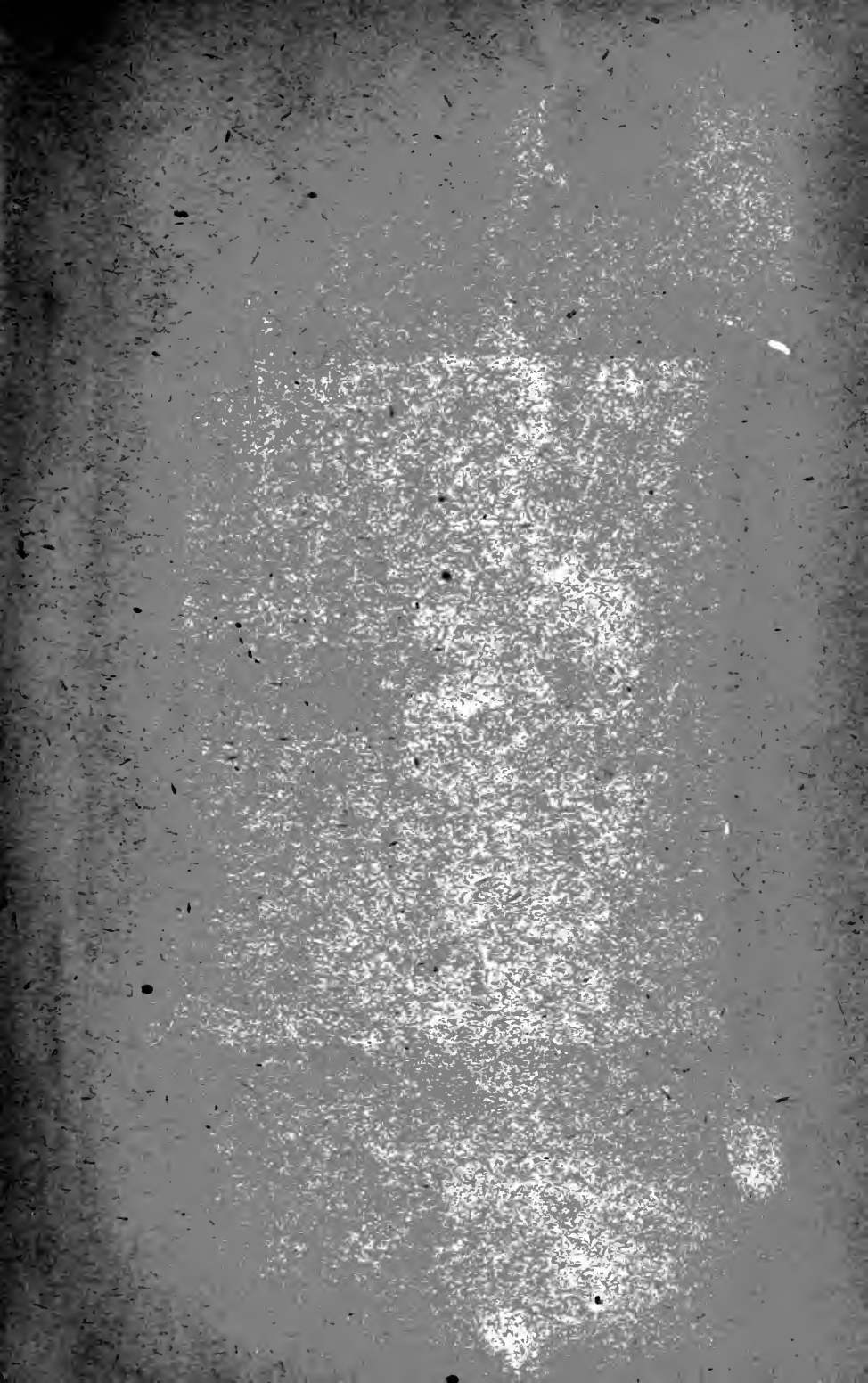

"Quantam ego quidem video motus morbosi fere omnes a motibus in systemate nervorum ita pendent ut morbi fere omnes quodammodo Nervosi dici queant."—CULLEN'S NOSOLOGY: BOOK II, P. 181—EDINBURG ED., 1780.

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EROTOMANIA. A CASE OF EXHIBITIONISM—A MEDICO-LEGAL STUDY.

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IF criminal statisticians are correct in their deductions that sexual crimes are progressively increasing in our modern civilization, then the forensic importance of the study of sexual perversion can scarcely be over-estimated.

To punish as criminals those unfortunates who happen to be diseased in a manner which forces them to criminal acts, is a sad commentary on 20th century civilization.

It is for the medical expert to enlighten the jurist upon this subject; and to correctly interpret the facts necessary for a decision as to whether immorality or abnormality occasioned a certain sexual act, the perpetrator and not the crime, must be considered. To do this, the past history of the individual, as well as his present condition, must be considered.

Sexual perversion may be inherited or acquired. "Acquired perversity, to be pathological, must be found to depend upon a neuropathic or psychopathic state."*

Erotomania is a generic term for the propulsion obsessions of a sexual nature accompanying neuropathic and psychopathic states and is, therefore, but an incident or symptom of diseases of the nervous system—more accu-

*Krafft-Ebing.

rately of the neurones composing the psychical centers of the brain, and as such, is to be differentiated from Satyriasis and Nymphomania, which are states of abnormally increased sexual desire, usually described as arising from disease of the peripheral neurones, though they frequently accompany general neuropathic conditions involving the sexual psycho-motor sphere.

Persons afflicted with Satyriasis or Nymphomania seek to satisfy their inordinate sexual desire, whereas Erotomania is a perversion of the normal sexuality, giving rise to true impulsive acts, not necessarily having for their object sexual congress, or ending in organism, and may be accompanied with sexual frigidity and flaccidity of the virile organ.

Erotomania is then a psychical form of morbid love accompanied with irresistable acts, usually without lasciviousness, whereas Satyriasis and Nymphomania are motor impulses which may lead to uncontrollable, lustful acts—in short, Erotomania is a psychosis, while Satyriasis and Nymphomania are neuroses.

Exhibitionism is "a sexual pervert obsession and impulse characterized by an irresistible tendency to exhibit in public, generally with a sort of fixity of hours and place, the genitalia in a state of flaccidity without any lascivious provocation; an act in which the sexual appetite expresses itself, and the accomplishment of which, closing the agonizing struggle, finishes the attack."*

"The cases thus far recorded are exclusively those of men who ostentatiously expose their genitals to persons of the opposite sex, whom in some instances they even pursue, without, however, becoming aggressive."†

"The silly manner of this sexual activity, or really sexual demonstration, points to intellectual and moral weakness, or, at least, to temporary inhibition of the intellectual and moral functions, with excitation of *libido* dependent upon a decided disturbance of consciousness (abnormal unconsciousness, mental confusion), and at the same time calls the virility of these individuals in question."†

*Dr. Paul Garner, *Alienist and Neurologist*, October, 1900.
†Krafft-Ebing.

The majority of reported cases of Exhibition are acquired states of mental weakness by virtue of which consciousness is clouded and inhibition lost.*

The following case was referred to me by Dr. O. L. Behrens for treatment, and in obtaining the history, it is proper to state that the subject, who had been fined $300 in the police court, was a reluctant patient, as he was desirous of paying the fine and having the matter dropped, and like many of the neuropathically afflicted, he did not consider himself a subject for medical treatment. It is, therefore, possible there were present other subjective symptoms than those which were obtained by persistent and repeated examinations.

Mr. G. A. R. called at my office, February, 1904, with a history of having made indecent exposures before women on the street at several different times extending over several weeks, the last of which occurred January 5th, 1903—each time at about the same time of day and at the same place and under the same or similar circumstances, notwithstanding the affair was being extensively published in the daily press and efforts were being made by the police to apprehend the offender.

He states that the attack is ushered in by a "wave passing over him," after which his mind appears a blank and he is not aware of there being anyone present or that he is in a public place. He does not feel sexual desire, and does not know the condition of genitalia (nor was this known by any witnesses to the act) during exposure, but does not have ejaculation nor is he conscious of pleasure.

No history of hereditary predisposition; no previous serious diseases or injuries, and habits and mode of life good (the latter were corroborated by witnesses) save that he had worked much overtime prior to the acts — two nights in succession he worked all night and the third night did not retire until after midnight.

Patient is of German descent; machinist, happily married and has a daughter five years old; sleep poor, with

*Krafft-Ebing.

frequent unpleasant dreams, nocturnal somnambulism, sexually normal.

Pulse 84, temperature normal; tongue clean, bowels regular; no evidence of heart disease.

Left hemi-parasthesia; more especially of hand and foot. No anaesthesia or motor paresis—knee jerks exaggerated; cremasteric and other skin reflexes lost. Chemical analysis of urine revealed a specific gravity of 1030, with an excess of earthy phosphates. No malformation or disease of genitalia—not even hyperaesthesia of urethra. Vasomotor instability apparent in patient's face, which would flush and blanch in course of examination. The statements of the patient, save, of course, as to purely subjective symptoms, were corroborated by witnesses on the stand, and, together with the subjective and objective symptoms herewith given, as well as the testimony of the principal prosecuting witness, a young woman before whom the last exposure was made, who stated that the accused was not closer to her than twenty feet during the act, was not aggressive, and that his face wore a "silly grin," were made part of the hypothetical question.

In analyzing the symptoms, we find they are such as indicate a general neuropathic condition, the reflexes being especially diagnostic of such a state.

Exaggerated knee jerks occur in all functional and most organic cerebral diseases.

Starr* writes that "the skin reflexes are usually lost in those diseases in which the tendon reflexes are exaggerated; are also lost in brain diseases, but never in hysteria."

The experts for the prosecution contended that the circumstances connected with the exposure, the previous good character, and the symptoms, did not justify the diagnosis of Erotomania, and that the accused was fully responsible, but, after three trials, the first two of which resulted in hung juries, the prisoner was acquitted on the ground of insanity.

*Organic Nervous Diseases, 1903.

Linmar Building.

OUTLINES OF PSYCHIATRY IN CLINICAL LECTURES.*

BY DR. C. WERNICKE,

Professor in Breslau.†

LECTURE THIRTY-THREE.

Confused mania or agitated confusion. Exaggeration of intrapsychical hyperfunction to confusion. Different grades of the flight of ideas. Combination of sensory and motor symptoms of irritation. Disease type. Meynert's amentia. Asthenic confusion as a phase of confused mania and as an independent disease.

BY *confused* mania we will designate a disease type, which is clinically manifested as an exaggeration, a culmination of mania, and represents the external signs of motor impulse and a conspicuous loquacity with confused content, but further, as soon as an analysis of the individual symptoms is made, may certainly reveal entirely different components. The practical and clinical point of view is then decisive for our mode of consideration, that it is a matter of an acute psychosis, which may begin and terminate as mania, but at the time of the height of the disease often of long duration certain traits of mania disappear and various foreign constituents are retained, which, as stated, may be of different sort. To these signs of the complicated disease type, which are derived from the mania, belong chiefly the flight of ideas, the loquacity and motor impulse. The foreign elements, which are added, occur in two extremes, which are sometimes pure, but usually in combinations:

*Continued from *Alienist and Neurologist*, Vol. xxv, No. 4.

†English by Dr. W. Alfred McCorn, late Supt. Elizabeth General Hospital, Elizabeth N. J.

they are either psychosensory or psychomotor identification disorders, and dominating symptoms of irritation. If confused mania is considered an independent disease, as in fact is often justified, when the initial or terminal stage of pure mania is very short, it might be called *agitated confusion* and its varieties differentiated as confusion with sensory and motor agitation. In the first instance the agitation depends on an essentially reactive motor impulse and loquacity traceable to states of sensory irritation, in the second it is equivalent to the manifestations of a hyperkinetic motility psychosis. In the great majority of cases combinations of the two opposite groups of symptoms are met with, in the more rare extreme cases purely sensory occur chiefly, the purely hyperkinetic must be questionable.

The preceding short empirical propositions will show the range, within which we have to move. Such a definition of boundary is therefore essential, because confusion will be found described as a disease entity under the designation of primary confusion or dissociated confusion (Ziehen.) But thus is usually designated only that state of a patient, in which we are always compelled to determine the several elements which cause the state of confusion. Consequently we will have to raise the claim, that confusion as symptom of irritation, *i. e.* united to flight of ideas and loquacity, is principally separated by sejunction (dissociation) from the corresponding defect state of simple incoherence. Only the first instance could now be considered.

That in spite of this difficulty I am actuated by purely empirical reasons, you may thus conclude, that in general, with a harmony very rare in our discipline, the close connection of mania with confusion and the frequent transition of one condition into the other are accepted and taught. I merely refer to Meynert, who formerly* went so far, that he had every acute psychosis we call mania arise from a condition of confusion by associative weakness, to the disease type of amentia analyzed by him, while he later designated by mania those cases, which do not essentially

*i. e. before the appearance of his clinical lectures.

differ from our pure mania. It is extreme, what has been written by a student on psychological questions, what Meynert has said on this occasion of flight of ideas and associative weakness. Without being able to follow him fully, I might still try to shell out the meat and use it for our purpose. My recent remarks on the flight of ideas in mania will thus be completed. I leave out of consideration that a vasomotor fluxion or functional hyperaemia, a consequence of nutritive attraction, as Meynert expresses it, the action of the association fibres, which correspond to the complete trains of thought between the initial ideas, Meynert's "attack idea," and objective idea, will be the basis. For our purpose we may leave out of consideration vasomotor influences and be satisfied, that according to Meynert, the complete train of thought is a function acquisition and points to the most minute localization in definite anatomical elements. We rely upon the fact of the paths worn by usage, which are consequently more readily interested and more excitable in comparison to the others. The supra-quantivalence of certain ideas accepted by us and the complete train of thought possesses according to Meynert's representation† a certain inner connection. The manner of association, which occurs in the coördinate process of thought Meynert characterizes as "large, extensive, continued, profoundly and strongly coördinated" and finds the opposite in the simple coördinated, "narrow, brief, limited, weak and evidently coördinated, aimless" associations. "The association intensity corresponds as source of strength to the molecular tissue attraction. The multitude of arc fibres, within which in the act of thinking two sources of force, the objective and initial idea, tend toward each other, always attain vital force for the elevation above the threshold of consciousness from two ideal centralized cortical areas, but the secondary association from only one of these areas, that of the objective or initial idea, accordingly *e. g.* as fits to the word picture of rhyme. The functional attraction is here the weaker and is inhibited by the stronger." What is here called tissue attraction, we designate increased

†Clinical Lectures in Psychiatry, p. 43.

excitability. If such functional difference of excitability is disregarded in the functions of the association organ, the virgin condition of the childish brain (Meynert's "genetic confusion") again appears in a certain measure, in which any association is possible and may be retained for a time, because anatomical performed combinations between any two cortical areas exist. The different grades of flight of ideas may then be increased to a higher grade, which represents disconnection or incoherence, when in consequence of simultaneous general increase of excitability the individual differences between different association paths are effected to a high degree. This confusion arising from an exaggeration of mania we have in mind, when we admit the disease type of confused mania. Decisive is the state of irritation evidently present, which appears in loquacity and motor impulse, and the absence of a real defect, *i. e.* the failure of association. Therefore the patients are to be fixed for the moment by external stimulation, likewise by the given increase of force and even capable occasionally of more complicated trains of thought. In other words: the previously acquired content of consciousness remains essentially untouched.

We must again return to the difference in action of consciousness and content of consciousness. Still every arrangement in the content of consciousness consists in gradations of excitability acquired by practice, with which complete disappearance of the content of consciousness into its simplest elements, *i. e.* into fragments, might occur. The chief consequence of this might be a total disorientation in all three domains of consciousness. and might also appear in the content of the loquacity, as in the way the patient manifests his motor impulse. But in confused mania we demand that the leveling of the ideas does not exceed the autopsychical domain, no real symptoms of defect should appear with respect to the world and the soma. But in the autopsychical domain we will no longer include in confused mania those states of so-called confusion, in which real defects of the content of consciousness are reactively demonstrable, *e. g.* time is no longer correctly recognized

or different sorts of money can no longer be counted, in spite of sufficient attention, but must be placed among more severe types of disease.

