly. At the autopsy the bladder walls were found to be thickened from one-fourth to one-half inch, and the mucous surface was covered by a layer of blood; and throughout the mucosa were punctiform hemorrhages. Both ureters were considerably dilated. Dr. Manton is of opinion that sudden withdrawal of urine from a distended bladder is a cause of cystorrhagia and hemorrhage. As urinary accumulations are frequent among the insane this indicates caution in their removal.

Our Vacation.—A part of our vacation during the months of August and September last, was agreeably spent in visiting some of the friends in the specialty of psychiatry who live near where our family was domiciled. While they were in Boston we had an opportunity of visiting our venerable friend, Pliny Earle, at Northampton, who is spending the evening of his days with his books and his friends at Northampton in the great institution which will be his monument. He is the guest of his most worthy successor, Dr. E. B. Nims, to whom we are indebted for many courtesies. In Dr. Nims, the present superintendent of Northampton, Dr. Earle's mantle has fallen upon most worthy shoulders.

Northampton is all that Pliny Earle made it, and its friends need have no fear so long as Dr. Nims remains in charge, of any retrogression in its usefulness to the insane of the Old Bay State.

Dr. Joseph Browne, of Barre, has also built a monument to his philanthropy and skill, of which his friends are justly proud.

In the beginning he constructed more wisely than he knew. The philanthropic and skillful work he and his estimable wife have done can hardly be estimated. It is a work of which a commonwealth might be proud, though only one unaided man has done it. We were gratified at what we saw at Barre, and especially at finding Dr. Browne in good health, with a fair promise of ability and strength to continue his good work for years to come.

We found Kerlin, too, at Elwyn, in the midst of his work, enthusiastic, earnest and capable as ever, though it was vacation season. He is a worthy disciple of Séguin. If Pennsylvania should look about her for a

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monument to Kerlin when he shall have rested from his labors, she will find it ready built in this noble institution that graces the highland environment Media. His work will surely live after him. It is such work as never fades.

We found the New Bloomingdale Asylum, at Worcester, in splendid condition. It is built upon a most healthful and beautiful site, commanding as picturesque a view as that of any institution of its kind at home or abroad we have ever visited. We acknowledge our indebtedness to Assistant Physician in charge for courtesies, and regret the absence of the superintendent.

An attack of the *grippe* and the illness of one of our family prevented further incursions among the Massachusetts brethren, as it prevented our contemplated visit abroad the past year, else we should have visited Drs. Cowles, Fisher and others in the same work in Boston and vicinity.

A visit to the Jersey coast for sanitary considerations brought us near to Philadelphia, and we took advantage of the opportunity to revisit the institution where Kirkbride so long lived and labored, and where Ray walked about not many years ago, the pride and glory of his *confreres* in psychiatry.

We found Kirkbride's old hospital flourishing and prosperous as of yore, with the urbane and accomplished Chapin in charge. This historic institution, under the new hand that directs it, is filling its full measure of usefulness.

Chapin has made some innovations in consonance with the advanced demands of our day, as our readers know from his reports, and the public and professional expectations of Dr. Kirkbride's successor, based upon their knowledge of his successful management of Willard, have been fully realized in his work at Philadelphia.

We found the Insane Department of old Blockley in excellent hands and much improved under the administration of Dr. Hughes. There is apparent at Blockley a more liberal awakening of those whose duty it is to provide for the poor insane, as to their needs and the duty of the authorities towards them. It is gradually dawning upon those who have the care of the indigent insane that liberality towards them is the wisest economy. It promotes their cure and refits

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them to care for themselves. It makes them less helpless, consequently requiring less care in their affliction. It gives an atmosphere of cheer and hope in their environment, and thus it rescues from despair.

Liberal provision for the State's or city's poor insane is a wise and prudent economy. It blesseth the source that giveth and the creature that receiveth.

Koch and his Lymph.—The eminent Berlin bacteriologist has evidently (in Western mining parlance) made a "rich find," whether his wonderful and yet mysterious lymph shall prove a perfect cure of consumption or not, its effect on lupus alone being a contribution to clinical diagnosis which will immortalize its discoverer. To discover a remedy which has a neurotic affinity for tubercle marks an epoch in the clinical medicine of the nineteenth century most brilliant, even though the wonderful lymph should not prove to possess, after a thorough trial, all the therapeutic power attributed to it; and auxiliary therapeutics will doubtless have to be appealed to, to perfect and make permanent the cure of phthisis pulmonalis. The lymph is hardly destined to supplant the mountain resorts like those of Colorado or South Carolina, or certain latitudes on the sea, but it will supplant the sanitaria on the hill-tops and make recoveries in now hopeless cases certainties. *Es ist wunderbar.*

This is the recent testimony of Sir Joseph Lister, who after having visited the Berlin lion in his lair, says: "The effects of Koch's treatment upon tubercular diseases are simply astounding. As an example* he cited cases of extensive lupus of the cheek, in which two days after the injection the diseased surfaces became covered with crusts of dried serum, with no inflammation elsewhere. In cases of strumous glands in the neck the injections caused swelling of the glands with redness of the skin over them and pain. In gelatinous disease of the knee-joint similar effects are observed, only the tubercular tissue being affected.

The systemic effects which follow the injections are severe for a few hours, and consist in transient fever, pains in the limbs, shivering nausea, and sometimes vomiting. The usual dose of the lymph is one-thousandth of a gramme diluted with water to one gramme. The method

* *Vide* Abstract from an address in the *London Lancet* of December 13, 1890; published in *Medical News Supplement*, December 20, 1890.

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is useful in the diagnosis of suspected latent tuberculosis. The therapeutic effects on lupus are separation of the crusts, leaving a more or less sound scar. In tubercular joints the swelling diminishes. In phthisis the sputa becomes scantier and more mucous, the bacilli diminish in number, the sweats disappear, the patient gains in weight, and the physical signs of pulmonary tuberculosis vanish. The important questions are, How far are the effects permanent, and What are the limits to the curative power? Diseased tissue is expelled by sloughing or is absorbed; spontaneous expulsion of deep-seated caseous masses being impossible, fresh infections would demand further and indefinitely prolonged treatment for the production of immunity from tubercular infection.

If it is true that the living but diseased tissues surrounding the tuberculous masses are acted on by the remedy, and are rendered capable of resisting the development of bacilli, then caseous masses would remain harmless as regards further infection, and tubercular disease would be definitely cured, for immunity is wanted to make the treatment perfect. Immunity has been attained in guinea-pigs by very large doses, and perhaps could be attained in man by gradually increasing the size of the doses. Acquired tolerance is best shown by the greatly increased dose borne after several injections. It would seem probable that by steadily pushing the dose a degree of tolerance might be attained equal to immunity.

The eyes of an eager, expectant, wondering world, are turned towards Berlin, and thousands of hopeful consumptives and the medical men of the world are anxiously waiting to learn what are to be the real fruits of Koch's still uncompleted bacteriological labors.

Besides the already announced possibilities in phthisis, Sir Joseph Lister "saw in the case of two of the most virulent infective diseases to which man is liable, the course of the otherwise deadly disease cut short in the animals on which the experiments were performed, by the injection of a small quantity of a material perfectly constant in character, an inorganic chemical substance, as easily obtained as any article in the materia medica. Not only this, but by means of the same substance these animals were rendered incapable of taking the disease, and under the most potent inoculations perfect immunity was conferred upon them."

These results, taken in connection with the previous demonstrations of Pasteur on the earlier discovery of Jenner,

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give us reasonable hope for therapeutic victories not far remote which shall mark the present century as the grandest one for good results to the race in the history of medicine, many and mighty advances.

Hypnotism.—Certainly much unjustifiable experimentation with this subtile agent has been resorted to. Granting that with it we are capable of inducing sleep in the patient troubled with insomnia, or of stopping the various neuralgic aches and pains, the good result is not more than counterbalanced by the baneful mental impressions which are produced. Who can doubt that the man or woman who is frequently so powerfully influenced by an operator as to become unconscious at his slightest suggestion must sacrifice much of his personal independence and force of character? Is it justifiable to cure a patient of a neuralgia by means of an agent which may leave him a confirmed subject of hypochondriasis or hysteria? We are well aware that the advocates of hypnosis will strenuously controvert this proposition, yet it remains for them to prove that it is not so. Until it is proven we think it behooves the investigators of hypnosis to proceed cautiously in the way of experimentation.

Dr. Norman Kerr, in a paper before the British Medical Association, expressed the opinion that hypnosis was only a distorted cerebral state, and that brain and nerve deterioration with mental and moral perversion were likely to follow its frequent repetition. In the discussion which followed Dr. Kerr's paper, Dr. Hack Tuke cited cases that had been directly benefited through the agency of hypnosis.

The whole subject is yet in a chaotic state; and while we would not wish to see investigation cease, yet in view of the possibilities for harm there be in hypnotism we would wish to see great caution and circumspection used in experimentation.

As to the employment of hypnosis by the laity, we believe that the profession are a unit in opposing it. France, Belgium and Russia have passed strict laws governing the subject. T. D.

A Brush with the Fair Sex.—Dr. E. N. Brush, of the New York State Lunatic Asylum at Utica, lately stated, in a paper read before the Association of Superintendents, that during eight years' trial of women physi-

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cians of insane asylums, there were fewer cures and more deaths in the asylums where the female physicians were employed. If he goes on in this rash way his name will be Dennis.

The Recent Berlin International Medical Congress was an eminently satisfactory and successful one in both its social aspects and scientific results. Our Berlin brethren "did themselves proud," and all who went there came away pleased.

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HOSPITAL NOTES.

ESSEX COUNTY (N. J.) ASYLUM FOR THE INSANE.—Report for the year ending April 30, 1890.

Number of patients at the beginning of the year, 416; at the close, 487. Deaths: 6.2 per cent., an increase of 2 per cent. over previous year.

The new wing was occupied during the year. A number of minor improvements have been made, *e. g.*, a new stage for "Amusement Hall," new telephonic communication, etc. It is proposed to erect a new laundry, and light the asylum with electric light in the near future.

Among the amusements employed we notice a day school and a Sunday singing school.

Of treatment by medicine, Dr. Hinckley says:

"During the past year hypnotics have been less frequently required or used. 'Sulfonal' we regard as a valuable hypnotic, but rather uncertain in its effects, and so still cling to 'Paraldehyde' as the most safe and most reliable in our experience.

"'Chloralamid' we have used, but not often enough to express a definite opinion, except that unpleasant effects have been observed in the form of great muscular weakness from a minimum dose.

"'Phenacetine' in our experience has exhibited pronounced analgesic properties relieving especially the pain of neuralgic headache and rheumatism. In the latter disease a patient, while taking in divided doses one drachm, suddenly developed the initial symptoms of phenic acid poisoning."

The Training School for nurses is in active operation.

Dr. Clement L. Morris, after passing a satisfactory examination, was appointed assistant physician.

The Training School for nurses has been in operation since 1886. We append the schedule of the course of instruction for the year 1889-90:

Lectures and clinical teaching begin in October and cease in June; they are held on Monday and Wednesday of each week. Full notes of the lectures are required of each student, and note books are examined on the first of each month during the term, and rated according to excellency and the general standing of the candidate on the final examination.

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Text-Books:—Human Body, *Martin;* Quiz Compend on Anatomy, *Potter;* First Lessons in Physiology, *Huxley;* Manual of Nursing, *Weeks;* How to Care for the Insane, *Granger;* Manual of Obstetrics, *King*.

Junior Class, 8 P. M.:—Rules, Hygiene, Materia Medica and Special Subjects—Dr. Hinckley. Physiology, Dietetics, Emergencies and Urinary Tests—Dr. Nash. Anatomy, Bandaging and Surgical Dressing—Dr. Morris.

Senior Class, at 11 A. M.:—Insanity, Nervous and General Diseases—Dr. Hinckley. Diseases of Children, Management of Eye and Ear Cases—Dr. Nash. Obstetrics, Diseases of Genito-Urinary Organs and Special Surgery—Dr. Morris.

T. D.

REPORT OF PENNSYLVANIA COMMITTEE ON LUNACY—For the year ending Sept. 30, 1889. There were 1,350 admissions during the year; 530 patients were cured; 397 died. At the close of the year the hospitals contained a population of 4,878.

In all the asylums in Pennsylvania systematic instruction is now given to attendants. At Norristown a corps of six inspectors is employed. The duty of these inspectors is to instruct new attendants in their duties, the rules of hospital, etc. When not on duty in the wards the monitors keep close scrutiny over the attendants and patients in the ward from a raised platform or bridge in the wards. Under this plan the abuse of patients, it is believed, has been reduced to *nil*. The plan, which was harshly criticised in some quarters, has received the approbation of the Committee.

Concerning the provision for the treatment of acute cases of insanity, the Committee say:

"The present practice in regard to the hospital treatment and care of acute cases of insanity might be improved upon by the setting apart of one or more wards devoted to the peculiar care of acute cases; having an increased number of attendants being in the immediate vicinity of the administration building so as to be in a position to command, for this class of patients, every facility for special medical treatment, special diet, and for careful observation adapted to the necessities of each individual case.

"In our last report we called attention to this subject, urging additional accommodation for the treatment of recent cases of insanity in the State hospitals, either in the wards of the institutions, or, better, in buildings capable of accommodating twenty or thirty beds; in either case such

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accommodations ought to be contiguous to the administration buildings, so that all such acute cases shall be under the immediate personal supervision and care of the medical superintendent."

The Committee, however, make no specific recommendations looking to the practical carrying out of these ideas.

Additional accommodations have been provided for 300 patients. The proposed extension of the Danville hospital is approved. This will accommodate 300 male patients. It is to be a separate building, two stories high—$136,000 has been appropriated for its erection. Danville, at present, has about 950 patients (but is much crowded). When the new annex is finished it is probable that the population will soon reach 1,200. Thus we see the tendency towards large institutions is fostered, notwithstanding the fact that a great majority of alienists, both in this country and England, have repeatedly put themselves on record in saying that the interests of the insane are best served in hospitals containing from 300 to 600.