In a word we must try to confine the clinical disease type of confused mania to those cases which do not actually show in their course a close connection with mania, but according to the degree of confusion appears as simple exaggeration of intrapsychical hyperfunction, *i. e.* in which the incoherence, be it of ever so high a degree, remains largely a formal derangement and does not result in more severe defect states of the content of consciousness. The evidence of such defects does not exist, we may perceive in the fact, that it is sometimes possible to elicit reactive assertions from the patients, which show the retained possibility of a coördinated train of thought, if only exceptionally and under special exertion of the attention, *i. e.* by the influence of that process which Meynert calls partial wakefulness. The incoherence of the flight of ideas in the patients in the spontaneous loquacity of the patients simply permits no nearer opinion. But the patients' reactive assertions will then only be judged correctly when the fact of their constant diversion by internal irritation is taken account of.

If we recapitulate from what has been said as to what we may claim of flight of ideas as expression of intrapsychical hyperfunction, three grades are to be differentiated. The first and second, systematized and unsystematized blight of ideas are both peculiar to mania and more fully determined by the attending pathological euphoria. Besides the completely retained train of thought, systematized flight of ideas has the characteristic, that it is associated essentially according to content, while the unsystematized is determined more by similarity of word clang, rhyme, assonances, sequences, etc. In the incoherent or flight of ideas of the third grade, which characterizes acute mania, similarity of words and sequences play a large part, but it may go so far that every comprehensible connection of the words following or used in loquacity or only fragments of words are lost. An example of unsystematized flight of ideas is taken

from a later demonstration* of one of our cases of mania, Miss P.

To my question: "Was your admission necessary?" she replied literally: "*Was it* necessary Professor? *Am I the girl from Wahrendorf? Were you then in the village* (Dorf?) or in the city? Are you educated, reared, trained in the village? (Dorf?) Or are you a *relic piece*, or what are you really or *which piece* will you have? A rib, liver, a pair of feet or a couple of pig's knuckles, headcheese, ah, headcheese perhaps? A bit of jelly perhaps?" In this example the jump to the relic piece is confined to incoherence, while we are well able to follow the mechanism of the combination of ideas.

Confused mania in our strict sense occurs in rare cases as the acma of a single attack of pure mania and is then usually of shorter duration than pure mania. It is met with much more often in recurrent and especially in cases of periodical mania, *i. e.* those in which the relapses occur in actual periods. Periodical menstrual mania, usually appearing premenstrual, is the most often met with, which may be regarded a type of periodical mania. As example of an irregularly recurrent confused mania I cite the case of Miss F., 37 years old, presented some time ago, who had passed through her twenty-third attack since twenty and is now in a custodial asylum of the province, where she is generally free from relapses. At the time of the presentation she was apparently in extremely exalted, but still irritable mood, could not stop laughing, overwhelmed me with reproaches, uttered a stream of words scarcely to be interrupted, and in her loquacity, as unintelligible as it was, seemed to be determined in part by similarity of content. Her motor impulse was largely manifested in increased expressive movements, which were in part used to express her dislike for me. The arms akimbo, body bent forward, like a scolding market-woman, she made various grimaces, stuck out her tongue, first approached, then stepped back, in short, she enacted a sort of domestic scene, in which she was not sparing in filthy remarks. She seemed to cor-

*See my "Krankenvorstellungen" Case 5, H. 1.

rectly recognize place and persons, but her conduct seemed determined by some grandiose ideas, without the confused loquacity affording fuller explanation. Usually isolated, the patient was unable to be examined. She stripped off her clothing and was usually naked, untidy, smeared the food about, refused it in part, occasionally presented fear of approach. Conspicuous was occasional singing under evident stress, for she had become hoarse by her loquacity, further many aimless movements, as *e. g.* violently clapping her hands and peculiar twisting movements of the trunk. This condition had developed in the course of a few days from a pure type of mania, continued about fourteen days and then gradually passed into a state of quiet, but of exhaustion also, after which the patient was able to impart intelligent information. You remember the astonishing, unpresumed content the patient gave of her experiences. She felt she was filled with supernatural strength and happiness, which paroxysmally alternated with anxious ideas. The strength of all departed souls was in her, an abundance of thoughts caused her to talk. At first the situation seemed to her the time of the resurrection, then to be a religious war, she believed she was called upon to decide the fight between good and evil by her interposition. Her present experiences seemed to her to correspond to certain prophecies in the Bible. Numberless voices of relatives, former pupils and their mothers, whom she recognixed by the sound of their voices, stood unseen at her side to fight for her. She saw deceased persons as skeletons, which moved, besides black forms, such as she had never seen before. All these could not harm her. As to the place where she was she was perfectly clear, yet she saw Heaven and magnified stars, angels, and could reach the sky with her hand. On the other hand she often saw an entirely strange country about her, an unknown part of the world, probably the abode of evil spirits. She believed to recognize relatives in fellow patients. Physicians and attendants, recognized as such, were representations of evil; she believed me the incarnation of evil, to fight against her I would kill her brothers. To you she ascribes a hostile intent. She often

believed her food contained poison. She was occasionally anxious and must sing. Her movements occurred, because she felt a snake in her body, whose head stuck into her. When she closed her eyes she saw the snake, it was slender and glistening. She often put bread into her ears to feed the snake. She stripped off her clothing, because it was poisoned by contact with the snake. The snake was passed one day at stool, then quiet occurred. She poured milk into the closet to feed the snake. The snake was Eve's serpent and signified the original sin. By suggestive questions it was ascertained the patient believed she was the Virgin Mary and pregnant by the Holy Ghost.

Complete disease insight existed at the time of these communications, and the patient was then free from recurrences for a long time. Besides the recurrences had been representative melancholias. The connection of this disease type with mania is evident, if only the beginning of the recurrence corresponded to mania, while its end did not, prior attacks of the disease, especially the first, which appeared with the menstruation, were pure manias. A real allopsychical disorientation never occurred, autopspchically it had the character of grandiose delirium comprehensible in mania—of religious color, corresponding to the patient's personality,—somatically it is essentially a matter of abnormal sensations, perhaps connected with the menstrual processes, and of an explanatory delirium for the pseudospontaneous movements of the trunk especially. That this explanatory delirium assumed the form of a sensation and a vision, otherwise finds numerous analogies.

Another example of confused mania, to which I refer you, was the case of Miss B., a periodical menstrual psychosis, which has recurred in all six times, but then declined and has not recurred since in more than four years. The regularity with which the maniacal attacks always announced the approaching menstruation, and the prevailing opinion of the incurability of such cases has caused us to propose the removal of the ovaries as a remedial measure, a procedure which is essentially thwarted by the opposition of the relatives. The patient has now recovered without such

an operation and I hope permanently, for I have repeatedly had the same experience, that periodical mania, as we understand it, exhausts itself in a number of recurrences varying from three to eight attacks, like the periodically recurrent hyperkinetic motility psychoses. At the time of the presentation, in the second attack, the patient presented largely a maniacal picture: disconnected loquacity from incoherent flight of ideas, but only moderate motor impulse, still very changeable mood, often sudden transformation into dejection or anxiety, certainly anxious phonemes. Besides the hyperkinetic symptoms were more prominent than in the previous case, consisting especially of expressive movements of anxiety and despair, unmotived elevation of the voice, etc. Furthermore very marked hypermetamorphosis existed. The recovery in this case was consummated, in that the last attacks acquired more the form of pure mania, while the first attack, still more than the second just described, had borne the stamp of a hyperkinetic motility psychosis. The allopsychical orientation in this case was perfectly intact. The course of a periodical puerperal mania in Mrs. Cz. was similar, whom I presented to you in her fifth attack. Incoherent flight of ideas manifested in occasional repartee, unrestrained, exalted mood and correspondingly increased expressive movements, desire for action, tearing and smearing, unrestrained conduct, acting like a chansonette artist and hypermetamorphosis formed the cardinal traits of the disease type. The preceding attacks had presented more the form of the hyperkinetic motility psychoses, the following sixth and last was purely maniacal and led to permanent restitution, at least after a stage of exhaustion had passed; this patient always remained perfectly orientated allopsychically.

Confused mania in the sense we understand it does not by any means embrace all the cases of so-called periodical mania. The attacks of periodical mania quite often correspond besides to the disease type outlined, but still an allopsychical disorientation is present, which is manifested in ignorance or mistaking the place, the situation and persons, often objects even. That such an allop-

sychical disorientation does not necessarily need to follow from a marked incoherence of the flight of ideas, the three cases just described teach. We will therefore proceed correctly, when we regard such cases not as confused mania, but differentiated as *periodical maniacal allopsychosis*—they are often total sensory psychoses.

Permit me at this time to make a few remarks on the disease type of amentia or acute confusion outlined by Meynert. I have repeatedly shown the great importance I ascribe to Meynert's clinical lectures, according to my opinion they have provided the foundation for a better understanding of the symptomatology of the acute mental diseases. But it must be expressly stated that Meynert is subjected to the general fate of authors, who have labored monographically in certain provinces of our discipline: he has embraced under amentia a large number of acute psychoses which are fundamentally different. This is found intimated in the title of the section where we find given as synonyms of amentia the terms: "acute delirium, general delirium, mania, frenzy, melancholia with excitement, melancholia with stupor of the authors." But you will actually find the transitory psychoses, the so-called dazed conditions and other discussed in this chapter. Besides amentia Meynert then differentiates only melancholia and mania as especially acute psychoses. Moreover the chapter on amentia is of lasting value for all time and indicates the greatest advancement psychiatry has made clinically since Kahlbaum's work on katatonia, for it contains the first real theory of mental diseases and especially the acute psychoses, and is founded on points of view, which are derived entirely from the condition of the affected organ. How much Meynert approximates the standpoint I have always advocated in these demonstrations, you may perceive from the fact, that he always places in the foreground the symptoms of function defect, the association weakness of different grade, and considers the symptoms of irritation a consequence, just as I have represented sejunction as the fundamental process and derived the symptoms of irritation from it. If I have differed from Meynert in the carrying

out of this principle in detail, the future will show in how far this is justified and was unconditionally demanded by the clinical facts. I might expressly emphasize, that Meynert's amentia according to his own description may embrace all those cases of disease, which I have described as acute autopsychosis, allopsychosis somatopsychosis, motility psychosis and their combinations, and that from the clinical standpoint it is necessary to postulate corresponding degrees of association weakness in Meynert's sense. The circumstance may be so presented, that the firmest association combinations exist in the domain of the consciousness of the soma, the next firmest in that of the world and the loosest, likewise the latest acquired and the most different individually, in the consciousness of the personality. Accordingly a like degree of prejudicial influence or according to Meynert's conception of general association weakness, was always manifested first allopsychically and second and third allopsychically and somatopsychically. If the phenomena of confusion is alone kept in mind this idea would correspond to the facts in a measure.

The disease type of primary confusion, where the confusion consists of a defect state, a real incoherence, I am able to acknowledge only to a limited degree. As its signs we might consider the demonstrable exhaustibility of ideation in either failing flight of ideas or in times of failing flight of ideas. Doubtless there are those conditions, in which the patients are to be fixed occasionally and momentarily and reactive movements, *i. e.* manifestations caused, but always those of the simplest kind and on intense impulses, by a sort of whipping up of the attention. The incoherence in the spontaneous manifestations of these patients is independent of loquacity and motor impulse. Complex questions and commands are evidently not understood, without a blunting of the sensorium being to blame. These patients are generally disorientated allopsychically. Essential affects are absent. In consequence of the evident failure of association it seems as though the exciting stimulation could only be difficulty or not at all conducted to the more remote links of the association chain, and to express the

contrast to agitated confusion, these conditions might be called *asthenic confusion*. They are actually accompanied as a rule by other symptoms of weakness, like difficultly fixed attention, essential blunting of the ability to attend, general physical weakness and lowered nutrition. Such a form of asthenic confusion, which may be accompanied by various symptoms of sensory irritation, is quite often met with as a sequence of other acute exhaustive psychoses or their phases but it may be impossible to speak of primary confusion.

If, to do justice to the facts of the Clinic, we might acknowledge an independent disease type of confused mania and have found that its essential sign is to be perceived in an exaggeration of the intrapsychical hyperfunction to incoherent flight of ideas, we will not be able to consider it an accident, that such conditions occur preferably after especially severe attacks of confused mania or agitated confusion. For these cases I might claim the highest grade of association weakness described by Meynert, which he compares to genetic confusion (see above.) In two cases of the sort, of which more exact data exist, this was shown by physical decline as a common sign following a condition called asthenia: complete quiet, affectless state of mind, occasional motiveless grimacing, absence of spontaneous manifestations or movements. Simple commands, like raising the hand, showing the tongue, to arise, etc. are understood and obeyed. Equally simple questions as to the name, age and other personalities readily answered. Whereas exceeding this, some tasks requiring a combination may not be performed. For instance the numbers to which the minute and hour hands of the clock point are correctly given, yet the time is not known. Pieces of money are correctly named and correctly counted according to the number, but their value cannot be computed. A simple way through different streets perfectly familiar to the patient cannot be described, etc. Still the enumeration of serial associations or simple memories, like the Lord's Prayer, etc. is very good. The attention is relatively good, the ability to attend very bad. Place and situation are not recognized, equally as little per-

sons, who might have been known before the illness. This goes so far that the physician for instance is claimed to be the mother, while later, on abatement of the state of weakness, other more approximate mistakes are privileged. Hence no subjective feeling of insufficiency, not even sufficient feeling for the physical weakness, no disease insight of the preceding maniacal attack. Amnesia for the great part of the latter. With respect to the decline of this state of weakness in point of time, it exists in high degree only a few days and then gradually leads to restitution, simultaneously with increase in strength and weight. The condition of apparent recovery lasted only a few days, because a very acute relapse then occurred. In the menstrual psychosis of Miss B above described, the states of exhaustion mentioned occurred after the first and second relapse, both times in almost identical manner.

It is easy to interpret the allopsychical disorientation in such a case as a symptom of exhaustion occurring in a portion of the content of consciousness, which had previously shown states of active irritation in form of hallucinations, so that the identification disorder, the psychosensory paraesthesia and anaesthesia could be traced to defective excitability of the allopsychical content of consciousness. At any rate it would be justifiable to regard the demonstrable association weakness as a state of exhaustion of the intrapsychical paths, as a transformation of the increased excitability into a blunting of the excitability. Thus the association weakness postulated by Meynert would not prove to belong to mania, but as a sequence of mania, which only results in unusual height of the pathological process.

As you have seen, the inner connection of such not independent disease types, but stages of exhaustion I certainly believe can be represented with confused mania. Less certain is the basis on which I stand when I admit a *primary asthenic confusion*, which occurs as an independent disease for many months and may lead to complete recovery. In a case of the kind the cardinal signs of the state of exhaustion previously described were found, namely a certain defect in spontaneity, the failure of ideation in complex de-

mands, an attention retained under excitement, but very poor ability to attend an allopsychical disorientation, accompanied by symptoms of motor and sensory irritation of moderate degree, *i*, *e*. pseudospontaneous movements, which occur monotonously but not rhythmically, phonemes and hypermetamorphosis. Essential affects failed. The course was remittent, combined with akinetic symptoms for a few days at the height of the disease. The patient, a poorly developed youth of twenty, has not had a relapse for four years. I might confine myself to mentioning and emphasizing such cases, that exactly the same symptom complex might be understood and termed acute primary asthenic confusion.

For the demarkation of such cases it would be well to remember the old differentiation of habitual forms and real diseases carried out especially by Kahlbaum. The state of exhaustion above described is evidently not to be regarded a real disease, but shows us the asthenic confusion as a habitual form or, as it is recently termed, a condition. Cases of the kind last described are examples of an independent primary exhausting disease occurring at least in the state of asthenic confusion.

The condition of habitual form of asthenic confusion might be further comprehended, as it has been here. It is especially easy to include here cases of association weakness with autopsychical and allopsychical defect with any symptoms of motor irritation (then asthenic auto-allopsychoses) which have been repeatedly observed in young girls very acutely ill, further all with termination in complete recovery, if after a long duration of the paranoiac state. Still these cases have the peculiarity, that contrary to an attention relatively hard to fix, the ability to attend was surprisingly good.

(*To be continued.*)

IS DELUSIONAL INSANITY DUE TO DISEASE OF THE BRAIN?*

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DELUSIONAL insanity is that type of mental derangement, whatever its special form may be, which is erected upon an emotional basis, and whose characteristic is a delusion. It may exist alone, or it may be associated with, or be an accompaniment of other mental disorders, but its fundamental elements, however varied, are so peculiar to itself that, despite its occasional extremely intimate association with other forms of mental unsoundness, its own identity is never lost. In the various clinical forms of mania and melancholia it stands out alone and uncomplicated, but it preserves and presents practically the same clinical entity when it occurs with imbecility, or appears during the course of progressive dementia. The so-called maniacal symptoms of primary dementia are not really symptoms of dementia; they constitute, rather, a superadded attack of acute mania, and present the same fundamental elements and the same characteristic superstructure as would be observed in this same condition were there no dementia present. A variation of the emotions may be observed in dementia; the patient may be at times elated and at other times depressed, and these may be regarded as emotional symptoms, for they are but exaggerated emotions common to sanity, the exaggeration occurring by virtue of the instability of the mental structure upon which these emotions react, but a condition of elation or of depression, *plus a delusion*, and constituting

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delusional insanity, is by reason of this delusion, a type of mental alienation in itself, and no amount of association with dementia will make it a symptom of that disorder. These delusional mental conditions may or may not occur in cases of primary dementia, just as they may or may not occur in the *absence* of dementia, but whenever and wherever they may be found, and in whatever connection they may appear, they should always be regarded as attacks of delusional insanity, and not as symptoms of the accompanying disorder. The occurrence of delusional insanity during dementia has no greater significance, either clinically, physiologically or pathologically, so far as the dementia is concerned, than a rise of temperature during the same disorder, and it may increase and decrease, disappear and reappear, without altering the course of the dementia in any way and without any corresponding variations in the dementia. The dementia may be, at times, completely obscured by the emotional disorder, only to be occasionally observed through a rift in the enveloping clouds, or it may emerge into full view during a lull in the more active mental demonstrations or upon the cessation of the delusional attack, but these temporary glimpses, or this final emergence are not variations in the progress of the dementia; it has continued its course unruffled and unperturbed by the coincidental attack of delusional insanity, because the two conditions do not affect each other by reason of their co-existence.

The reason of this is that the two disorders are constructed of entirely different materials. The fundamental element in dementia is mental weakness; the fundamental element in delusional insanity is not inability to think, but a "twist" in thought—a delusion. That is one difference. Dementia has its origin in cell destruction in the higher centers of the brain; delusional insanity, we will see as we go further, has its origin in feeling. That is another difference; but the most important difference of all is, that dementia is due to disease of the brain, while delusional insanity is due to disorders elsewhere in the body which give rise to this feeling, and out of which the delusion grows.

Of classifications of insanity there is no end, but the following, based upon the *source of origin* is not without its advantages, for while it has its objectionable features, as all classifications of insanity have, it gives some clue to the treatment to be followed, as well as to the prognosis to be made.

- Insanity
  - From Embryological Causes
    - Idiocy
    - Imbecility
      - Mental
      - Moral
  - From Histological Causes
    - Dementia
      - Primary
      - Organic
      - Senile
      - Paralytic
  - From Physiological Causes
    - Morbid Feeling
      - Mania
      - Melancholia
      - Manic-Depressive Insanity
    - Insane Temperament
      - Paranoia

According to this arrangement of mental disorders, idiocy, imbecility and dementia would be considered as being due to disease of the brain, either in the form of non-development or as degeneration, while delusional insanity would be due to bodily conditions, and the accompanying prognostic table would follow:

- Insanity
  - Recovery or Improvement from Treatment
    - Mania
    - Melancholia
    - Manic-Depressive Insanity
    - (Paranoia)?
  - No Recovery or Improvement from Treatment
    - Idiocy
    - Imbecility
    - The Dementias

It is doubtful if paronia is susceptible to improvement from medical treatment. As a form of mental alienation it

does not appear to be due to acquired morbid conditions of the body but to an insane temperament, a peculiarity of cell structure, inherent and innate in the protoplasm itself, and handed down from parent to child. It is a "way of looking at things" which has its inception in the pregnant cell, and develops as the individual develops, exerting its characteristic warping effect upon the fundamental perceptions of the infant, and molding all subsequent knowledge "in its own likeness." It can scarcely be said to be a form of insanity, if insanity means a departure from a man's usual method of thinking, feeling and acting, for there has been no departure in the paranoiac's case. It is only the growth and expansion of insane seed planted at the time of conception, and the whole individual, every fiber and every cell, is shot through and through with the first fruits thereof. It is not so much insanity as an individual characteristic, and his peculiar ideas are not so much delusions as they are the natural growth and development of an insane diathesis which has reared its mental superstructure after its own kind and in its own way, and from which these ideas are evolved as legitimate conceptions. This insane temperament I regard as differing materially from a predisposition to insanity. It is not a predisposition based upon a contingency, it is the real thing, bred in bone and muscle and nerve. Paranoia is not engrafted upon the individual as delusional insanity is, but is the original plant, and its initial blossom is an anarchist and its perfected fruit a paranoiac.

All classifications of insanity are of necessity more or less faulty, but whichever form is adopted, one prominent and abiding line of division should be: the *origin* of the mental disorder. With this line established I would place upon one side those mental disorders due to disease of the brain, and on the other side those forms of mental alienation which are *not* due to disease of the brain. On one side would fall imbecility, general paralysis and the various dementias; on the other all other forms of mental disorder, grouped under the term delusional insanity. But I would not make the distinction between these two general classes of mental disorder on the source of origin alone, but like-

wise on the ground of prognosis. Those disorders having their origin in disease of the brain are incurable; those originating in bodily conditions are curable in a large majority of cases. Delusional insanity, having its origin in general functional disorder of the visceral organs is amenable to treatment, and it can be cured whether it exists alone or in connection with imbecility or dementia, though in the latter instances the underlying condition being due to organic brain changes, the patient remains incurable even when the delusional insanity has been relieved by treatment.

If, then, all mental disorders are to be divided into general classes, those due to disease of the brain and those not due to disease of the brain, upon which side of the line shall delusional insanity fall? Is it, or is not, due to disease of the brain? In order to secure a clear understanding of the subject it must be approached from various sides. It has its pathological, its psychological and its physiological points of view, and consequently cannot be placed upon either side of the dividing line until all these have been considered.

The *pathological* findings in delusional insanity have not been of a nature to justify us in building up a theory upon the strength of these alone. While evidence of morbid anatomical changes have been secured in many cases of dementia, and in practically all cases of general paralysis, the gleanings in delusional insanity, uncomplicated by imbecility or dementia, have been practically *nil.* Some pathological changes have occasionally been found in the cells and also in the dura and pia, but nothing more than has also been found in the brains of those dying while sane; so that these findings do not, as yet, justify us in calling delusional insanity a condition due to disease of the brain, nor does it offer much hope that even improved methods of investigation will verify this theory in the future.

So much has been written upon this subject, however, that it seems unnecessary to say more than that the general concensus of opinion appears to be against the acceptance of the belief that delusional insanity is due to brain disease on the strength of the pathological findings alone.

The enormous degree of insult which the brain can endure without mental derangement is almost beyond belief, in fact, would be beyond belief unless repeatedly proven by actual experience and ocular demonstration. The fact that practically all known diseases of the brain are unattended by mental envolvement, excepting in some instances delirium or stupor, goes far toward proving the fallacy of expecting to find brain lesions in all cases of delusional insanity. On looking over a long list of cases covering all forms of brain disease, I find nothing in their symptomatology to indicate that they are necessarily associated with any mental derangement aside from what would be expected under such conditions. In many cases there was *delirium*, or *stupor*, that is, an *over-production* or *under-production* of mentality, but in none was there any evidence of a *delusion*. I do not mean to say that delusional insanity could, under no circumstances, occur in persons suffering from injury to, or disease of the brain. Far from it. Delusional insanity *could* occur in conjunction with disease of the brain just as it could occur in conjunction with any other condition. I only say that the rarity of the occurrence proves their disconnection and emphasizes the difference existing between delusional insanity and dementia, or between delusional insanity and delirium.

In these cases I found the following mental symptoms:

In pachymeningitis, mental weakness.

In leptomeningitis, delirium.

In meningeal hemorrhage, stupor.

In cerebritis, none.

In brain abscess, stupor or delirium.

In cerebral hemorrage, stupor or délirium.

In acute softening, none.

But in none of these were there any symptoms of delusional insanity. Maudsley speaks of this in his *Pathology of Mind*, from which I quote: "One of the most frequent observations which the clinical observer has to make in respect of tumors, abscess, cysticercus and such gross products of cerebral disease, is the absence of symptoms of mental disturbance. The fact at first seems striking because the presence of so much disease in its midst might be thought

incompatible with the undisturbed function of the brain as the organ of mind. After giving a careful report of ten cases of tumors of the brain, Dr. Ogle calls attention to the fact 'in no case was there during life anything of the nature of mental imbecility, or any symptoms of the various phases or forms of insanity.' It is well known that a person may lose a part of his brain and yet not exhibit any mental deficiency or disorder. Indeed cases have been recorded which go to show that one hemisphere may do the work of the whole brain; the only apparent consequence of the destruction of the other hemisphere being a quicker exhaustion by exercise and perhaps a greater irritability. This being so, it is easy to determine that a direct encroachment upon the grey layers of the convolutions by disease may take place without causing mental derangement. Certainly it sometimes happens that mental disease goes along with disease of the brain, even though the mischief is quite central; in that case we must think that the disease acts as a center of irritation, and that the mind centers are affected secondarily, the disturbing action being either directly upon the nerve elements or indirectly upon them through direct vasomotor commotions. Two things will often be observed then with regard to the mental symptoms: (1) That they are intermittent, so that they may disappear altogether for a while; and (2) *that they have the characteristic either of an incoherent delirium or of greater or less mental imbecility.* That we do not usually meet with the recognized forms of insanity is a fact of some interest and importance. A systematized mania or melancholia represents a certain organized result of abnormal character, a definite morbid action—the organization, if you will, of disorder; the incoherent delirium or the mental imbecility with which we have now to do indicates, on the other hand, a general disturbance of the supreme centers of intelligence without any sytematization of the morbid action."

The liklihood of any mental disorder occasioned by injury to, or disease of the brain, taking the form of simple augmentation or reduction of mental processes as witnessed in delirium and dementia, and the wide difference clinically

between simple augmentation or reduction of mental processes and delusional insanity, are so clearly shown in the above that I have taken the liberty of quoting at length. As a further illustration of the extent of injury to the brain which may occur without mental disorder, I quote from a paper by Dr. Weider in *American Medicine*, July 23, 1904. After describing the accident he says: "In spite of the severity of the injury, the height of the fall, and the evident injury to a large portion of brain tissue, the patient did not lose consciousness. He retained his mental faculties and reasoning powers, although a large portion of the cortex of the right hemisphere of the brain quite far forward and including the frontal lobe was removed, in addition to a considerable quantity lost at the time of the accident, according to the statements of the officers of the patrol. This was proved by the fact that at first he refused to give his address, but later did so on being told the seriousness of his injury, and that he answered questions until very shortly before he died."

Dr. Williamson says: "The brain in certain cases can sustain profound shock and even loss of important tissue of great extent, and yet carry on the physical and mental functions with some degree of success. Its capacity for work after suffering great losses, or while carrying extraneous burdens, in some instances seems to go beyond ordinary credence."

"Dr. Brown reports a man of ordinary intelligence and good character, and who for thirteen years did the work of a porter with perfect satisfaction and exhibited no notable peculiarities. Yet in this man the corpus callosum was completely absent."

"Dr. Charles Phelps reports a man who died at the age of 25 with a large abscess in the middle area of the left cerebral hemisphere, while a large proportion of both hemispheres were either softened or invaded with punctate hemorrhages. Yet this man had absolute integrity of all his mental faculties and special senses without either having aberration or decadence, and was cheerful and slept well."

"Drs. Putnam and Richardson report a business man, 30

years of age, whose entire left cerebral hemisphere, except the occipital lobe and the lower portions of the temporo-sphenoidal lobe, was occupied by a diseased growth 'which everywhere compressed the adjoining brain tissues and to a great extent destroyed them,' and yet in this man 'no notable mental changes were observable.' "

Tumors play an important part in brain pathology, but the mental symptoms resulting from their presence seem to be limited to the same psychical disturbances produced by injuries to the brain or by active brain disease, namely: Dulness, lethargy or stupor, and I am convinced that a tumor, in its very nature, is absolutely impotent so far as the production of a delusion is concerned.

M. Allen Starr reports a case in which a large glioma occupied the entire white substance of the frontal lobe on the left side, yet the patient was as intelligent as ever up to the time of his death. Also a large tumor of the right frontal lobe without either mental or physical symptoms. He likewise saw a tumor of the medulla increasing the latter to twice its size with absolutely no signs of disease of either cranial nerves or tracts passing through this important part of the nervous system. In the Transactions American Neurological Association, 1891, he reports a case of a child in which a tumor filled both lateral ventricles and obliterated the third ventricle entirely without any mental symptoms.

In a large number of reports of cases of cerebral tumor the only mental symptoms I find mentioned are dulness or lethargy, but nothing in the way of a delusion. Francis concludes from a study of many cases that in tumors of the frontal lobes and corpus callosum the chief mental symptom was apathy. This mental dulness, or lethargy, or apathy, is to be expected, and I can see no good reason why it should not, in some cases, progress to complete dementia, but it would surely be a cause for surprise to find delusions as a symptom because there is nothing in the nature of a tumor of the brain calculated to produce a delusion. To be sure delusional insanity could exist at the same time and in the same cerebrum as a tumor or other diseases without there b ing any connection between them. Surely no good

results can come from magnifying the importance of the contemporary though accidental existence of delusional insanity and a tumor of the brain, or of delusional insanity and any other diseased condition of the brain which may occur in isolated cases. If one man should, peradventure, have both delusional insanity and brain tumor, while one hundred others have similar brain tumors without delusional insanity, it would scarcely seem possible that the first instance could be of any value as evidence that delusional insanity is due to disease of the brain, and yet just such instances have been offered for that purpose. A man may have half of the entire cerebrum blown away without any mental symptoms except "slight weakness and sluggishness of intellect," while a small spicule of bone three-fourths of an inch long and one-fourth of an inch wide at the largest end, firmly embedded and without any inflammatory zone surrounding it, has been reported as the cause of insanity *in a case of paranoia*.

Psychology gives us another viewpoint and supplies some information which goes far towards the solution of this most perplexing problem. The psychical function of the brain is to think, and feel, and act, and when it does this it performs its function. That it can functionate abnormally as well as normally is true, but the abnormality of psychical function, it must be remembered, lies in the over-production or under-production of thought, with its attending feeling and action, and not in the substance of the thing thought. *How*, or *in what manner*, he thinks and feels and acts is the criterion for abnormal mental function; *what* he thinks and feels and acts is immaterial. *How* a man thinks and feels and acts is represented by delirium at one extreme and by dementia at the other. *What* he thinks and feels and acts is designated as a belief, either true ot false. As long as the thinking, feeling and acting are in perfect harmony with the belief, it matters but little whether the latter be true or false so far as the psychical function of the brain is concerned. If a man's feeling and actions are diametrically opposed to his way of thinking, or his way of thinking and acting opposed to his manner of feeling, or if he habitually

and continually acted contrary tc his thought and feeling, it might be said that some derangement of brain function existed there, but while his thoughts and his feelings and his actions are consistent and preserve their due relations one to the other, and all to each, no mere divergence from established truths can constitute derangement of brain function.