It is thought that the congregate dining-room plan so well established at Norristown, can be introduced into all the State Hospitals. The ward dining-rooms are condemned.

Among amusements recommended, we notice instruction in geology, botany and ornithology. We have tried to bring ourselves to see the practicability of moulding in clay and hammering brass, but these, with the subjects mentioned, seem to us must have an extremely limited range of practicability.

Mechanical restraint is now not regularly employed in any of the State or private hospitals, the department for females of the Norristown Asylum having a perfectly clean record in this respect. Dr. Alice Bennett, who is in charge of this department, states that no one has received injuries in consequence of the entire absence of restraint.

There are yet 616 insane in the county almshouses. The committee say that all these persons would be much better off in the State institutions.

The erection of a separate hospital for insane convicts is strongly recommended. There are 83 such persons at present in the State hospitals.

An effort was made by Dr. Wetherill, secretary of the committee, to ascertain the number of cases of insanity brought about by the Johnstown disaster. Fifteen

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cases, seven men and eight women, were found. Dr. Wetherill, in speaking of this subject, says:

"In reviewing this very small total, the conviction is strengthened that the great and overwhelming trials of life are much less liable to overthrow the reason than the continuous worry and attrition of minor evils and unavoidable contact with depressing surroundings."

T. D.

NEW ASYLUM FOR INSANE CRIMINALS.—The new asylum for insane criminals of the State of New York is now well under way. Seventy thousand dollars will be required to complete it; $190,000 has already been spent. The plant will be very complete when finished. T. D.

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REVIEWS, BOOK NOTICES, &C.

PUBLICATIONS DES PROGRES MEDICAL, Paris, 14 Rue des Carmes, 14. Paris. Œuvres complètes de J. M. Charcot. Tome IX. Hémorragie et ramollissement du cerveau, Métallotherapie et Hypnotisme Electrotherapie. Un beau volume in 8vo de 571 pages, avec 13 planches en phototypie et chromolithographic.

The *Progress of Medicine* Publishing Company, 14 Rue des Carmes, Paris, sends us the complete works of M. J. M. Charcot on "Hemorrhage and Softening of the Brain," metallotherapy, hypnotism and electrotherapy, for which we return our cordial thanks.

Nothing that the ALIENIST AND NEUROLOGIST might say would further commend these productions of the great French *savant* than the work itself. The "œuvres" of the distinguished author speak for themselves. Other commendations pale before the name of Charcot.

FOSTER'S ENCYCLOPEDIC MEDICAL DICTIONARY, Vol. II., is on our review table. The first volume has already been favorably mentioned in the ALIENIST AND NEUROLOGIST, and the very complete and exhaustive volume before us only still further confirms the good opinion already expressed of the book and its accomplished editor. Dr. Foster is well known to the medical profession as thoroughly competent for the task he has assumed, and thus far he has done his work excellently.

The promise of the first volume is fully filled in the second volume, and our readers will not be disappointed in it. It comes up entirely to our expectations and the promises of the publishers, D. Appleton & Co., 1, 3 and 5 Bond St., New York.

LIPPINCOTT'S MAGAZINE FOR JANUARY, 1891, has the following interesting contents: "The light that failed"—By Rudyard Kipling: "In An Old Garden"—By Eben E. Rexford; "The New Spanish Inquisition"—By Julian Hawthorne; "Christmas Gifts"—By Ruth McEnery Stuart; "I Remember—"—By Francis Wilson; "Perversity"—By Charlotte Fiske Bates; "The State of Washington"—By Moses P. Handy; "Anacreontic"—By Daniel L. Dawson; "The Road Movement"—By Lewis M. Haupt, C. E.; "Friend Olivia"—By Frederic M. Bird; "With the Wits"—(Illustrated by leading artists).

The article on the "State of Washington," by Major Moses P. Handy, will surprise the many who know little of this wonderful section of the country. During the preparation of the article, Major Handy spent several weeks in the new State; hence, his information and statistics may be absolutely relied upon. "In depicting the characteristics of such a progressive State," says Mr. Handy, "and noticing the salient features of its resources and their development, one is confronted by the difficulty of catching and holding a view which will be recognizable even a few weeks later. The Washington of yesterday is not the

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Washington of to-day, much less of to-morrow. In the interval between the writing of this article and the going of the magazine to press, the wood-cutter's hut will give place to the saw-mill, the saw-mill to a stirring town, and the town will grow into a city. Railways projected become railways built, new banks open their doors, new manufacturing enterprises spring into being, a hole in the ground becomes a productive mine, the ax and the plow bring wild land into subjection to man—and so the work of State-building goes on, with changes fairly kaleidoscopic, perverting the artist's picture, confuting the writer's assertions, and driving the statistician to despair."

THE PHYSICIAN'S VISITING LIST, for the New Year 1891, published annually, is now ready. Strength, compactness, convenience and durability are the essential qualities which a good Visiting List should possess to resist the unusual hard wear it receives. These qualities are all combined in Lindsay & Blakiston's Physician's Visiting List, which has now been published for forty years. It is the most convenient for the pocket, and its contents are arranged in the most advantageous way, including many useful tables and specific information.

Aside from its other features, its size and weight recommend it. It measures 6¼x3¾ inches, and the smallest size weighs but 3½ ounces, and is only ¾ of an inch thick. P. Blakiston, Son & Co., Publishers, 1012 Walnut Street, Philadelphia.

THE BACTERIOLOGICAL WORLD is a new product of the commencing year, and will issue 5,000 copies this month. The first number will contain the following articles: Frontispiece, Pasteur's and Koch's pictures; Study of Bacteriology, preface, introduction, etc.; Lesson First, Generalities on Germs, Spontaneous Generation; Original Articles, Actinomycosis in Man and Beast (big jaw of cattle.) Foreign and home investigations; Surgical Bacteriology, Bacterial Complication of Wounds (Ogston, Rosenbach, Cornil, Babès, etc.); Medical Bacteriology, Immunity, by Dr. Bouchard, Paris, France; Hygienic Bacteriology, Hydrophobia, by Dr. Paul Gibier, Pasteur's Institute, New York City; True and Spurious Bovine Vaccination and Complications, by Paul Evans, Pathological Laboratory, Missouri Agricultural Experiment Station; Clinical Notes. Bambotano in Malaria (a specific substitute for quinine), Tarro-Petrolene (or petrolene compound), Pyoktanine; Editorial, Koch's Treatment of Tuberculosis; Notes from Laboratories, Pasteur's laboratory and others. It is edited by Paul Paquin, M. D., Columbia, Mo.—*Exchange.*

Dr. Paquin is a well-known bacteriologist, whose acknowledged abilities justify the fullest confidence in and highest expectations for the new journal. We acknowledge with pleasure the receipt of the first number and cheerfully place the new journal on our exchange list.

THE CENTURY FOR JANUARY.—The first instalment of the selections from Talleyrand's long-expected Memoirs is the most striking feature of the January *Century*. A sketch of Talleyrand, by Minister Whitelaw Reid, prefaces this installment. The opening pages tell of Talleyrand's

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neglected childhood, and his entry into Parisian society. They also give his views of La Fayette, and the effect of the American on the French Revolution; some account of the beginnings of the latter; a very contemptuous opinion of the Duke of Orleans; a sketch of the author's stay in England and the United States, and a highly interesting conversation between himself and Alexander Hamilton on Free Trade and Protection. This and the protrait of Augustus Saint Gaudens, and other pictures by Kenyon Cox, and full table of contents by well-known writers to the number of twenty-five or more, together with "*Topics of the Time*" and "*Bric-a-brac*" makes an exceedingly interesting number for the beginning of another year in the history of this excellent literary magazine.

The following will interest the few readers of the ALIENIST AND NEUROLOGIST, who read only medical literature:

"*Medicines among the Mongols.*—Medicines also are much sought after by them. While I was at Dulan-kuo nearly everyone in the village came to see me, and most of the people asked for medicines whether they were suffering from any complaint or no. Plasters were in great demand, as all the villagers had rheumatism, and the tighter the plasters stuck the better they were held to be. I had with me a bottle of Eno's fruit salts, and tried to give some to the people, but when the saw the salts boiling and fizzing they thought there must be some magic about the medicine and would have none of it.

"Most of their troubles, sores and eye diseases come from dirty habits, but one can never persuade them of the necessity of keeping clean. A friend of mine was once traveling among the Mongols, and an old crone came to him and begged some medicine to put on a sore. He told her that before applying the salve it would be necessary to wash herself. She gave it back to him, saying: 'I am sixty-seven years old, and I have never washed in my life; do you suppose I am going to begin now?'

"Mongol physicians feel the patient's pulse on both wrists at the same time, and never ask any questions; or, at least, none concerning the origin and progress of the complaint, for if they did, it would be held that they had shown ignorance in their profession."—*W. Woodville Rockhill, in January Century.*

The remainder of our many readers will get the magazine and enjoy the rich literary treat of the January Number. The perusal of periodicals like the *Century* serves to unbend the professional mind and keep its faculties elastic. We wish the *Century* its full desserts in a prosperous New Year, and our readers a happy one in its perusal along with the reading of the ALIENIST AND NEUROLOGIST.

THE MEDICAL NEWS, which with exceptional enterprise recently gave its readers a cablegram detail of Prof. Koch's wonderful work in Berlin, thus discusses the foreign medical study question:

"*The Proper Place for Foreign Study for American Men.*—Human beings are so much like sheep in their habit of following where their predecessors have led, that it seems almost useless to attempt to divert

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their course from the clinics of Vienna or Berlin to those of London, Liverpool or Edinburgh; yet anyone who has studied both on the continent of Europe and in England, must have been impressed with a number of advantages possessed by English study over those offered in still more foreign lands. Very few medical men in this country recognize that the city of London, with its many millions of inhabitants, must possess a corresponding number of cases of diseases and injury, and that the number of its hospitals, the thoroughness of its teachers, and the character of the people, all tend to aid in the pursuit of instruction in the cure of disease. There are other advantages, too, which are even more important. First and foremost is the fact that we all use the same language, and call things by the same names; second, the materia medica list is closely allied to our own, and the preparations are almost identical; third, the disease-processes seen in England resemble those seen in America more closely than do the diseases of other parts of Europe, and we can study morbid conditions in our own race instead of in races possessed of different temperaments and habits, as well as food and drink.

"The advantage of the mother-tongue is inestimable. Very few Americans, who do not possess German blood, know enough of the German language to understand the terms used by a rapid lecturer in the Fatherland, and, if they do not, they lose that which they chiefly desire, namely, the minute points of the subject before them. The average American going to one of the Continental clinics receives most of his instruction from docents, or other instructors of a comparatively low grade, simply because he is one of the hundreds who throng, not only around the chief, but overflow to the subordinates; while in England, notably in London, the number of eminent men is so great, and the percentage of foreign students so small, that each and everyone can sit at the feet of the teacher whose writings are known everywhere in the civilized world. While the student in Berlin or Vienna becomes imbued with the views of a single individual governing a given course, in London he may go from hospital to hospital and obtain different views, and in consequence become a man of broader ideas and greater resource. The fees at the various hospitals are no higher than in Germany, and the student has the privilege of being in the healthiest city in the world, and eating food resembling that which he receives at home, instead of placing himself in the notoriously bad surroundings of a Continental *pensionlogs*, and living on food which only a Teuton can withstand.

"So infinite are the advantages of London as a medical center to Continental centers that it seems almost absurd to sing its praises, were it not that so many of our countrymen fail to go there, and the establishment of a post-graduate course, with Jonathan Hutchinson at its head, renders our lack of recognition of our own Fatherland the more culpable."

Abnormal Intra Thoracic Air-Pressures and Their Treatment. By Charles Denison, A. M., M. D., Denver, Col.

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New Methods of Performing Pylorectomy, with Remarks Upon Intestinal Anastomotic Operations. By A. V. L. Brokaw, M. D., St. Louis, Mo.

Intestinal Anastomotic Operations with Segmented Rubber Rings, with some Practical Suggestions as to Their Use in Other Surgical Operations. By A. V. L. Brokaw, M. D., St. Louis, Mo.

The Treatment of the Morphine Disease. By J. B. Mattison, M. D., Home for Habitues, Brooklyn, N. Y.

La Responsibilita Nell' Isterismo. Del Prof. Leonardo Bianchi. Professore di Psichiatria e Direttore del Manicomio di Palermo.

Public Health and the Land Question. By Geo. Homan, M. D., St. Louis, Mo.

The Abuse of a Great Charity. By George M. Gould, M. D., Ophthalmologist to the Philadelphia Hospital.

Subjective Delusions; or The Significance of Certain Symptoms in Mental Disease. By Joseph Draper, M. D., Brattleboro, Vermont.

Nervous and Mental Diseases Observed in Colorado. By J. T. Eskridge, M. D., Denver, Col.

A Clinical Study of Forty-Seven Cases of Paralysis Agitans. By Frederick Peterson, M. D.

Functional Nervous Diseases of Reflex Origin. By Albert Rufus Baker, M. D., Cleveland, Ohio.

What is the Present Medico-Legal Status of the Abdominal Surgeon? By William Warren Potter, M. D., Buffalo, N. Y.

The Treatment of the Acutely Insane in General Hospitals. By W. P. Spratling, M. D.

Large or Small Hospitals for the Insane—Which? By C. E. Wright, M. D., Indianapolis, Indiana.

A Successful Case of Nephrectomy. By George Ben. Johnston, M. D., Richmond, Va.

Climatology and Diseases of Southern California. By. Frank D. Bullard, A. M., M. D.

Imperforate Auditory Canals. By Seth. S. Bishop, M. D., Chicago, Ills.

Some Points in the Diagnosis of Certain Simulated Mental and Nervous Diseases. By J. T. Eskridge, M. D., Denver, Col.

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Acute Myelitis Preceded by Acute Optic Neuritis. By J. T. Eskridge, M. D., Denver, Col.