It may be said that the acceptance of a false belief without cause would and should be received as evidence of deranged function. That is true, or it would be if the statement was true. To accept a false belief without a reason for so doing would certainly indicate abnormal brain function, but this is far from the truth in delusional insanity. On the contrary, the deluded individual has *every* reason, as it appears to him, for adopting the conclusion at which he has arrived. He feels, say, that he is to be killed. A powerful and uncontrollable fear has taken possession of him. That death is to come, is to him beyond dispute, unless he can prevent it, and he puzzles his brain unceasingly to account for this strange feeling and to determine, if possible, the source from which the injury is to come. Is it a matter of surprise that at this point the intellect should become involved in an effort to discover some way of escape, or by fixing upon the most probable source of the threatening danger, invent some method of avoiding it? Or, when the judgment has decided, under all the circumstances, viewed, as they are, through an impenetrable gloom of anxiety and dread, that poison in the food is the route by which this death is to come, is it a matter of remark that he should act accordingly? Would it not be stronger evidence of derangement of the function of the brain did he do any other way? The crystallization of the feeling of fear into a belief by the melancholiac is not only a logical, but a natural proceeding. Maudsley says, in reference to this subject: "Nor can we wonder at it when we reflect how strong is the tendency of any sane person whose passions are stirred or whose interests are deeply engaged, to see things from his own point of view exclusively, and to transform his own perturbed feelings into qualities of the object."

If an overwhelming sense of fear takes possession of an

individual, what more rational or reasonable thing could he do than to attempt to locate the source of the danger and to make some effort to escape, or if this is impossible, to make some provisions for averting it? If, indeed, the fear was founded upon an actual fact, if he really was to be killed, would it not be the part of discretion to attempt to discover the method by which this death was to come? And if he concludes, to the best of his knowledge, that poison in the food is the method most likely to be employed, would he not be expected, as a rational, reasoning individual, to take some measures, however drastic, to prevent it?

It would seem that the mental process employed in arriving at this conclusion would be the same in either case, the difference lying only in the major premise; that is, whether the fear was real or otherwise. If the fear was real, the conclusion reached was true, if the fear was unreal, the conclusion reached would be false, but the mental paths traveled, from the *fear* to the *conclusion*, would be the same in both instances despite the reality or unreality of the fear, or the truth or falsity of the conclusion, as it is readily seen that the falsity of the final belief in a delusion of fear does not rest upon improper methods of reasoning, but upon the assumption of the presence of a danger which does not exist. More than this, the delusional conclusion is not false *per se;* that is, the belief is a logical one, the falsity existing only in the mind of another who, standing outside the deluded man's consciousness and *not feeling the fear*, can conceive of no reason for such a conclusion, and consequently pronounces it false.

The deluded man detects no false note in his deductions, for to him the feeling of fear which prompts it seems to be real; nay, more than this, it *is* real. The consciousness of fear cannot be otherwise than real. Fear is a feeling, and this feeling is its essence—its all in all—and the only incontrovertible proof of the existence of fear consists in the fact that *it is felt*. If, then, a man *feels* it, how can it be anything *but* real; that is, as real as *any* fear, if this experience can only be recognized in consciousness *by* the feeling? If he *feels* no fear, there is none; if he *does* feel it,

why, it is there, no matter whether or not any occasion for it exists. That the fear of delusional insanity is real cannot be gainsaid. It is this unimpeachable reality of the fear that gives the characteristic element of absolute accuracy to his final belief, the falsity of which his associates so readily recognize. It is this indubitable and supremely authentic reality of the fear that explains the tenacity with which the deluded individual clings to his belief, and the energy and vigor with which he defends it. The deluded man's fear is not a myth or an idle dream, but an actual, incontestable presence.

If, then, this feeling of dread and apprehension of impending danger holds the position of reality in consciousness, and the course pursued in arriving at a belief is a rational and logical one, it must follow that in the formation and construction of a delusion, there is no evidence that derangement of brain function exists at any point between the proximate fear and the ultimate conclusion. If there is derangement of brain function anywhere it must lie in the establishment of a morbid fear without an appropriate cause—in the arbitrary creation by the brain of an abnormal feeling of dread.

That the brain could do this is scarcely possible. The fundamental emotions, especially the feeling of fear, is older than mentality, and older than the brain by millions of years. It is the chief corner-stone of that first great law, self-preservation, and is co-existent with the first and faintest dawnings of life. It is not a product of mentality or of the brain; it has its origin in sensations of organic life, and it prompts man to measures for self-preservation just as it prompts the ox to fly from danger or the amoeba to shift its position in the interests of safety. The brain cannot originate the feeling of fear, it can only recognize its existence, for there can be no feeling except as it comes from sensory stimuli; consequently the wilful and malicious creation of a morbid fear cannot be truthfully charged to the brain. The sensory stimuli which give origin to the feeling of fear have their basis in the visceral organs, and not in the brain. From a psychological standpoint I do not see how

we can avoid the conclusion that delusional insanity is not due to derangement of brain function nor to any other form of brain disease.

A more satisfactory explanation of its source would be to say that delusional insanity is founded on a morbid feeling—chiefly fear—arising from abnormal sensory stimuli originating in the pleuro-peritoneal organs and transmitted through the sympathetic nervous system to the brain, where it is crystalized into a false belief.

If normal fear depended but upon two things for its creation, namely: Sensory stimuli arising from visceral organs and their elaboration in the brain, then abnormal fear would either indicate abnormal sensory stimuli, or abnormal elaboration of stimuli by the brain. In other words, there is either an abnormal condition of the visceral organs which send the stimuli or an abnormal condition of the brain which misinterprets or misconstrues them. The bodily conditions present in melancholia will not leave one long in doubt as to the nature of the sensory stimuli arising from the organs of the pleuro-peritoneal cavities; while, on the other hand, there are no indications in the brain, either ante-mortem or post-mortem, which would lead to the conclusion that this morbid fear was due wholly to the wilfulness and perversity of the brain. I do not believe there can be any question about the origin of the delusional fear in abnormal sensory stimuli, nor do I believe there can be any question about the origin of these morbid sensory stimuli in abnormal visceral conditions.

Maudsley, *Pathology of Mind*, says: "I take it for granted here that each internal organ of the body has, independently of its direct action upon the nervous system through changes in the composition of the blood, *a specific action upon the brain* through its intercommunicating nerve-fibers, *the conscious result whereof is a certain modification of the mood or tone of mind.* We are not directly conscious of this physiological action as a definite sensation, but none the less *its effects are attested by states of feeling that we are often perplexed to account for.* In truth these organic effects of the physiological concensus of organs *determines at bottom*

the play of the affective nature; its tone is the harmonic or discordant outcome of their complex interactions; the *strength* of the force which we develop as *will*, and *the emotional color in which we see life*, have their foundation in them."

It is pretty generally admitted now that fear has its origin in visceral sensations and not in the brain, and when these organic sensations become abnormal the morbid and overwhelming fear which follows is as real, and possesses the same power of conviction, as the fear that precipitates a panic or that is associated with any visible object of terror. This feeling of fear which carries such unquestionable conviction, but whose source is unknown to consciousness, naturally prompts the mind to cast about among known and possible objects of danger for the cause of this threatened calamity. There is nothing, perhaps, so well calculated to strike terror to the heart of a man as concealed danger, or an ambushed foe who may attack at any moment, and against whom no provisions can be made; and I fancy that the melancholiac draws a sigh of relief when judgment finally decides upon the nature of the supposed danger and the source from whence it is to come.

I quote from Maudsley again: "A well known habit of the mind is to seek for and to create, if need be, with or without distinct consciousness, *an outward object as the cause of its feelings;* if there be no objective cause of them, it will invest some indifferent objects with the attribute proper to produce them, or will altogether *create suitable objects;* and this tendency is forcibly illustrated in insanity."

Fear unmistakably has its origin in organic life and its intensity, and consequently its effect upon mentality depends upon the normal or abnormal condition of the organic sensations which give it birth, and any insanity that has fear or any morbid feeling as its basis cannot be regarded as being due to a disease of the brain. Hence it is safe, I believe, to conclude that the same methods of thought are observed whether the conclusion reached be a matter of fact or a false belief; that it requires the same mental process on the part of the brain to think a delusion that it does to think anything else; that the conception of falsity which

attaches to the belief exists only in the mind of the observer and not in the mind of the deluded one; that the false belief in melancholia is a logical conclusion based upon a real feeling; that it comes from an attempt on the part of judgment to locate the source of a threatening danger and provide some means of escape, and that consequently the possession of a delusion is not in itself evidence of a disease of the brain.

From a *physiological* point of view we may be able to throw additional light upon the subject. The correlation existing between the various organs of the body, when rightly understood, opens up many paths of investigation which may be followed with profit, and not the least interesting of these is the influence of bodily on mental conditions; that is, if we can conceive of any such influence as existing. Some there are who think that sufficient sacrilege has been committed when we depose the mind from her original high and lofty position as a spiritual and immortal soul by establishing mental operations as a mere function of the brain, and that under no circumstances shall we add further insult to injury by dragging the mind down to a lower plane of action *than* the brain, or associating it, even in thought, with any of the baser tissues of the body. The most pronounced materialists seem to shrink from every statement which threatens to intimate, even in the most casual manner, that the mind is influenced or controlled in any way by such ignoble and plebeian folk as the liver, the stomach or the heart. Despite their materialistic attitude they seem to be unable to get away from the idea that, after all, the mind must be composed of some sort of exalted stuff which has already been sufficiently traduced, without attempting to establish its susceptibility to visceral influence. There are some, however, who can see a connection between certain mental operations and existing bodily conditions, and for my part, while neurasthenia is popularly known as a disease of the nerves, and delusional insanity as a disease of the brain, I believe that it will eventually be generally accepted that they are both due to visceral disorders, and both have their origin in morbid organic life.

While some writers hold strenuously to the theory that there is nothing in common between neurasthenia and delusional insanity, their points of similarity continue to attract the attention of those who push beyond text-book knowledge and study the situation face to face. Indeed, many can see no difference between them except one of degree. Dr. Dercum can see no relation between these two conditions, and yet, one reading his opening paragraph on the symptomatology of neurasthenia would be at a loss to know, without referring to the title, whether he is describing neurasthenia or mild melancholia. Of neurasthenia he says: "Contrary to our experience in many other nervous diseases, the patient presents no striking physical peculiarities. Frequently it is only after our patient begins to talk that we gain an idea of his affection. He begins by telling us how he *feels* and we soon become impressed with the subjective character of many of the symptoms. Physical symptoms are present, it is true, but we soon learn that in the majority of cases they are brought to the surface only by systematic examination. The patient is rarely talkative. Only after repeated questioning we learn that he is 'nervous;' that he gets easily excited and 'upset;' that he can no longer work as he did; that he gets tired before the day is half over; that he can hardly sleep at night; that when he awakes in the morning he feels completely exhausted; that his head aches; that his heart palpitates; that his memory is impaired; that he has to force himself to eat; that his food lies heavy in his stomach; that his bowels are constipated, and on and on through a long list of distressing symptoms. One could hardly expect such a patient to be cheerful. As a matter of fact, he is generally depressed and worried about himself. Often, too, he gets anxious and fearful if left alone; or, again, feels oppressed in company or crowds. Sometimes he feels afraid to stay in the house, at other times afraid to stay in the open street. In other words, he may have, in addition to his general symptoms, *those of unnatural fear.*"

This is neurasthenia, and these symptoms have only to persist until the patient begins to wonder *why* he is anxious

and fearful when left alone, or *why* he feels oppressed in company or in crowds; or *why* he is afraid to stay in the house and at other times afraid to stay in the street, or *why* he has this unnatural fear, and then we can safely say that he is dwelling in the suburbs of insanity, for whenever that question is answered satisfactorily to the patient, by the adoption of a false belief in some object as the cause of all this bodily discomfort, he has taken his last step and has reached his journey's end.

Moreover, the gradual merging of the neurasthenic into the insane is so uneventful and its slight gradations so imperceptible that it is impossible to say where one begins and the other ends. The delusion, of course, gives unmistakable evidence of his condition, but who shall attempt to mark the time when the "unnatural fear" blossomed into a false belief, or who can still believe that at the supreme moment when the false belief was wedded to the "unnatural fear," the *nerve* disease was, in the twinkling of an eye, transformed into a *brain* disease.

I am not content to believe that neurasthenia is a nerve disease or that delusional insanity is a brain disease. In either case there is no evidence of diseased nerve or of diseased brain, but there is unmistakable evidence of depraved bodily conditions and of impoverished or toxic blood. The fact that this insanity is characterized by a delusion; that one of the elements of this delusion is a false belief; that beliefs, whether true or false, originate in mentality and that mentality is a function of the brain, does not in itself indicate that the brain is diseased whenever a false belief is adopted. It would seem quite reasonable to say that if mentality is a function of the brain, any disorder of mentality as expressed by the adoption of a false belief in the shape of a delusion, would be a disorder of function and would consequently point to some disease of the brain. Before going into the matter further, however, it will be necessary to discuss briefly the function of the brain, a subject which does not seem to be clearly understood.

It may be stated in the beginning that the brain has two functions, namely: That of receiving sensations and in-

itiating motor impulses, and that of mentality. The first of these is its physiological function; the other is an acquired function *and is not physiological.* Physiological psychology can carry the solution of the problem of brain function only so far, and then must pause. It can describe how we see and hear, and feel and taste and smell, but it knows nothing of abstract thought. It explains the development of the senses and the psychology which we have in common with the ox, but it can go no further. Why? Because that is the limitation of the physiological function of the brain. Everything above that is ultra-physiological. It is the growth and development of instinct into intelligence, and intelligence into intellect, but whatever the manner of this unfolding may be, it is not physiological.

The following propositions may serve in a measure to elucidate the subject of brain function both from a physiological and psychical standpoint:

1. *The physiological function of an organ is inherent and not the product of experience.*

Physiological function is inherent, and at whatever period in life it makes its appearance, its development and its performance depend alone upon the anatomical and histological growth of the organ, and this is equally true whether it be the heart, the liver, the sexual organs or the brain. The physiological function of each of these organs originates at certain definite periods and is carried on with a machine-like regularity which depends upon no voluntary act of the individual, nor relies in any way upon external assistance. It is self-originating and self-perpetuating and not only exists, but manifests itself in practically the same way in the ox, the savage and the statesman. The physiological function of the brain is to receive sensations and to initiate motor impulses, and this capacity, like the physiological function of other organs of the body, is self-originating and self-perpetuating. It is not the product of information or education. The ox can hear as acutely as the savage, and the savage can see as distinctly as the statesman, because sight and hearing are simply the physiological perception of external objects. What, or how much they perceive *in* the

object, over and above the bare facts of light waves and sound waves, whatever they receive in addition to the action of optic and auditory nerves and cerebral recognition of sensations must come from instruction and experience. Whatever the brain may know of a tree, more than that it is an object, must come from teaching or from long years of experience. The physiological phenomenon of the perception of a tree conveys no intelligence of its various qualities, of its fruit, nor of the many ways in which it may be useful. These must be *learned*. The physiological development of the brain is practically complete at the age of ten years. Its growth from birth to four years of age is extremely rapid, and at ten years of age it has almost reached its maximum weight, but at this age the *mental* development has scarcely begun, and the higher mental faculties, as reason and judgment, are still in their infancy. They are yet to be developed by instruction and experience, after the physiological growth of the brain is all but complete.

2. *The mental faculties are acquired through a process of brain development by means of instruction and experience.*

All that we know, and all that we are mentally, comes from what others teach us, and from what we teach ourselves by frequent repetitions of experience. Of ourselves we possess that form of knowledge known as instinct, but mentality itself must depend originally upon others for the material with which it works, as well as for a knowledge of the methods by which these materials are to be used. Since life first began there has been instinct, but this so-called instinctive knowledge, which was originally merely chemical affinity or repulsion, went no further than physical experience and centered around those three laws of organic life which were active in the amoeba just as they are in the man, save in degree, namely: self-assertion, self-preservation and reproduction.