Uric Acid Diathesis in Affections of the Ear, Eye, Throat and Nose.

Case of Large Cerebellar and Several Smaller Cerebral Hemorrhages. By Theodore Diller, M. D., Danville, Pa.

The County Insane Asylum System in Wisconsin. By J. M. Dodson, A. M., M. D., Chicago.

Report of Carlos F. MacDonald, M. D., on the Execution by Electricity of William Kemmler, *alias* John Hart.

The Early Stage of General Paralysis. By Charles F. Folsom, M. D., Visiting Physician Boston City Hospital.

Synopsis of a Course in Microscopy for Pharmacists. Br Dr. H. M. Whelpley, F. R M. S.

The Metric System and the Seventh Decennial Revision of the U. S. P. By H. M. Whelpley, M. D., Ph. G.

Treatment of Catarrh. By J. J. Stephens, M. D. Clinton, Mo.

The New York Medical Journal. Edited by Frank P. Foster, M. D.

Disorders of Sleep: Insomnia. By Charles F. Folsom, M. D.

Further Notes on the Chigger. By Dr. H. M. Whelpley, F. R. M. S.

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THE

Alienist and Neurologist.

VOL. XII. ST. LOUIS, APRIL, 1891. NO. 2.

ORIGINAL CONTRIBUTIONS.

The Paths of Conduction in the Medulla Spinalis.*

AN EXPERIMENTAL STUDY.

By ALESSANDRO BORGHERINI, M. D.,

Docent in the University of Padua.

WITH the intention of entering on an experimental study of the spinal medulla, but without any definite aim at the outset, I commenced a series of vivisections, the results of which, accumulating by degrees, and becoming by turns more complete, constantly enlarged the field of my observations and presented to me an opportunity of reaching some conclusions which are certainly not devoid of interest to science.

The method of investigation pursued by me was purely objective, and the alterations induced in the animals were valued with exactitude, after death, by the microscope and histological examination. The animals, being permitted to live until complete healing had taken place, presented, in the majority, the opportunity for observing both the parts of the first experimental period and those of the second, whilst the study of the anatomical lesions

*From the Laboratory of Experimental Pathology of the I. R. University of Vienna.

Translated by JOSEPH WORKMAN, M. D., of Toronto, Canada.

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by means of histological examination enabled me to assign to the clinical symptoms their just value, in relation to the pathological changes met with.

Many of the experiments, made in the past on the spinal medulla, have been defective because of the absence of exact necroscopic and microscopic control. They have been based purely on direct observance of the animals at the instant of the operative act, or very soon after it; and exactly thus from Bell and Magendie down to the present time, almost all the physiologists who have been engaged in this order of research have experimented. It is not therefore to be wondered at that many questions relating to the physiology of the spinal medulla have come down to us unsolved, and that the most contradictory opinions have often clustered around them.

Vulpian, Brown-Sequard and Schiff were the first to give to experimental researches the imprint of scientific exactitude; yet the application of the true method of experimental investigation is to be met with only in very recent works, such as those of the Italians Santi Sirena and Piccolo, of Palermo; N. Weiss, of the school of Stricker, Scheifferdecker, Kusmin, etc.

I have also endeavored to pursue this method in my researches, and I have in part sought to modify it in accordance with the advice given me by the illustrious Prof. Stricker, who has been my loving and patient guide. This method consists, as has been before said, in keeping the animal in life until the complete healing of the wound, and following the symptoms especially in the second experimental period; and after death, in an exact microscopic search of the spinal medulla through its whole extent, in order to enable us to determine rigorously the alterations induced in the operative field, or manifested in consequence of the wound in other regions of the medulla.

The greatest care taken by me was in the scrupulous carrying out, during the operation, of the antiseptic

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surgery, exactly as though I was performing an operation on a human body, and by this means to limit, or totally avert any reactive process around the wound, and hence to have in the second period the pure and simple results of the inflicted lesion, which had been contemplated in the operative plan. In this I was sometimes very fortunate; sometimes however the intrusion of suppuration brought about final results different from those desired, but these, under the system followed by me, proved valuable for very definite conclusions.

It is almost useless to say that, in the histological examination of the pieces, I took care to follow, with all exactness, the latest instructions in microscopic technology, and that the classification of the several cases was made only *a posteriori*, under guidance of the microscopic study; hence the results collected and detailed in the various sections of this article have frequently been presented in animals in different ways operated on. I state expressly that not all the cases studied enabled me to reach positive conclusions, for a part of the material collected had afterwards to be rejected, thus much reducing the number of utilizable cases; but those remaining were still sufficiently numerous, and by the importance derived from their exact form they have abundantly compensated for the much larger number of defective ones.

A summary report of the clinical cases will be given hereafter; but in order to avoid useless repetitions I shall always award the first position to the most salient cases, and briefly state the principal features of the others.

I.

Conductility of the Gray Spinal Axis.—Notwithstanding the numerous researches effected since the works of Turck (1851), relating to the long spinal paths, we yet find in modern literature divergent opinions respecting the conductility of the gray axis.

Schiff admits that in the normal state the gray spinal axis conducts dolorific impressions from the periphery to

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the cerebral sentient centres, and he restricts conductility for the tactile and thermal impressions and the muscular sense to the posterior cords. In the failure of these cords however the gray axis would assume conduction, for any and every sort whatever, of peripheral impressions, and even a small fragment of it would suffice for effecting the function.

Brown-Sequard regards the gray spinal axis as a path of motor conduction, and he attributes to it, in addition, a part of the action in the carriage of sensitive impressions from the periphery to the cerebral centres. The sensitive paths, however, along their course in the gray axis, as he thinks decussate in such a manner that a longitudinal median cut of the medulla, at the points of departure of the great cervical and sacral plexuses will produce cinæsthesia in the respective limbs (anterior or posterior).

Vulpian, too, attributes to the gray axis an integrant part in the transmission of sensitive impressions, without however assigning to these, in their spinal passage, definite paths, and consequently without admitting any decussation of such paths.

According therefore to these three authors the gray axis should be regarded as a long sensory path, and, as Brown-Sequard thinks, a motor also.

Subsequently, however, Woroschiloff (1874) dealt by his own researches on the spinal medulla of rabbits, the first blow to this opinion; he was in fact able to demonstrate on his animals operated on, that the gray axis totally wants this pretended conductility, whether motor or sensory. His experiments leave an opening to a great objection, since he made his observations in the act of vivisection, or a little afterwards, on an organ which had recently undergone an injury, and had been some time exposed to cooling and the impression of the external air.

Afterwards, in 1879, N. Weiss, under the guidance of Stricker, having repeated the like experiments, and allowed

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the animals to survive a long time, was enabled to realize the truth of the opinion of Woroschiloff, and to furnish results of his own, which confirmed what had been asserted by that author respecting the gray spinal axis.

As I believe that little attention has been bestowed on the statements of these two experimenters, the results which I have myself secured, in a clear form, in one of the animals on which I operated, seem to me of no trivial interest, as they corroborate the facts observed first by Woroschiloff and afterwards by Weiss.