These are physiological laws, as instinct is physiological knowledge, and both are transmitted from parent to child through the laws of heredity. Intelligence, however, is not inherent in the fœtus, but is the expression of a vast accumulation of experiences which are transmitted by parents to

the young of the same species, not by inheritance, *but by example.* These young add a few personal experiences to what they have learned from others and then transmit the grand total to their offspring, likewise in the form of example. Intelligence, therefore, cannot be inherited, it must be learned. Instinct leads the infant to suck whenever the nipple or anything else, for that matter, touches its lips, in conformity with the fundamental law of self-preservation, but it would never hunt for the nipple or devise any other method of securing food unless it was taught either by example or by repeated experiences. The same thing is true of the young of animals. Instinctively they know nothing but to suck, and I do not believe that I am overstating the case when I say that they would never know any food but their mother's milk, nor any method of obtaining it except to suck, did they not learn it from others. On the contrary, the pig, as well as the infant in its mother's arms, would nurse indefinitely if not weaned and never be aware that there was other food for them. Instinct, then, is hereditary; intelligence is acquired. For this reason intelligence cannot be said to be a physiological function of the brain.

The self-assertion of a man in obtaining food and the methods employed in preserving himself from destruction differ but little from those of the amoeba except as he has learned from others. The infant is as helpless as the amoeba and possesses no greater instinct than the young of the lower animals. It may possess greater capabilities, but while the visceral organs may perform their functions properly, and the brain be able to gradually develop its physiological function without external assistance, I am very much in doubt about any spontaneous mental development either as intelligence or as intellection.

3. *A child abandoned in infancy and left to its own resources would never develop mentally, which would not be true if mind was a physiological product of the brain, "as bile is of the liver."*

The above, to be sure, can only be considered as a theory, for its practical demonstration in every particular would be impossible, but I believe the probability of its truth

will be generally accepted. The child must be taught much. It would be able, perhaps, to make some effort to secure food to preserve itself against danger and to reproduce, but this would limit its accomplishments. These would come in a great measure from imitation and would partake of the nature of his surroundings—human, if he lived in the midst of humanity; animal, if he roamed the forests, but in no case transcending the simple and fundamental laws of life, self-assertion, self-preservation and reproduction. In obeying these laws it might imitate and adopt the methods of the men or animals with which it associated, but it could do no more.

The one all-important thing which distinguishes intellectual life from intelligence is language; that is, some definite means of communication. Without language intellection is impossible, and no child can acquire a significant language without being taught in some way. He may succeed in imitating the sounds of certain words without assistance, but he *must be taught their meaning*, and until he *is* taught words and their meanings he remains an idiot. Mentality, then, being made up of intelligence and intellection must be acquired through instruction and repeated experiences. It is not inherent, nor does it develop spontaneously, as physiological functions do. The subject, however, may be approached from another standpoint—a chemical, rather than a psychological one.

4. *Physiological function is a matter of chemical metabolism.*

There are chemical changes at the bottom of all organic processes. Digestion, nutrition, secretion, excretion—these are all chemical in their nature. Life itself, indeed, is stated in terms of chemistry, and physiology is but the knowledge of the chemical mutations and variations of body cells. These facts are so well known that it is unnecessary to even state them, and I only refer to them to call attention to the significance of the following propositions:

5. *That under proper conditions chemical elements unite, and they unite with the same facility and rapidity the first time they come in contact as they do the hundredth time.*

6. *That repetition, or experience, or instruction would have no effect upon the chemical changes which lie at the basis of physiology.*

7. *That repetition and experience and instruction do have an effect upon, and actually constitute mentality.*

8. *That, consequently, mental operations are not chemical in their nature, and are, therefore, not a physiological function of the brain.*

9. *That, finally, mind, as a function of the brain, is acquired and habitual, and not physiological.*

If mind is, then, an acquired function of the brain, and not a physiological one, it will be impossible to view the relations existing between the mind and the brain from the same standpoint that would be occupied in considering the relations between the stomach and the process of digestion, or the kidney and its secretion. It is doubtless because of this that injury to brain cells, which may be followed by a corresponding loss of physiological function has little or no effect upon mental operations, and likewise serious mental derangement, as in delusional insanity, may exist without any corresponding physiological lesion.

Because histological changes bear a certain definite relation to physiological function we must not conclude that these changes bear identically the same relation to acquired function, for we know from experience that there can be no loss of brain tissue without some loss of physiological function, while it has been repeatedly demonstrated that there can be extensive loss of brain substance without derangement of mental function.

The fact that mentality is an acquired function, that is, a habit, throws considerable light upon the contention that certain forms of insanity are merely habits, as in some cases of delusional insanity where the abnormal feeling at the base of the delusion has disappeared, while the patient persists in the same false belief, even when the latter has lost all its characteristic force and energy, because of the absent emotional coloring and remains but a faded, washed-out replica of the original idea.

Morbid feelings having their foundation in abnormal vis-

ceral conditions, will, so long as they remain vague, indefinite and apparently causeless, promptly disappear upon the return of normal bodily conditions. It is only when the delusive feeling becomes anchored in a false belief, when it becomes a real thing by reason of this intellectual attachment to an objective cause; when it becomes fixed in memory by virtue of its being translated into language; then only does prognosis become a serious one.

Feelings have no language, and a feeling once forgotten can never be voluntarily reproduced, just as ideas could never be recalled were there no words by which to fix them in memory. A feeling may be described but never recalled, and a delusive fear, so long as it remains a feeling, must vanish with the disappearance of the cause which gave it birth. But when this delusive fear becomes so overpowering that judgment knows no peace until it has fastened upon some "cause" which can be stated in words, and thus be recalled and reproduced over and over again, the delusion does not always disappear with the restoration to normal bodily health. In some of these cases the disorder passes beyond the simple relations of cause and effect, and by reason of the frequent reproductions of the experience in memory, the delusion finally loses its emotional characteristic and becomes a *habit of thought*. These are usually cases of long standing and upon whom medical treatment has little or no effect so far as the persistence of the delusion is concerned.

This tendency of the deluded mind to form new habits of thought results from the fact that all mentality is an acquired habit, not based upon immutable chemical laws, which never vary except in the presence of disease, but upon instruction and experience derived from many sources and under various circumstances, and subject to all the vagaries of function appertaining thereto; and this is why it can and does assume the attitude of delusional insanity without a corresponding disease of the brain.

But while mentality is not itself a physiological function of the brain, that it is dependent in many ways upon brain physiology cannot be gainsaid. There are certain, but not

well understood interrelations existing between the physiological function and the acquired function of the brain. The physiological function is primary in point of time and not only exists long before the acquired function, but may persist long years after the latter has passed into oblivion. The acquired function may bud, and bloom and die, without affecting the physiological function in any way. In imbecility, as in dementia, the physiological function may remain unimpaired. Even when mentality has been reduced to the faintest glimmer the physiological function may remain undisturbed. The patient sees, and hears, and tastes, and smells, and feels as before, though his *interpretation* of these sensations may be extremely faulty. This primary physiological function of the brain supplies the means, through the senses, by which the secondary function is acquired and also maintained, but at the same time it mayfrequently happen that while the senses are physiologically active no secondary function is acquired, or if once acquired is speedily lost, so that mentality must depend upon the integrity of cells other than those engaged in the physiological function.

Both of these functions, however, must depend upon the nutrition of the brain for their proper performance, for it is noticed that mental operations are carried on with greater facility and ease, or more slowly and sluggishly, as the nutrition of the brain is good or bad. These modifications of mentality originating in nutritional changes are not only marked in degree, but they throw much light upon the varieties or forms of mental unsoundness which are likely to occur by reason of nutritional alteration. A pronounced increase of nutrition produces an overproduction in mental operations; a decrease in nutrition results in mental underproduction, and between these two lie all the forms of mental unsoundness which can arise from variations in the nutrition of the brain. Increased nutrition facilitates, decreased nutrition prohibits mental operations, while toxins or poisons in the blood, *in default of all sensory stimuli*, would produce their effects along the same lines of mental action, though more pronounced in their manifestations. Certain blood conditions lead to delirium, others end in coma, and all states

of the blood, and all changes in the circulation, and all variations in nutrition, *as they affect the brain alone*, must find their mental expression, if they find it at all, in the form of delirium or coma, or as imbecility or dementia, or some modification of these conditions. If other forms of mental alienation exist they must have their source in the deleterious action of abnormal nutrition or toxins or poisons upon cells elsewhere than in the brain.

Here is the beginning of that line of demarcation, faint at first, but which will become broader and more discernible every day as our knowledge of insanity deepens and widens, which differentiates between those forms of mental unsoundness having their origin in malnutrition of the brain and those which arise from malnutrition in other organs of the body; between imbecility and dementia on one hand, and delusional insanity on the other. The former are the results of mental enfeeblement, the latter is due to mental estrangement by virtue of abnormal feeling, which does not impede or impair the intellect, but simply convinces the judgment of its reality. Maudsley says: "The only fault that can be found with the intellect in these cases is thatit is enlisted in the service of the morbid propensity, devising measures to give it free play, instead of devising means to hold it in check—that it is governed by it instead of governing it."

Taking everything into consideration, I do not believe that we can with safety assume delusional insanity to be the result of brain disease *per se*. Clinical, pathological, psychological and physiological teachings and experiences are against the assumption. Perhaps we have been led to adopt the theory that all forms of mental alienation were due to brain disease, either organic or functional, because all diseases of other organs of the body have their origin in organic or functional changes, forgetting that mentality is an acquired function and cannot be judged by the same standards nor subjected to the same inflexible rules as its physiologic brother. There enters into the composition of delusional insanity an element of which chemistry knows nothing, namely:—feeling. No amount or kind of feeling can prohibit the union of hydrogen and oxygen, as H_2O, and no

degree of emotion can disunite them; but this same feeling or emotion can and does have a continuous, and at times directing influence over mental operations. It is the basic element and the moving spirit in every delusion, and out of and by virtue of this morbid feeling we have that peculiar mental attitude known as delusional insanity.

Maudsley, *Pathology of Mind*, says: "In regard to both these forms of delusional insanity it may be noted at once that while the intellectual disorder is certainly limited to a few ideas, the same thing can seldom, if ever, be said truly of the feelings; they are more generally and deeply affected, *and yield a constant nourishment to the delusion which is rooted in and fed by them.*" And Ribot, *Diseases of Memory*, ably sums up the whole matter of feeling in the following words: "The most careful observers have remarked that the emotional faculties are effaced much more slowly than the intellectual faculties. At first thought it seems strange that states so vague as those pertaining to the feelings should be more stable than ideas and intellectual states in general. Reflection will show that the feelings are the most profound, the most common and the most tenacious of all phases of mental activity. While knowledge is acquired and objective, feelings are innate. Primarily considered, independently of any subtle complex forms which they may assume, they are the immediate and permanent expression of organic life. The viscera, the muscles, the bones—all the essential elements of the body—contribute something to their formation. Feelings form the self; amnesia of the feelings is the destruction of self."

We must conclude, then, that delusional insanity is not due to diseases of the brain, but to an abnormal tone of feeling which has its origin in sensations of organic life, and I have been led to make the foregoing remarks because I believe that a wide and unmistakable distinction should be made between those forms of mental alienation which *are* due to malnutrition or physiological, or even pathological changes in the brain, as imbecility and the dementias; and those that *are not* due to these causes, but have their origin in morbid bodily conditions outside the brain, as in delu-

sional insanity, and I am more inclined to urge this distinction, not alone because these two divisions of mental unsoundness differ clinically, pathologically, psychologically and physiologically, but because they differ so widely in prognosis and treatment; and because, furthermore, a recognition of this difference will do much to revolutionize systems of classification in hospitals for insane and clear up and elucidate the many statistical inaccuracies and inconsistencies now so prevalent.

I know that it is much easier and simpler to recognize the brain as a sort of dumping ground for all mental peculiarities and to relegate them all to that organ, however much they may differ from each other, but there are very few in these times of progression and advancement who will longer care to sacrifice scientific accuracy to ease. We must get away from this disposition to think that all mental manifestations must necessarily originate in the brain.

Until recently it was pretty generally believed that dementia followed, and was the effect of delusional insanity, though there remained a few who could not subscribe to such widespread application of this theory, and through their efforts it has been shown that a dementia caused exclusively by delusional insanity is an extremely rare occurrence. Twenty years ago the clinical records in hospitals for the insane bore overwhelming and unmistakable testimony to the frequency of secondary dementia; today, in the most advanced State hospitals, it is rarely seen. It has been some years since Clouston's faith began to waver, when he said: "Beyond doubt there are some cases that become demented after only a few weeks of maniacal excitement, when in fact it is clear that the tendency to it was present from the beginning, and when it was an inevitable doom of their brains. These are the brains which seem to have innate energizing power in them to last only for so many years, and then they fail and die as to their higher mental functions. Of course it may be asked: 'How do we know that this is not the case in all those that become demented, without reference to the preceding mania at all? May not the mania simply be one incident on the road to mindlessness, and

not the cause of the latter at all?' He concludes by saying that this is true of many cases, but I believe that it is true of more than we are in the habit of admitting.

We have discovered that the great majority of these so-called cases of secondary dementia are really primary dementia, in which the accompanying emotional features have obscured the fundamental condition. To think a delusion is no more conducive to the production of dementia than the thinking of any other *one* thing would be. The only cases of dementia that may arise from delusional insanity are those of brain atrophy from disuse and brain atrophy from repression. The delusion may so occupy the mind as to prevent its exercise in any other direction, and thus in time cause dementia from the disuse of all brain cells except those pertaining exclusively to the delusion, or in forcible repression, by which, in the interests of proper hospital management and discipline extremely delusional patients are prevented from using their mental faculties until, instead of the recuperation which should follow prolonged rest, there comes instead cell atrophy from disuse.

Both the atrophy from dwelling continuously upon one idea and the atrophy from forcible mental repression are rare and occur in the same way that dementia, more or less marked, may follow the exclusive occupation of the mind along a single and narrow line of thought for long periods of time, no matter how sane that thought may have been, or may follow the solitary confinement of a prisoner for years. The fact is, recent investigations have shown us that delusional insanity or mental operations based upon a *feeling*, and dementia or mental impairment based upon the reduced integrity of brain cells, differ from each other very materially, both clinically and pathologically, and that they can both exist at the same time and in the same individual without being related to each other as cause and effect. For this reason it is extremely important to know, when a diagnosis is made, whether the emotional and delusional attitude of the mind exists alone, or whether primary dementia is lurking in the background. The delusional condition, however, must be differentiated from the dementia for the reason

that it is no part of it. Primary dements may have delusions just as imbeciles may have delusions, or as one who is neither an imbecile nor a dement may have a delusion. Delusional insanity is a separate clinical condition and not a symptom of dementia any more than it is of imbecility. It has its origin in bodily conditions and is built upon an emotional basis, not upon pathological changes in the brain.

These organic sensations produce their effect upon mentality, of course, by reason of their influence upon the brain, but this cannot be called brain disease. Great mental shock may cause such a condition of lowered vitality as to precipitate, say, an attack of tuberculosis, but because this mental shock originates in, and is transmitted throughout the body by the brain, would not lead us to say that the tuberculosis was due to brain disease, nor that the lowered vitality was due to brain disease. The brain can, I believe, receive and elaborate sensations from within as well as from without, no matter what the effect on mentality may be, without being in itself diseased. A sensation of sudden fright transmitted through the brain may almost stop the beating of the heart, but this could not be charged to disease of the brain; nor, on the other hand, can a labored or irregular beating of the heart, transmitted through the sympathetic nervous system and elaborated by the brain into a feeling of dread, be called disease of the brain.

I can readily believe that there are as many internal sensations exerting their influence upon the brain through the sympathetic system, as there are external sensations received through the five senses, and that during periods of general systemic disturbance or disorder, as at puberty, during the menopause, at childbirth and at times of bodily illness these organic sensations are more powerful than those of external origin and are the prime factors in shaping our mental destinies. We are more powerfully influenced by feeling than by ordinary sensation, and these morbid feelings, born of visceral disorder, are mighty and masterful in molding our opinion and in the formation of mental policy. It is because of these organic feelings that one differs from another in individuality, in moods, in temperament; and it

is upon these feelings, sufficiently exaggerated, that delusional insanity is erected.