Details of the Case.—On the 24th of June, the left lateral cord, in a dog about one year old, was cut transversely at the upper limit of the lumbar medulla. The operation was executed in a rigorously antiseptic mode, and most accurately, without any untoward occurrence. Immediately after the operation paralysis of motion was manifested, which was complete in the left hind limb, but not quite so in the right; in the latter, however, it did not last long, as a few hours afterwards the animal was able to move the limb distinctly. I shall speak elsewhere of this circumstance; at present I mention the fact in order to show more clearly the condition of the animal operated on. Some days after the operation a certain degree of vitality was established in the left hind limb, and in three weeks the dog was able to move quickly, and even to run on his four legs, although there might appear to a practiced eye a particular uncertainty of gait referable to the hind limb of the left side.

At the end of four weeks this dog was operated on a second time, by the cutting of the right lateral cord, about two centimeters above the preceding location. The operation was as carefully executed as the former one. *Immediately after it both the hind limbs appeared paralyzed*, but not in an equal degree. On the left there yet continued a certain degree of voluntary motion, though not very perceptible; it was coupled with intentioned movements of the fore limbs; this extremity presented a certain degree of resistance to passive movements, whilst the

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other remained altogether inert. *Sensibility* was (dolorific) *completely extinct in both limbs.*

On the sixth day after the second operation complete paralysis of sense and motion in the hind limbs still continued. On pushing two needles into the affected limbs and passing through them a strong faradic current, a tetanic convulsion was produced in the posterior parts, without any manifestation of pain, and the fore limbs remained quite motionless. The second wound healed equally well as the first, and the aspect of the animal, excepting the part wounded, was quite normal. He was killed on the 31st of July. The necroscopy showed that both operations had succeeded exactly as intended. The gray axis had been saved in both.

Such was the case of which I have given only the principal features; it is, *per se*, too eloquent to call for much comment. I shall return to some special particulars of it hereafter. For the present, in order to avoid subsequent repetitions, I would here draw attention to the fact that about three weeks after the cutting of the left lateral cord, the hind limb on the same side was gradually recovering, and had, indeed, almost altogether recovered its proper motility. The examination showed that at the location of the inflicted wound the lateral cord had healed by formation of cicatricial tissue. It has been observed and stated by every experimenter that absolute healing—that is, the true and proper reintegration of the lesed tissue, in the central organs of the nervous system, cannot be obtained. In my case, therefore, the renewal of function cannot be otherwise admitted than by the formation of a collateral path. The second operation indicates where such a path existed, for the motility of the left hind limb disappeared again after the right lateral cord was in its turn severed. It is then logical to admit that the collateral path, in such a case, should be sought for in the cord last operated on—that is, in the opposite half of the medulla.

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But, returning to the fact chiefly remarkable in the preceding experiment, I feel constrained again to state that the animal had lost, in the hind parts, both dolorific sensibility and voluntary motility, in consequence of the cutting of the two lateral cords, whilst the gray axis and the anterior and posterior cords remained intact. Let it be observed that the gray axis was merely touched on the surface; the nonconductibility of the remaining parts will certainly not be attributed by anyone to the trivial lesion of the gray axis.

I do not at present enter on the question of the functional value of the posterior and anterior cords; on the contrary, I feel authorized by the force of this experiment, to conclude with Woroschiloff and N. Weiss that the gray substance does not contain *long paths*—that is, it is not capable of conducting from the periphery to the centre the sensitive impressions, and *vice versa*, the voluntary impulses from the centre to the periphery (dolorific). I state, however, expressly that I intend to speak of the conduction of the gray axis only through its entire length (long path), certainly not of the partial conductibility of which it seems to be truly capable; that is, of receiving and transmitting, *in se*, through a short tract of its length, both sensitive impressions and volitive motor impulses.

II.

Of the Spinal Motor Paths; vicarious of these.—Our knowledge of the course of the motor fibres in the spinal medulla, has in part been derived from the researches of pathological histology, in the human body, or from those of experimental pathology in the medulla of the lower animals subjected to operations; they have also, in part, come to us from the researches of physiology on the changes of function, in one way or other, in the mutilated organ. In the present state of knowledge, however, the results of this double mode of research are not in full accord. According to the data of pathological histology, which date from the time of the labors of Turck, there

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are in the human medulla two motor paths, which are also called *pyramidal;* one direct, in the anterior cord; the other crossed, in the lateral cord. Bouchard, in 1866, about fifteen years after the studies of Turck, in repeating similar researches, recalled the attention of pathologists to the subject, which had then been lost sight of. It may be said that only from this time did the fact through the labors of Bouchard, take its position in science, and later histological labors have but contributed to establish it more firmly and to define it more accurately.

The observations of Turck found confirmation in the field of experimental pathology, in the studies of Schiefferdecker (1876), made on dogs, which were afterwards repeated by Senger, Kusmin, N. Weiss, Schultze, and others. All these experimenters differ perhaps a little in their details, but on the whole, they incline to attribute a fasces of motor fibres to the anterior cords also.

But the data derived from vivisection do not at all accord with these results. Woroschiloff, of the school of Leipsig, in a series of researches on rabbits, arrived at conclusions which pointedly negative any long sensory or motor path either in the anterior and posterior cords or in the gray substance, and he limits these paths solely within the lateral cords.

I do not desire to conceal the fact that this absolute and restrictive opinion has not been accepted by all physiologists; but in order to show how great an appearance of truth it has, I cannot avoid referring to the case before described, in which it was seen that when we cut first one and afterwards the other of the lateral cords, the two halves of the body, below the part operated on, became completely paralytic. In the face of this result, there seems to me to remain no reason for the hypothesis that motor paths exist in the anterior cords.

I believe, however, that I am able, from my own experiments, to offer a certain contribution to the solution of this apparent disaccord. My experiments have shown

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that *the motor paths, normally functioning, have their seat in the lateral cords, but that the anterior cords contain collateral paths which enter by little and little into function, after the principal paths in the lateral cords have been destroyed.* I have arrived at this conclusion by the observance of animals that had for a long time survived the operative act.

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Ninety Cases of Paretic Dementia.

By G. R. Trowbridge, A. M., M. D.,

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THE very fact that this disease was practically unrecognized in this country forty years ago, and to-day ranks among the worst forms of insanity, is sufficient reason to make statistics on the subject both of considerable interest and value. In all probability there were cases of paretic dementia before the time of Bayle, and although he is credited, I believe, with first having accurately described the signs and symptoms of it about the year 1825, it is scarcely probable that the inhabitants of this world were exempt from it though it was not recognized and understood as it is to-day.

History is indirectly contradictory to this, and if we are to believe the facts as recorded there were certainly sufficient causes in the Middle Ages to produce a generous supply of paretic dementia, and I have not the least doubt but that it existed to a considerable extent among the so-called nobilty of France, England and other European nations, whose ideas of morality and moderation were somewhat at a discount. The same causes which are producing it to-day were in working order then, though perhaps not to as great an extent; and granting that the mental, moral and physical conditions of two centuries ago were practically the same as those of the nineteenth century, it is fair to conclude that this age is not entirely responsible for this disease.