A considerable and varied experience with the insane leads me to this belief, and the medical treatment of insanity in State hospitals certainly justifies me in the conclusion. Medical treatment of insanity, so far as I have been able to learn, has been directed toward the stomach, or liver, or bowels, or blood, or skin, or general systemic disorder, but not toward brain disease itself. The majority of cases sent to hospitals being dements or imbeciles, with only a superficial layer of active insanity, remain incurable, and for good reasons. The active insanity is almost always relieved in these cases by treatment, but the imbecility or dementia being due to other and incurable causes, remains. The insane without histological brain involvement usually recover under proper treatment; that is, medical treatment directed toward the relief of bodily disorders, including diatetics, massage, hydrotherapy, electrotherapy; and, in addition, purely mental therapeutics, viz., discipline, amusements, change of environment and mental gymnastics.

I know it is customary to say that those who recover from insanity do so in spite of treatment, and there are some in the profession who "wink the other eye" when they speak of medical treatment in hospitals for insane, but while such statements are ineffective, we, only, are to blame for their existence, because we persist in claiming that insanity—even recoverable insanity—is due to a disease of the brain, while our treatment is directed elsewhere. Either we must change our theories regarding delusional insanity or change our treatment.

In the first place we must distinguish between those forms of mental unsoundness which *are* due to disease of the brain and which no known method of treatment will cure, and those due to systemic disorder and which can be cured, and are cured by just such treatment as we give. Imbecility and the dementias cannot be cured. Insanity free from any substratum of imbecility or dementia can be cured, and it *is* cured simply because its origin differs from that of imbecility and dementia and has its basis in a curable cause.

The failure to recognize this fact, namely, that all mental disorders are not due to disease of the brain has been the source of much of the dissatisfaction and misunderstanding attending the various methods of treatment. One surgeon, operating on the brain in a case of delirium or dementia, removes a tumor or other cause of pressure or irritation, and the proceeding is followed by the most gratifying results; another, stimulated into activity by reading a report of the above, also concludes to operate on the brain for mental disorder, and selects a case of delusional insanity, with the result that another failure is charged to his account, and he denounces operations on the brain in insanity as useless and without avail. A gynecologist having a case of delusional insanity arising from sexual disorder, gives special treatment or performs a hysterectomy and the patient recovers; another, wishing to leave nothing undone that may contribute to the welfare of *his* patient, and led to hope much from the experience of others, gives the same treatment or does the same operation, and finds his patient more demented than before. The same thing is true in eye strain, as it is in all bodily disorders, and is likewise true with regard to general therapeutic measures employed in treating the insane. Those who fail denounce those who succeed simply because they have been led to believe that all mental disorders have their origin in the brain and that what cures one should cure all. When we come to realize that delusional insanity is but a mental manifestation of bodily disorder, and, as a rule, not of any one organ but of a general systemic derangement, then we will see the necessity of directing treatment to bodily conditions in these cases, and the futility of expecting good results from the employment of the same methods in the treatment of those mental conditions which *are* due to disease of the brain. A full appreciation of these two sources of origin of mental disorders will do much to elucidate the apparently contradictory results obtained by those who treat all forms of mental unsoundness alike, and possibly explain why success followed in some instances and not in others.

In this connection I might say that our hospital statis-

tics would present a much more favorable aspect if cases were classified more carefully upon admission, especially with reference to the *real nature* of the disorder, that is, its source of origin and its consequent prognosis. Probably seventy per cent. of all cases received are really epileptics, imbeciles or dements, and should be classified *as* such. Clouston says fifty per cent., without counting epileptics or general paralytics; other writers believe that sixty per cent. of all cases received are imbeciles or dements. In many or all of these cases, to be sure, there is some excitement or depression present at the time of admission, and the tendency is to classify solely upon the existence of this superficial emotional condition, no matter what is beneath it, and the result is we are being criticised because there are so few recoveries among so many apparently recoverable cases. When primary dementia is properly recognized underneath whatever emotional condition may accompany it and thus tend to conceal it, there will be no further cases of secondary dementia, and fewer cases of mania or melancholia recorded as unrecovered or unimproved.

I believe that every case where imbecility or dementia is present should be classified *as* such, no matter what the emotional condition may be, for the imbecility or dementia is the real fundamental condition, the mania or melancholia accompanying it being only accessory or incidental, and in almost every instance is relieved at this and subsequent appearances by treatment, while the patient, because of the dementia or the imbecility, remains among the incurable. If these cases are diagnosed upon admission as some form of delusional insanity, we are charged with being unable to relieve really recoverable conditions, for patients suffering from morbid elation or morbid depression in any form, unaccompanied by dementia or imbecility, recover in nine cases out of ten.

For all of the foregoing reasons I believe it to be to the best interests of the profession to make a distinction between those mental disorders due to brain disease, and consequently incurable, because brain cells once destroyed are never reproduced, and those due to organic disturbances elsewhere in the body, which *can* be reached and which *can* be relieved by medical treatment.

DOES THE POLICY ON THE VICTIM OF AN INSANE HOMICIDE BENEFICIARY BECOME VOID BY THE HOMICIDE ?*

AN ANALYSIS OF THE PAUL HOLTZ CASE.

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ABOUT a decade and a half ago, Drs. Harold N. Moyer, J. C. Spray and myself, examined Paul Holtz, accused of killing his father under circumstances which suggested delusional self-defense. He was hereditarily defective, and presented a mixture of hebephrenia with imperfect delusional systematization and irregular infrequent epileptic states. On our evidence he was sent to Kankakee Insane Hospital, and Judge Jesse Holdom was appointed conservator of his estate, which consisted chiefly of a policy of $2000 issued by the Ancient Order of United Workmen. As the accused had killed the insured, the order declined to pay the policy. Suit before the Circuit Court, Judge Frank Baker presiding, resulted in a verdict for the beneficiary, Paul Holtz. On appeal, the Appellate Court, reversed the decision of the lower court and entered judgment for the defendant. In an to appeal the Illinois Supreme Court by Case, Hogan & Case, urged for the appellant: If the bene-

*Read by title before the Chicago Academy of Medicine, Oct. 14th, 1904.

ficiary killed the certificate holder, without committing a crime and thereby an injury was done the next of kin of the deceased, to whom would the beneficiary or his estate be liable on this account? Certainly not to the insurance company.* The beneficiary being under treatment in an insane hospital and not being a fit subject for punishment for an alleged crime, cannot be injured in his civil rights by reason of acts committed while insane.† The Illinois Statutes provide that a criminal offense consists in violation of a public law in commission of which there shall be a union or joint operation of act and intention, or criminal negligence.‡ There was, therefore, under previous rulings of the courts, no crime committed by the beneficiary.§

The attorney for the appellee, Mr. James McCartney, urged that an insane person is responsible in a civil action for his torts in all cases where a sane person would be responsible.‖ An insane person causing the death of another by an act which would be felonious if sane, is liable therefor.¶ A beneficiary in an insurance policy who kills the accused cannot recover insurance money.** A person insured in the Ancient Order of United Workmen may change his beneficiary at will.†† The beneficiary has no vested interest in the insurance money until the death of the insured.†† Public policy would not favor permitting an insane person to profit by his own wrong.‡‡

Judge Phillips in delivering the opinion of the Illinois Supreme Court said§§: The only question of law presented

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* Insurance Co, vs. Brame, 95 U. S., 754: Insurance Co., vs. Railway Co., 25 Conn. 265.

† Insurance Co. vs. Broughton, 109 U. S., 121; Insurance Co. vs. Crandall, 120 U. S., 527.

‡ Illinois Criminal Code, sec. 8, par. 337, chap. 38.

§ Schrener vs. High Court I. O. O. F., 35 Ill., App, 576.

‖ McIntyre vs. Sholty, 121 Ill. 650; 1 Chitty's Pl., 76; Hatch vs. Insurance Co., 120 Mass., 550; Amicable Society vs. Boland, 4 Bligh, 194; Insurance Co. vs. Palmer, 25 Beav., 605; Sharman & Redfield on Negligence, sec. 57; Porter on Insurance, 126; Cooley on Torts, 97.

¶ McIntyre vs. Sholty, 121 Ill., 690.

** Insurance Co. vs. Armstrong, 117 U. S., 591; Hatch vs. Insurance Co., 120 Mass., 550.

†† Bagley vs. A. O. U. W., Ill. 498; Insurance Co. vs. O'Brien, 92 Mich., 584.

‡‡ Greenhood on Public Policy; Cooley on Torts; Morse vs, Crawford, 17 Vt., 598; Krom vs. Shoonmaker, 3 Barb. 647.

§§ 159 Ill. 621.

in this record is: Does an insane beneficiary in a life insurance policy, who kills the insured under such circumstances as would cause the killing to be murder if the beneficiary were sane, thereby forfeit his right to recover the insurance money? This presents a question of first impression. The causing the death of an insured by felonious means by a sane assignee of a policy of life insurance, has been held sufficient to defeat a recovery on the policy. The general doctrine is that insane persons are liable for damages caused by their torts, though they are free from criminal liability. In Morse vs. Crawford* it was held that the insanity of a bailee did not relieve him from liability for destroying property held by him as bailee. In Cross vs. Kent,† a lunatic was held liable in damages for burning a barn, whether occurring through negligence or as an insane act.

In Taggart vs. Innes,‡ it was held that insanity constituted no defense to an action for damages in trespass, *et armis*. In Williams vs. Hays,§ it was held that insanity of one who is the owner of a vessel *pro hac vice*, did not relieve him from liability to other owners for negligence in her management. In McIntyre vs. Sholty,‖ it was held that insanity did not avail as a defense to a civil action for damages resulting from killing a person under circumstances that would have constituted a felony had the person who did the killing been sane at the time.

Such is the current of authority as to the liability of an insane person for his torts. By the great weight of authority it is held in such cases that the lunatic, not having the element of intention or malice, is only liable for damages that would be compensatory and not for vindicatory damages. And such is the rule in this State. The reason for the rule that an insane man shall be held liable for his torts is, where a loss must fall upon one of two persons equally innocent, it must be borne by the one who caused

* 17 Vt., 499.
† 32 Md., 581.
‡ 12 Up. Can., 77, (C. P.)
§ 145 N. Y., 442.
‖ 121 Ill., 660.

it. The liability is in no way dependent upon the intent or design to commit the act, for a lunatic can have no will and can form no design or intent, and would not be liable for a tort wherein the intent was a necessary ingredient. Such is the rule with reference to torts. A very different question is, however, presented with reference to a contract of insurance and the liability of a company on its policy. In the absence of express stipulation relieving the company from liability in such cases, where there is no fraud or design, a fire insurance company is not relieved from reliability on its policy by reason of loss by fire through the negligence of the assured or his servants.

If a loss be incurred by a peril insured against, the liability exists even through the remote cause be the negligence of the assured or his servants, unless that negligence be so gross as to authorize the presumption of fraud. In Kurow vs. N. Y. Continental Insurance Co., it is held* that where there is nothing in the policy to the contrary, an insurer is not released from liability because the property was burned by the assured while insane. The reason for such rule is that an insurance company, for a consideration paid, has assumed the risk of the property being destroyed by fire. That assumption of risk includes injuries to the property by fire resulting from the negligence of the assured or his servants, where not expressly excepted. It is also an assumption of all risk of the assured becoming a lunatic or insane and destroying the insured property when in that condition, unless, by the terms of the policy, such liability is saved by an express exception. An insane person may be liable for burning the property of another, for the reason that where a loss must be borne by one of two innocent persons it must fall on the one occasioning the loss; yet the burning of his own insured property does not necessarily injure the insurance company, if that company for a sufficient valuation assumes the risk. That assumption of risk is the contract of the company for a consideration paid for it. On no consideration of policy or justice should it be relieved from its contract, in the ab-

* 57 Wis., 56.

sence of fraud, malice or design. These qualities cannot exist in the mind of an insane person. To hold that the insurance company should be relieved from liability under such circumstances would be to change the contract of the parties at the instance of one for its benefit, to the prejudice of the other without his consent, and where there is no misrepresentation, mistake or fraud, covin, design or malice. Such is not the law. A fire policy covers all losses or damage by fire except such as are excepted by the terms of the policy, and such as are caused by the intended, voluntary act, design, assent or procurement of the assured.

It has been held, by repeated adjudications in various courts of this country and in Great Britain, that where there is no express provision in a life policy that in the event of the insured dying by his own hand the policy shall become void, the right to recover thereon is not forfeited, and the policy is not vacated by reason of the suicide of the assured while in a state of temporary insanity. The proposition is so fully established and recognized that citation of authorities to sustain it would be supererogation. Here, again, the reason for the rule is like that in case of fire insurance policies. The contract of the parties is to be construed as it has been made, and not to be changed at the request of one of the parties to it for the party's benefit without the consent of the other, where there has been no fraud, mistake, misrepresentation, deceit or other intentional wrong to induce the making thereof or to accelerate the time of payment. Those rules do no violence to what has been termed a maxim of the insurance law of all nations, *i. e.*, that the assured can not recover for loss produced by his wrongful act, by which is meant an act intentionally wrongful.

In a case before the Supreme Court of North Carolina* in 1888, it appeared the complainant instituted proceedings for the assignment of dower in the estate of her husband, for whose death she had been convicted as an accessory before the fact and sentenced to imprisonment for life. The trial court ruled against the allowance of dower, and on

* Owens vs. Owens, 100 N. C., 240.

appeal it was said: "We are unable to find any sufficient legal ground for denying to the petitioner the relief which she demands, and it belongs to the law-making power alone to prescribe additional grounds of forfeiture of the right which the law itself gives to the surviving widow. Forfeitures of property for crimes are unknown to our law, nor does it intercept, for such cau e, the transmissions of an intestate's property to heirs and distributees, nor can we recognize any such operating principle. We have searched in vain for an authority or ruling on the question, and find no adjudged case. The fact that none such is met with affords a strong presumption against the proposition." In a recent case in the Supreme Court of Nebraska,* A died owning an estate and left surviving her husband, a son and daughter. The husband became tenant by the courtesy and the children took an estate in fee. Under the statute of that State, on the death of the child the father inherits. The father murdered the daughter to obtain that inheritance. He conveyed the lands, and the vendees filed a bill for partition against the son, who set up the fact of the daughter having been murdered by the father, of which the vendees had notice, and prayed the court to find the father took no estate, etc. It was said: "Knowledge of the settled maxims and principles of statutory interpretation is imputed to the legislature. To the end that there may be certainty and uniformity in legal administration, it must be assumed that statutes are enacted with a view to their interpretation according to such maxims and principles. When they are regarded, the legislative intent is ascertained. When they are ignored, interpretation becomes legislation in disguise. The well considered cases warrant the pertinent conclusion that when the legislature, not transcending the limits of its power, speaks in clear language upon a question of policy, it becomes the judicial tribunals to remain silent." The court held the father became vested with the estate of the daughter.

The line between legislation and interpretation is clear, and for the courts to declare a forfeiture for crime where the legislature has remained silent is legislation by judicial

* Spellenberger vs. Ransom, 25 L. R. A., 564.

tribunals—a subject with which they have no concern. No question of public policy is presented by this record. There can be no public policy in the punishment of such persons. This discussion brings us back to the first proposition with which this opinion commenced, and we hold where an insane beneficiary in a life policy kills the assured under such circumstances as would cause the killing to be murder if the beneficiary were sane, such killing does not cause a forfeiture of the policy, nor bar his right of recovery for the insurance money. The judgment of the Appellate Court was therefore reversed and that of the Cook County Circuit Court affirmed.

CHOREA INSANIENS.*

By D. R. BROWER, M. D.,

CHICAGO.

INSANITY of chorea, especially the insanity of Sydenham's chorea, is a very infrequent condition. In Huntington's chorea there is a progressive mental deterioration which eventually leads to dementia. The most important form the practitioner has to contend with is Sydenham's chorea. I find from my records for the last dozen years there is about one case of chorea insaniens in every one hundred cases. Even this record is high, because the cases that had come under observation are those that had been under the care of a general practitioner for weeks, had failed to recover, and hence were brought to the neurologist. The proportion of cases of insanity in choreics is about one in two hundred. In two-thirds of the cases of Sydenham's chorea there is mental disturbance. A number of cases are first brought to the attention of a physician by a teacher observing that a pupil had become inattentive, had lapses of memory, had become restless and irritable, peevish and fretful, and had undergone a decided mental change before any of the characteristic movements had developed. In two-thirds of the cases of chorea there is a mental peculiarity. Chorea was a disease of the brain, and mental peculiarity is a conspicuous symptom. The rule is for the mental state to be one of confusion; accompanying the confused mental condition there are maniacal and depressing states. A very large proportion of the cases I have seen belonged to the maniacal type. The depressive confusional form of insanity as

* Discussion before the Chicago Academy of Medicine, October 14, 1904.

an outgrowth of chorea is much less common. The last case I saw was a young woman of twenty-three, in whom the maniacal manifestation was very pronounced. She had been having chorea since she suffered from a fright that had occurred two months previously, and when I saw her the case was a well-marked one of the maniacal type of acute confusional insanity. Sometimes there was a stuporous state, but usually it was the maniacal confusional type or the depressing confusional type.