That paretic dementia is increasing in this country with alarming rapidity there is no room for doubt, as the reports of our institutions for the insane show. It is, however, only another indication of the "fast" age in which we live; and this yearly increase of the disorder is not a thing of which the American citizen should be proud, but

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on the contrary, it should be looked upon as a veritable curse, as it only proves that those vices and immoralities which are the corner-stone of general paresis, are increasing and causing the moral, physical and mental wreck of our fellow-citizens. No one can realize the truth of this better than the medical officers in our hospitals for the insane. In a large number of cases of paretic dementia admitted to hospitals for the insane, causes for the disease are given which are ridiculous in the extreme; and though either through ignorance or unwillingness on the part of the friends, or delicacy on the part of the physician, the real and true cause cannot be ascertained, yet in three cases out of five it would be a comparatively easy matter to guess it, as the real causes of paretic dementia can be sifted down to an extremely small number.

The following statistics of ninety cases were compiled from the registers of this hospital, and though they are more or less defective, they present some interesting points.

Of the 3,518 admissions to this hospital, 90 were cases of paretic dementia; 77 of these being males, and 13 females. This is about two and one-half per cent. of the entire number admitted.

In the State Hospital for the Insane, at Independence, Iowa, of 3,700 admissions, 40, or a little over one per cent., were cases of paretic dementia.*

Of 2,297 male patients at the Pauper Asylum of N. Y. City, 284, or a little over twelve per cent., were paretic dements.†

We have here almost two extremes in the number of cases. This may be accounted for by the fact that in N. Y. City the opportunities, surroundings and tendencies are much more inclined toward the causes of paretic dementia than they would be in a less thickly populated district; besides, the wandering population, which is

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* "General Paresis of the Insane." Gershom H. Hill, M. D., *Medical News*, November 8, 1890.

† Spitzka, "Manual of Insanity," page 180.

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continuously arriving in our metropolis, affects to some extent the percentage of such cases.

I should say from these three records that a probable fair estimate of the cases of general paralysis in our insane hospitals was about five or six per cent.

The nationalities of my 90 cases are as follows: Males, German 7, English 3, Americans 55, Welsh 2, Irish 4, Canadian 1, Negroes 2, unknown 3. Females, Americans 11, Irish 1, Welsh 1.

From these figures we see, that of the 77 males 19 were foreign-born, and of the 13 females 2 were foreigners.

According to the last report of the Commission on Lunacy of the State of Pennsylvania, about one-half of the insane of the State are foreigners, and as only one-fourth of these cases are of foreign nativity, it can hardly be said that foreigners are especially responsible for it. We must consider, however, that these ninety cases are from an American institution where it is to be expected that Americans will predominate in everything, and I am sure that the same would be true of English or French institutions, as the inhabitants of these countries are as much exposed and prone to general paralysis as the American. The one factor, however, in this country which makes us as a class more subject to this disease than other nations, is the continuous strife and struggle for the supremacy. This may not be evident in all parts of the United States, but, nevertheless, it is a fact that the Americans as a class are living too fast, and that by this strain on the mind and body are placing themselves and their descendants in a condition where it will require but a slight exciting cause to overcome an overtaxed brain. I do not think that business or intellectual pursuits are alone often exciting causes of paretic dementia, for as a rule those affected with this disease are not from the higher stations of life, but on the contrary are from the middle, or even lower classes, where the actual business cares are the least; still, these may in a great measure act as predisposing causes.

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In the consideration of occupation, I shall only take the males, as the occupations of the females were unknown, except in two cases, and these had no bearing on the disease. Of the 77 men, there were 14 laborers, 8 farmers, 7 miners, blacksmiths, engineers and carpenters, 4 each; railroaders and clerks, 3 each; plasterers, lumbermen and book-keepers, 2 each; mason, miller, iron-worker, landlord, coachman, telegrapher, waiter, insurance agent, mechanical engineer, barber, plumber, author, lawyer, grocer, shoemaker, bartender, minister, mechanic and bricklayer, 1 each; unknown, 5.

Mickle,* in regard to occupation. says: "Military and naval life, occupations exposing the workers to great heat and sweat, or to alternate heat and cold draughts, prostitution—all favor the production of general paralysis. So do those which occasion emotional strain, constant worry and irritation, or intellectual overwork."

These various occupations are those which belong to a class in middle life—at least the great majority; the largest number being day laborers; second, farmers; third, miners, etc., etc., there being a decrease in number of persons as the occupation becomes better. These figures, to a certain extent, support my statement, that seldom is general paralysis caused by mental strain alone, as the greater number of cases are those whose occupation requires very little mental effort.

Dr. Hill says:† "So far as my own observation extends, the disease is seldom brought on by purely intellectual pursuits." It seems impossible that the work of a laborer should in any way affect his mental powers, and especially to the extent of paretic dementia, yet it might be a predisposing cause, and so be the basis on which an exciting cause might obtain a foundation, and this brings us to the consideration of the exciting causes given in these cases.

I shall have to leave out the thirteen females, as in

* Mickle, "General Paralysis of the Insane," page 254.

† *Medical News*, Nov. 8, 1890.

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only two cases were the causes given; the first being due to intemperance and heredity, the second to overwork and anxiety.

Of the 77 men, 23 were due to intemperance, 7 to syphilis, 2 to syphilis and intemperance, 6 to overwork, 6 to business trouble and heredity, 2 to heredity and intemperance; rheumatism, typhoid fever, poverty, exposure and sunstroke, 1 each; unknown, 26.

First among exciting causes is the excessive use of alcohol. This is acknowledged, I believe, by the majority of writers to be a great producer of general paralysis. In close relation to it, both socially and as an exciting cause, is syphilis. It is claimed by some that syphilis is not an exciting cause of paretic dementia, but there are cases of general paralysis which cannot be traced to any other source, and the symptoms of this form are so identical with the regular general paralysis that it is stretching a point to claim another name for the disease. It is a distinction without a difference. This, however, does not mean that syphilis always produces paretic dementia to the exclusion of other insanities.

Spitzka,* in regard to this matter, says: "Clinically, it is not always possible to make a sharp discrimination between syphilitic dementia and paretic dementia proper, for syphilis plays an important *rôle* in the etiology of the latter affection. * * * * * * Mendel found that of 201 patients, 117 were syphilitic, and Ripping could only detect a syphilitic element in about twelve per cent. It is to be borne in mind that the mere co-existence of a syphilitic taint does not prove a given form of insanity to be syphilitic; but the fact is significant that, of ALL syphilitic lunatics, one-half are paretic dements, or suffer from the allied form of disease (syphilitic dementia).

"In the writer's experience, syphilis is an etiological factor in the production of various forms of progressive dementia in about one-third of the cases among the pauper insane of New York. Its existence could be deter-

* Spitzka, "Manual of Insanity," page 244.

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mined in fourteen per cent. of the paralytic patients in private practice. Of these, eighty per cent. had typical paretic dementia, and the remainder the true syphilitic form of dementia."

The excessive indulgence of vicious habits, as a rule, is likely to produce some impairment of the mental faculties, and in the majority of cases of paretic dementia, were the truth known, alcohol and syphilis would occupy the first place as exciting causes.

Here, again, the question reverts to one of social standing. Alcohol and syphilis are luxuries which are placed within the reach of everybody, from the laborer to the millionaire, but we find in my ninety cases, on a close comparison, that as the number in the exciting causes lessens the cause itself becomes more respectable. I found that intemperance was given as a cause, especially among laborers and miners, and the same was true of syphilis, whereas the occupation, being a little better, the cause appeared as overwork, or was unknown.

Paretic dementia, as a rule, does not attack vigorous and well-balanced minds, unless, perchance, heredity plays a part, but is found among the class whose morals are of such a low grade that regard for themselves or others is completely destroyed, and they give themselves up to immoralities and vices which are the exciting causes of the disease. Thirty-four of the seventy-seven cases were due to either alcoholism, syphilis or heredity, or a combination of two or more, and I venture to say that in the twenty-six cases in which the cause was unknown, these three factors would be in the majority. Heredity plays an important part in the causation of paretic dementia, though I do not think as important a one as alcohol and syphilis, as it acts more as a predisposing cause.

Dr. J. Z. Gerhard, Superintendent of the State Lunatic Hospital, Harrisburg, Pa., says:* "The causes of general paralysis have not been absolutely determined,

* "Thirty-ninth Annual Report of the State Lunatic Hospital, Harrisburg, Pa."

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but it is probable that several factors enter into its development, and that there is a close and important relation between it and syphilis, although we cannot trace a history of syphilis in all cases."

The disease, as a rule, does not attack either extreme age or youth, but on the contrary seems to select individuals in the prime of life. In summarizing these ninety cases, I find that among the men, the youngest case when attacked was 26 years old, and the oldest 63 years; the average of the 77 cases being 41 years and 8 months.

Among the 13 females, the youngest was 21 years of age, and the oldest 56 years, the average being 41 years and 6 months.

Mickle* gives the age attacked between 30 and 55, and also quotes from the statistics of the English and Welsh Asylums, showing that it is more frequent between the ages of 30 and 40, than 40 and 50.

Spitzka† also says that paretic dementia develops, as a rule, between the thirtieth and fortieth years.

In regard to duration, my cases show that among the males (50 cases) the longest time for the disease to run its course was ten years; the shortest, six months. Average of the fifty cases, two years and seven months; and among the females (8 cases), the longest was six years; the shortest, one year and six months; average, two years and eight months. Average of fifty-eight cases, male and female, two years, eight and one-half months.

I have here only taken those cases in which the disease has completed its course, *i. e.*, resulted in death, as some are still here, and others were, for various reasons, discharged.

Spitzka‡ says that the duration of the disease is very variable, and may last any length of time, from six months to ten years; the usual time being about three years.

Dr. Hill§ gives the duration in twenty-five cases as two years and six months.

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* Mickle, "General Paralysis of the Insane," pages 248—250.

† Spitzka, "Manual of Insanity," page 216.

‡ Ibid., page 216.

§ "General Paralysis of the Insane." *Med. News*, November 8, 1890.

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Mickle* says it may last "from a few weeks or months to one, two or several years."

I think a fair average of the course of the disease is from two and one-half to three years, though, as we have seen, the course in single cases may be varied to either extreme.

The time spent in the hospital by these patients is as follows—and here, again, I shall only consider those cases resulting in death, omitting those which are still here, and those which have been discharged. Among the fifty male cases, the longest residence in the hospital was seven years, the shortest, eight days; average, one year and nine months. Among the eight female cases, the longest residence was three years and two months, shortest, three months; average one year and six months. Average for the fifty-eight cases, one year and seven and one-half months.

The average duration before admission was, males, one year and one month; females, one year and two months.

The ages at death were as follows: Males, oldest, 65 years; youngest, 29 years; average, forty-four years, three months. Females, oldest, 58 years; youngest, 26 years; average, forty-four years and two months.

I shall not draw any conclusions from these cases, as I would only repeat those of other writers, but leave that to my readers.

We must realize that if this disease continues to gain ground, and go on increasing, we will have another powerful factor which will aid in the mental, moral and physical deterioration of the American people as a whole.

There is room for improvement in our mode and manners of life, and the sooner we realize it the better it will be for this and future generations.

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* Mickle, "General Paralysis of the Insane," page 211.

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REASON AND MADNESS.*

By PROFESSOR AUGUSTI TEBALDI,

Of the Royal University of Padua, Italy.

CHAPTER V.

IN the history of human thought we see some ideas and sentiments which seem to constitute almost the warp and woof of the vast web on which an infinitude of other threads, interwoven, picture the days of the past, with their special tints, their personages and their episodes. These ideas, which, as governing threads, traverse the entire picture of the past, now more and now less conspicuous and dominant as special likenesses of thought, accompany the life of humanity, spring from the hidden fountains of the human soul.

The sentiment of self-preservation and that of reproduction of the species, hold the field in the first episodes of humanity, with the first dominating expressions of egotism. The first experiments of association and of the family bond develop new energies, which constitute the nuclei of the ideal and moral patrimony of mankind. The great and the wonderful give the most vivid colorings of the first conflicts and the first heroisms. The torment and the dread of the unknown impel to the acquirement of the first conceptions, and present to religions their foundation.

These primal elements of the social life of man are from time to time reborn, and they hold different positions in the evolution of civilization; at one time as subjects, at another as arbiters; now fertile with good, but again with ruin; at times guides to truth, but again to error; now the standard-bearers of restoration, but

* Translated by JOSEPH WORKMAN, M. D., of Toronto, Canada.

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anon, of destruction; to-day arousing to tumultuous activity, to-morrow launching into social ravings. Thus it is that to the religious sentiment we are indebted for the most heart-stirring emotions of pity and love, but also for the deliriums of mysticism, the epidemics of insanity, the slaughterings of the Inquisition, and the wars of religion.

No sentiment is so universal, none has such varied hues, none an evolution that is countersigned by appearances so diverse as that of religion. Its exaggerations and deformities we may study in the individual of to-day as well as in the man of the long past. In both the one and the other we ever have *man*, and he is the same repeated fact. The history of insanity mirrors that of the individual as an appurtenance of humanity.

We may study social insanities as true morbid individualities; investigate their origins, follow their courses and their transformations, form a diagnosis and propose remedies, as for an individual disease. They are integrant parts of the development of human thought, and they sometimes represent the summit of those curves, passed through by humanity, and ever carrying it to greater heights. They sometimes signalize the moments of transition of historic days. Not otherwise in the individual does insanity keep close pace with the highest notes of thought and sentiment, as it bursts into the most lively commotions of the senses.

It is said that in history we live in the past, but although this may be true, it is always to be understood in a restricted manner. Even were history the most truthful reflex of an age, the man of the present day does not perceive and judge as one who lived in the time of the events recorded felt and judged.

If to-day a fact observed by several persons is diversely judged by them because it is differently perceived, we must surely be incapable of perceiving and judging justly of events that happened centuries ago.

The historic atmosphere surrounds the whole man,

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