Many years ago I was present at a necropsy on a case of chorea insaniens of the Sydenham type in a girl nineteen years of age, in which there were found the most striking pathologic conditions. Many necropsies made on similar cases had revealed nothing found. In this instance, however, there were minute multiple emboli in the corpus striata arteries. The patient had an endocarditis.

Recognizing that chorea might result in insanity, what should be done to prevent it? The condition is treated too insignificantly and the average physician regards it as a minor ailment unworthy of serious attention. Not infrequently a physician says that such a child will get along all right if it were taken out of school and allowed to roam. But the disease was vastly more important and serious than the average practitioner believed. Whenever I undertake treatment of an acute case, I always insist that the child should be regarded as ill and not be permitted to drift along with the expectation that in four or five weeks—no matter what was done for it—it would get well. Whenever I see a case in the beginning I insist upon rest for the first week or ten days, no matter how mild the case was. The child should have as near absolute rest as possible. Put the child in bed; give it all the play things possible as a means of amusement, but by all means keep it as nearly at rest as possible, and separate it to the utmost extent possible from the members of the family generally, particularly where there are several members in the family. Rest and isolation are the foundation stones upon which any treatment of chorea should be built to prevent development of serious mental symptoms.

With regard to elimination, one distinguished surgeon had said that the treatment of chorea was purgation. All there was to the administration of arsenic was that it produced purgation. While I believe in elimination, yet chorea could not be cured by such a method alone. The best single remedy for the treatment of chorea was arsenic; Fowler's solution was the best preparation in the majority of cases. Every now and then one could not push Fowler's solution to the extent he would like, because it produces such a condition as I recently saw, namely—a bronze eruption over the whole body. When the arsenates do not agree with the child it should be given sodii arsenitis. Arsenical preparations to bring about curative results in chorea must be pushed. I push them until the approach of toxic systems. The curative effects are just a little short of toxic effects. Personally, I have not done any damage to children by giving arsenic. However, I do not wish to be understood as saying that I can cure all cases with arsenic. The next best remedy is cimicifuga. Frequently I combine the two, the fluid extract of cimicifuga, giving it in gradually increasing doses until I get to its physiological effect, and in this way it would give satisfactory results when arsenic alone failed. I had found cimicifuga beneficial in the Sydenham chorea of girls about the menstrual period. I believed with the late Dr. Jones, of Chicago, that cimicifuga has tonic properties or tonic effects upon the uterus. Very many choreic patients are anemic. To the arsenic and cimicifuga must be then added some preparation of iron. I never found anything as efficient as Blaud's mass. One should not forget the diet. These children were, as a rule, below par in nutrition. They should be given digestible, easily assimilable food in the greatest possible abundance—food that their digestive organs can digest easily. I would put a child to bed for a week, sometimes two weeks, and gradually relax the rest cure. I would have these patients go to bed early and have breakfast in bed—during the remainder of the day they should go outdoors and play. This would be about the second week.

If there were letting-up in the choreic movements under

this treatment I try static electricity. There is no question as to the sedative effects of positive insulation on the insulated stool of a well-working static machine. I have seen children who were twisting, tossing, turning and gyrating in all sorts of ways assume a condition of absolute repose and remain so just as long as they were sitting on the insulated stool. Repetition of this treatment every other day, if possible, along with other remedies, would generally bring the cases to a favorable termination. When insanity came the patient should be treated as a choreic and not as an insane person, by rest, isolation, arsenic, cimicifuga, iron, with the greatest possible amount of food. These therapeutic indications are the result of mature deliberation on the subject. I have seen very few of these cases that failed to recover. If they were put on this course of treatment the moment insanity developed, it was not necessary to send them to the insane hospital, as they could be treated at any well regulated or well governed hospital. The prognosis of chorea insaniens was not bad. Some patients will go on to permanent insanity and some of them will die, but the proportion is small.

Dr. Frank X. Walls stated that in 1891 he reported a case of a woman, about eight months pregnant, who developed chorea in its gravest form. She was admitted to the Cook County Hospital, and after a few days there, on every treatment he could think of to relieve her, she died. On necropsy endocarditis and some congestion of the brain were found. His idea of chorea was in part like his idea of tetany or eclampia, namely, that it was merely a manifestation of a condition that might exist in a variety of pathologic processes; that it was the manifestation of a neural malnutrition, an intoxication or infection, and showing itself in muscular, bizarre and inco-ordinate movements. There was usually a mental element in a patient suffering from malnutrition and intoxication that showed itself in neural and mental phases. One would expect a mental as well as nervous state. These cases of chorea varied from the mildest type to the most severe types. Many were relegated to an insane hospital as incurable; others died in the throes of the disease.

In a large number of cases there seemed to be a close association between chorea and some infection. In chorea there were evidences of infection, such as elevation of temperature and the localization of distinctive inflammatory conditions in certain organs, as the endocardium primarily, the joints sometimes, and maybe the brain. In no other condition did one find so frequently a complicating endocarditis in cases of acute rheumatism as in chorea. Of cases of chorea recently investigated in the Leipsic Hospital something over seventy-nine showed endocarditis. In a large number of cases that attended Osler's clinic evidences of endocarditis were found. These evidences were found years after the chorea had been recovered from. Not only did chorea occur with acute articular rheumatism, but it also followed influenzal rheumatism, tonsilitis and (a type of which he had seen a number of cases since his attention was called to it) severe gastro-intestinal disturbances particularly, with symptoms which might suggest appendicitis. Infection or rheumatism was a condition that occurred from cryptogenic infection. The tonsils were the seat of entrance of infection into the body and rheumatism was not an infrequent condition following tonsilitis. A little girl presented herself a year ago, with an attack of severe nervousness, very much like choreiform movements, with pain and gastro-intestinal symptoms, vomiting and joint complications. After one week's illness the pain in her abdomen became so severe that she was forced to go to bed, although previous to that she was walking about. The child was in bed a week, during which the abdomen was very much swollen; she vomited offensive matter that seemed fecal. During all this time there was dynamic obstruction of the bowel. I saw the child a year after, and at the present time she has a marked endocarditis. Her elbows and knees are particularly ankylosed, but the mental symptoms had cleared up almost entirely. This child had probably had appendicitis. A physician at the time made such a diagnosis, with rupture, peritonitis and systemic infection, which produced multiple joint complications. Probably this irritation in the brain had resulted in chorea.

In any given case of chorea, in order to treat it, the etiological factor or factors must be taken into account and each case treated individually. He would not subscribe to the administration of mercury, of arsenic or of cimicifuga, or any other remedy unless there was a distinct individual indication for the administration of that remedy. The majority of clinicians were passing away from the use of arsenic in large doses indiscriminately given in chorea. Statistics of cases treated with large doses of arsenic did not show conclusively that its administration had any special value. That it actually did any good, the statistics of its administration in a large number of cases would prove. If the patient were treated as one suffering from either an impoverished nervous state, malnutrition, some intoxication or some infection—if inquiry could determine from what focus the infection came, and if it could be prevented from entering the body, such lines of treatment should be carried out primarily, and whatever other treatment might be indicated symptomatically would be in the line of aiding the patient. The treatment should be considered to be entirely an individual matter.

Dr. Henry T. Byford, when engaged in general practice, had a great deal to do with children. He treated quite a number of chorea cases, and looked upon them from a more simple standpoint than was done now, and the little ones usually got well. His treatment then was iron, laxatives, and if the case was more or less acute he gave a few doses of chloral from time to time, together with rest treatment. He guarded against the giving of food that was liable to disturb the bowel and digestion, and regulated the diet of these patients. In these cases a great deal of trouble came from the alimentary canal, which was largely reflex. Supposing there was heart trouble, or disease of the serous membrane, due to toxins, what produced the toxins? Supposing it came from the alimentary canal by way of the abdominal tonsil—so-called—when that occurred there was usually intestinal disorder, and that which irritated and rendered abnormal the lymphatic tissues about the appendix, a more central absorption of poisons was liable at the same time

to produce reflex symptoms. Chloral did good in hurrying improvement, although he would not continue its use if it produced debilitating effects. Iron did good in fortifying resistance against irritation in the alimentary canal. Convulsions arose from irritation of the alimentary canal in children. In gouty individuals contraction of limbs could be relieved by laxatives given for quite awhile, so that he wondered whether the beneficial action of arsenic was not due to its laxative effect. If one could keep the bowels empty and in good condition, he could relieve the reflex condition. Reflex influences made the nervous system more susceptible to any poison that was in the system.

Dr. William F. Waugh said the term (of reflex) was rather a meaningless expression in itself, but if it were taken to mean here nerve exhaustion, dependent upon a leakage of nerve force, then the first point in considering chorea was to search for and find the leak. In this connection he mentioned the case of a young man who, soon after starting in school, a few years ago, developed choreic symptoms. The speaker was quite positive that the young man's eyes were troubling him, and therefore sent him to a very capable ophthalmologist, who examined him carefully and reported that there was nothing the matter with the eyes. So sure was Dr. Waugh that the patient's eyes were affected, from their persistent use in school, that he sent him to another ophthalmologist who did find the eyes affected, fitted him with glasses, and the choreic symptoms subsided. Since that time, when the choreic symptoms reappeared, he had charged the young man with neglect to wear his glasses, and had found that such always was the case.

A child was about to be sent to an institution as an instance of total moral depravity, but the adenoids were removed, whereupon the patient developed a sweet disposition. Elimination and regularity of the excretions were important. When the causes of reflex irritation were removed, when the excretions were properly arranged, then such remedies as cimicifuga and arsenic had a far more decided effect for good than they could if these primary considerations were neglected. He preferred strychnine to ar-

senic, as the former was more clearly indicated than the latter, since the irregular spasmodic manifestations were not an indication of force, but rather lessened control of the nervous system over those portions of the economy which were in a condition of spasmodic irritation. If suitably arranged doses of strychnine were given so as to increase the normal tone and control of the muscular system which was in a condition of spasmodic irritation, the spasm was removed thereby. Strychnine in toxic doses would cause spasmodic contraction of muscles, while in physiologic doses it would remove that condition.

Dr. James G. Kiernan said that chorea insaniens was a term applied by the Germans to a distinct type of chorea in which there were manifestations of the acute confusional type of insanity very frequently without emotional basis. As a rule, to judge even by the reported cases, it was an expression rather of a systemic state of exhaustion which produced the chorea, than a condition secondary to chorea. That chorea might produce insanity there was little doubt. Mental agitation of the patient would prove a sufficient break-down of inhibitions in a motor direction, and in the same way even break-down in a pyschomotor direction. Of the cases cited by Osler, two were striking as indicating, not as he claimed, the deep-seated, distinct nosological character of chorea, but that this systemic adynamia might produce chorea and a changed mental state. One was a marked systemic disturbance, the other was the secondary stage of syphilis. The mental conditions of the secondary stage of syphilis, Dr. Kiernan has shown nearly a quarter of a century ago, were essentially acute confusional states.

Another state closely allied to the acute confusional conditions, so far as the mental symptoms were concerned, was the so-called Bell's disease, typho-mania of some authors, the delirium acutum of the Germans, and the delirium grave of Spitzka. In the acute confusional states, except such as were possibly secondary to conditions allied to rheumatism, etc., lesions were absent. There were no pathological findings, microscopic or macroscopic. In the delirium acutum, delirium grave type, there was a marked and clearly dis-

tinguishable meningo-encephalitis, with equally decided and destructive microscopic changes. He did not believe with Meyer that delirium, grave or confusional insanity was an expression, strictly speaking, of this pathologic state, but that this state was an extension consequent on the circulatory disturbance of what might have been an acute confusional state. He was much struck with this at many necropsies. He was struck with the absence of many lesions in certain cases which did pass beyond the acute confusional state as contrasted with their demonstrable presence in this grave delirium state. When the germ theory of disease began to dominate medical thought, he was strongly of the opinion that in all probability typho-mania or delirium grave might be a germ condition; at any rate, it had suggestive points. Tests of the world by Koch's law in Italy, Scandinavian countries, Germany and the United States had signally failed to demonstrate any germ factor. Furthermore, the condition came on as one of the so-called meningitides. It came on after school strain and a number of conditions of that kind. It also came on from the perturbations which occur in our railway accidents and similar conditions. Of that class he had seen one case which died in the Cook County Insane Hospital. In that instance, as in a similar one which had threatened to be the subject of litigation, the early diagnosis was chorea. Mental symptoms grew deeper and deeper; then there followed an extremely marked, semi-stuporous delirium, in which the control of the sphincters was lost. There was rise of temperature and then death. Autopsy showed very marked and decided evidences of late delirium grave. In a similar case in this city there had been an accident to a girl on the Northwestern L road, in consequence of a collision. The girl was removed to her home in what appeared to be a condition of chorea. A diagnosis of chorea was made by the attending physicians. Changes went on, the case passing from chorea simplex to a confusional mental state, which grew deeper and deeper until she died. A necropsy was made by the coroner, who made the pathological diagnosis of acute cerebral meningitis, which was all he was entitled to make from the

findings. A fatal termination had not been feared. The question was raised whether this condition was due to the accident or some outside cause, a question which had arisen in Illinois ever since the Braun vs. Craven decision was brought up, in which it was decided that simple fright was not sufficient. The question of physical impact was brought up and argued. The question was incidentally raised by the railroad company as to whether the trouble was not due to secondary infection. The only element in the girl's history which bore on secondary infection was the existence of a gum boil that had been treated by the family practitioner, from which she had made a recovery without showing the slightest secondary infection. The case was never taken up in the courts, because the amount offered by the railroad company would have been all that could have been realized by litigation under the old law, as regards responsibility for death. In this case there was very little doubt as to the direct determining influence of traumatism, and from it, it seemed, that a constitutional factor, rather than a local one, which played a large part in many of these cases. As to reflexes, the question concerning them was a rather annoying one. It is said that a distinguished rectal "specialist" cures pathologic liars and physiologic liars by rectal relaxation of the reflexes. One distinguished ophthalmologist had failed to cure a single case of epilepsy in his selected cases in the New York epileptic colony.

With regard to adenoids and moral depravity theory, it was not surprising to hear of benefit or cures wrought by the removal of these growths. At one time aprosexia was charged up to adenoids and a cure effected by their removal. Invariably many cases could be cured by mental suggestion alone. There was something really deeper than that touched upon which should be taken into account. Nearly all of these people were very unstable from birth. Their environment was not what it might be, and any irritation sufficiently long continued, would push these people right over the brim where their inhibitory powers would be lost and where permanent recovery would be practically impossible without removing the local exciting factor. This was lost sight of

to a large extent in the discussion regarding reflexes. A child who had an eye disorder of any kind that put it under restraint was going to break down quicker than any other child unless the disorder could be relieved. The choreic child should not only have its eyes and nose investigated, but should also have its jaws and teeth looked after. At the same time the constitutional factor should be considered. The nerve-waste products should be eliminated.

He was strongly opposed to the treatment of cases of chorea insaniens in insane hospitals. The insane hospital had its emphatic value, but the vast majority of cases of confusional mental states could recover excellently under general hospital treatment. They should be removed from their accustomed environment. A large number of cases were benefited by arsenic, and arsenic should be physiologically pushed. As nearly all these states depended upon weakness or disordered inhibitions, they were benefitted by those agents that acted as sedatives rather than stimulants. Furthermore, strychnine in small doses was frequently an excellent sedative. It gave a certain amount of rest that was not attained by other agents.

He could not emphasize too strongly the necessity for moral and rest treatment in choreic cases. Where chorea followed, as it did with a certain class of cases, as one of the secondary phenomena of rheumatism, of gout, of syphilis, or of any other constitutional condition, there were local indications, but a general treatment, with moral treatment of the child was also strongly suggested. In the class of cases where chorea was the cause of insanity on account of the child's previous condition or environment, or mental perturbations, there mental therapeutics would be indicated.

He regreted the case cited did not get into court, since it would have been one of a valuable series of cases bearing on a number of disputed forensic points as to the influence of impact.

Dr. William L. Baum had seen a number of cases of chorea following the infective diseases. He had at the present time a child suffering from whooping cough that had developed choreic symptoms. He looked upon the disease

as a symptom-complex which might be due to a large number of different causes, as syphilis, toxemia, rheumatism, etc. There was one feature which he thought required a slight modification, and that is the comparative harmlessness of using arsenic up to the constitutional limit. All the Fellows were doubtless aware that dermatologists used arsenic considerably, and found it only effective when carried to the constitutional limit. While in some cases there might not be any untoward effects, there were many others which were attended with extremely serious consequences. Every year there was an increasingly large number of cases of arsenical neuritis. There were also cases of paralysis following the administration of arsenic. A few days ago he saw a case of paralysis of the facial nerve occurring in an individual to whom arsenic had been given for a period of years and carried to the constitutional limit. Some time ago the patient complained during administration of arsenic of extreme pains occurring in the region of the Gasserian ganglion, all the peculiar symptoms which were found present in the ordinary arsenical neuritis involving the nerves, there was considerable pressure in this region, and the development of complete motor paralysis on one side of the face, from which recovery was extremely slow. He simply called attention to this fact because it was not generally recognized what great danger existed from the long-continued administration of arsenic in those cases where it must be carried to the constitutional limit.

Dr. C. S. N. Hallberg asked if any one had any experience with the hypodermic administration of the solution of the sodium arsenate. He said that Dr. Moyer had used it quite extensively for several years past, and spoke strongly in favor not only of the hypodermic use of it, but also of the sodium arsenate as against the arsenite, the form of arsenic represented in the Fowler solution. Evidently there was much less danger of untoward effects from the sodium arsenate than there was from the arsenite. He also asked whether there was any distinction in the value of the preparations from the green cimicifuga or the dried blood. This question has come up different times in the revision of the

pharmacopeia. Some therapeutists argued that cimicifuga should not be admitted to the pharmacopeia because only preparations of the green or fresh blood were of value, and that would be inadmissible in the pharmacopeia, and it would not be proper under the circumstances to admit a dry drug, or preparations of the dry cimicifuga.

Mr. V. G. Gallagher, of the Chicago bar, said many phases of the subject could be discussed forensically, but as to the right to recover damages for chorea and kindred affections, he had this to say: The question as to whether injuries resulting from fright and terror could form a recoverable basis in an action at law had been the subject of much discussion in courts of law not only in Illinois, but in all States. As a rule, as gathered from the conclusions arrived at by various authorities, there was one class of cases in which damages could be recovered. Where the injury was brought about purely by fright and terror, but physical impact was entirely absent, while there was a general rule of law in reference to actions predicated upon negligence, there was no liability except for such consequences as were usually ordinarily likely to emanate from the act complained of, and in determining whether the consequences were usual and ordinary, the individual would be treated as an ordinary individual, and not as a special case. That is to say, the party claiming redress would be considered by the law as a healthy individual from the time the alleged cause of action arose, and not as a sickly one, so if the acts alleged to produce injuries were not such as would produce injuries of the character complained of in an ordinary healthy individual, there could be no recovery for the injury, regardless how severe it might be.

Before taking up the other class, one of the principa cases to rely on for a ruling was that of Braun vs. Craven. That was a case where the defendant, who was a minister, called at the house of the plaintiff's sister, the sister being a tenant of Craven's, and finding the door open he walked through the house to her room, where the patient was sitting on the floor assisting her sister in packing preparatory to moving, and suddenly asked what she was doing, and

followed that interrogation with many gesticulations and statements to the effect that he would not allow them to move and would have a constable there in a few minutes, and he was going to have his rent, etc., etc. She alleged that his conduct on that occasion, when she first turned around and saw him standing up, greatly frightened her, particularly his subsequent gesticulations, with the result that she became afflicted with St. Vitus' dance and some other nervous ailments. The trial resulted in a verdict in her favor for $9,000, and that was reversed by the Appellate Court, then carried to the Supreme Court, where the Appellate Court was sustained. There were two reasons assigned which he did not think were sound philosophical legal reasons, namely, as a basis of conserving the interests of public policy, damages should not be recovered in cases in which injuries were claimed to result slowly from fright and terror. Dangerous use might be made of such a ruling if injuries were permitted to be made a basis of action when there was no means of measuring the damages. One would see from the other two classes of cases the premises last stated bring about a serious conflict in authorities.

The second class of cases involved the question whether there was physical impact preceding the nervous conditions. In such cases it had been held, regardless of how slight the impact might be, if nervous troubles followed; that is, including distress and anguish of mind, or excluding everything else and including only distress and anguish of mind, that compensation might be allowed for that feature of the injuries. The other class is where the intention of the wrong-doer was to inflict mental anguish and distress. The principal cases included in that class would be those of seduction. Where seduction was cause for right of action, which was not the rule in Illinois except on the theory of loss of service, the parent, guardian or employer in some instances might maintain action against the seducer for the loss of service and slander, etc. In this latter class of cases the recovery was not limited to the actual damage sustained, but purely exemplary damages may be awarded. The intent of the wrong-doer, if possible, must be established, so

that the punishment meted out will be commensurate with the injuries. The peculiarity presented by the different rulings consisted in this: In the first instance, while the Supreme Court decision in the Braun vs. Craven case might be said to be well taken upon the ruling first rendered by it, namely, the conditions under which this woman was frightened were not such as would frighten an ordinary healthy individual, and the results claimed to exist were not such as would follow ordinarily. As to the other decision or ruling, that it is against public policy to allow damages which cannot be measured, if recovery of damages is allowed for this element in cases where there is an infinitesimal physical impact, so that the major portion of the injury sustained is a nervous one, mental anguish, etc., it is just as easy in such cases to exaggerate and elaborate upon that basis as it would be in cases where the physical impact was entirely absent.

As to the other proposition there was no methodical rule by which damages could be measured in every action brought for personal injuries. The rule of law in all such cases as to how much should be awarded was left to the sound judgment and discretion of the jury, and their verdict was not interfered with except where it was manifest they had abused their discretionary power. Physicians, where they had a patient who was suffering severe mental anguish and other nervous disturbances, or even fright, would do well to devote some of their time to discover some physical impact, even though it consisted of not more than a concussion caused by an explosion or something of that kind. A German and his wife heard a noise in the basement of their house and went down there to see if they could discover what it was. The wife lit a match, which was followed by an explosion. There was no physical impact in that case other than that caused by the concussion. This case was taken away from the jury in the trial court on the strength of the decision rendered in Braun vs. Craven. The trial court seemed to think that simple fright was the sole cause; it was shown by the absence of physical impact. The Appellate Court reversed that decision, and

largely upon the testimony of Dr. Kiernan, who was quoted extensively in the opinion rendered.

Dr. Brower: No one recognizes the untoward effects of arsenic more than I do. I was glad Dr. Baum called attention to these effects from long continued use of arsenic. A physician is not justified in administering arsenic for long periods of time. If results were not speedily obtained the remedy should be withdrawn. The general principles applying to treatment he enunciated did not contemplate long continued use of arsenic in large doses.

As to the hypodermic use of arsenic in chorea, I remember very well hearing Dr. Moyer's paper and was much pleased with his results. For some reason my patients would not submit to the hypodermic use of arsenic. I could not get them to take more than one or two doses. The patients were nervous children; they did not like to be hurt. I did not know of any way of giving a hypodermic injection of arsenic without inflicting pain, unless it be done by cataphoresis, and even then there would be more or less pain. I never obtained the results from the hypodermic use of arsenic that others have. I do not know whether it was the green or the dry preparation he was using, but that cimicifuga had remedial effects he was certain. The fluid extract was the only preparation he had used.

CRIMINAL RESPONSIBILITY AND DEGENERACY.*

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THE relationship of degeneracy and responsibility is determined by scientific definitions, modified by varying legal conditions. Of these legal conditions that of the English common law is by far the most just; viewed alike from the standpoint of abstract justice and the rights of the individual in his relations to society. The basic principle of the English common law is that every one accused must be presumed to be innocent until proven guilty beyond a reasonable doubt. Furthermore, that if any circumstance is capable of a reasonable explanation on the theory of innocence it must be so explained by judge and jury alike. This common law principle does not obtain in all English-speaking communities. In Scotland, it is modified by Roman law elements which, even after the revolution of 1688, made judicial torture a part of Scotch jurisprudence. In Ireland, the English common law has never obtained since chaotically contradictory statutes substituted Roman law for the principles of English common law already existent in the Irish Brehon law. In the United States, the English common law and all statutes passed up to 1606, as modified by the national and state constitutions, rule in the absence of specific statutes or of codes. In California and former Spanish colonies as well as in Louisiana, there is an injection of the Roman law with its sacrifice of the individual to the state.

*Proceedings of Section of Psychological Medicine, British Medical Association, Oxford Meeting, 1904, Abstract.

The famous right and wrong knowledge test, which, since 1843 has governed England and many of the States of the American Union, was injected into the law in violation of the presumption of innocence by any illegal performance by the judges summoned by the House of Lords. The presumption of innocence inevitably led in the United States and in Australia, as well as to a certain extent in Canada, to an organized system of appeals in civil and criminal cases, on the principle that it were better that ten guilty should escape than one innocent should suffer. The common law has always, as Green points out, been marred by illegal judicial law making. This is clear from the statement of Justice Maule to the effect that the mental state described in the first question by the House of Lords was not a matter of law but of physiology and not of that obvious and familiar kind as to be inferred without proof.

The question how far the presumption of innocence is involved in the presumption of sanity must always be a mooted point. The fact that the majority of citizens are law-abiding and the further fact that crime is the expression of an unusual mental state, certainly raises the question, whether crime be an expression of physiologic causes constituting motive or whether it be an expression of pathologic conditions. The term "pathologic" is here used in the Virchow sense of something that disturbs the physiologic balance previously existing in the type or the individual. Under the strictest application of the principle of presumption of innocence, crime in itself raises a doubt as to the mental state of the criminal, which may be thoroughly offset by the circumstances and conditions under which the crime was committed. This view obtains in the decisions of many of the State Supreme Courts of the American Union. Where the common law most thoroughly obtains in the United States the burden of proof falls on the State. Assuming, however, that a knowledge of right and wrong is a test of responsibility, criminals much more frequently than the insane, present this lack of knowledge. The criminal whose secondary ego is so deficient that he cannot see the rights of others to opinion, property or life when opposed to his interests, is

far more common than the lunatic of the same type. If all degenerates were, as they are supposed to be popularly, of the type just described, the right and wrong test would make them irresponsible.

Degeneracy, however, is a physiologic process which becomes malign or pathologic only when it attacks the higher acquirements of the race, but is benign when in embryogeny it sweeps away primitive structure for the benefit of higher structures and potentialities. There is, as Roux has shown, a struggle for existence between different organs and structures which through the law of economy of growth, pointed out by Aristotle and cleared from obscurity by Goethe and Geoffroy St. Hilaire, determines whether there is degeneracy of an organ, structure or potentiality for the benefit of the whole organism, or whether the whole organism shall degenerate for the benefit of a given structure, organ or potentiality. In the last case, the ethical, intellectual or physical balance constituting health, is disturbed, and, as I have elsewhere shown, ethical, intellectual, sensory, spinal, nutritive, or potentiality degeneracy may result. Ethical degeneracy implies conditions in which the secondary ego is absent, conditions in which it is temporarily disturbed, and, finally, conditions in which moral checks are so weakened that a slighter determining motive is needed. Under the common law, these last types would be ranged under the category of the manslaughters in the heat of passion. The intellectual degeneracies resemble the ethical in being conditions which are permanent, which are recurrent, or which are unstable, requiring but a slight determining cause to produce the expression of degeneracy.

The question of responsibility here must be judged by the test applied in the particular English-speaking country where the degeneracy expression occurs. From the standpoint of the common law, stigmata of degeneracy raise a doubt as to the responsibility which must be overcome by evidence ere just conviction can occur. Stigmata of degeneracy are, as J. G. Kiernan said, a prophecy of what may be, not indications of a destiny which must be. This was clearly evident in two cases recently adjudicated in Chicago. In the case

of Lux vs. Chicago City Railway Company, Dr. Kiernan, who found in the plaintiff nasal, optic, palatal, and facial stigmata of degeneracy, also found that, while up to the appearance of the first permanent molar, general development had been normal, the boy's mental gains had ceased at the age of six, when he had met with a railroad accident. In consequence, Dr. Kiernan testified that the arrest of development had been due to the accident, and that unless a special training was given, this arrest would be permanent. The jury awarded $5,000 damages. In the case of Rickow vs. Chicago City Railway Company, Dr. Kiernan found that the plaintiff had, in addition to the stigmata of the previous case, a left supernumerary nipple one inch below the normal one. The plaintiff, then 21, had left school in the primary grade at 11. The accident had occurred at 18. The mental state was that of a boy of 6, added to an inventive stupidity often found in ethically defective feeble-minded youths. The jury being of opinion that this played a part in the accident, found the company not guilty.

It is evident from these cases that degeneracy may evince itself in physical stigmata for the benefit of the fore-brain. On the other hand, the fore-brain, in its relations to the higher acquirements of the race, may be sacrificed to secure a physically external perfection. In some cases, physical, intellectual and ethical stigmata all occur. In other cases, the environment at the uterine periods of stress, around which are grouped the disappearance of primitive structure and potentiality, determines whether there shall be stigmata, and how these shall affect the organism. The same is true of the period of the first dentition, of the period of the second dentition, of the period of puberty and adolesence, the period centering around prostate and menopause changes, and of the period of senile involution.

The chief relation of degeneracy to responsibility is, however, found in the guide which degeneracy stigmata furnish the attorney whose first duty is to his client as the physician's first duty is to his patient—to evidence needed and to a proper theory of the case.

MIXOSCOPIC ADOLESCENT SURVIVALS IN ART, LITERATURE AND PSEUDO-ETHICS.*

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THERE are, remarks Thoreau, no flowers in nature for him to whom sex is impure. The old sense of sex purity which characterized the old Celtic Bards, also, loomed up strongly during the 19th Century in Walt Whitman. In him, as Havelock Ellis† points out, "there is this great moral kernel, springing from the sexual impulse, taking practical root in a singularly rich and vivid emotional nature, and bearing within it the promise of a city of lovers and friends. This moral element is one of the central features in Whitman's attitude towards sex and the body generally. For the lover there is nothing in the loved one's body impure or unclean; a breath of passion has passed over it, and all things are sweet. For most this influence spreads no farther; for the man of strong moral instinct it covers all human things in infinitely widening circles; his heart goes out to every creature that share's the loved one's delicious humanity; henceforth there is nothing human that he cannot touch with reverence and love." 'Leaves of Grass' is penetrated by this moral element.

* Continued from the *Alienist and Neurologist*, Nov., 1904.
†New Spirit.

"But the region of sex is still, like moral and social life generally, to a large extent unreclaimed; there still exist barbarous traditions which mediaeval Christianity has helped to perpetuate so that the words of Pliny regarding the contaminating touch of a woman, who has always been regarded as in a peculiar manner; the symbol of sex—'Nihil facile reperiabatur mulieum profluvio magis monstrificum'—are not even yet meaningless. Why should the sweetening breath of science be guarded from this spot? Why should not, 'freedom and faith and earnestness' be introduced here? Our attitude towards this part of life affects profoundly our attitude towards life altogether. To realize this, read Swift's 'Strephen and Chloe,' which enshrines, vividly and unshrinkingly, in a classic form, a certain emotional way of approaching the body. It narrates the very trivial experiences of a man and woman on their bridal night. The incidents are nothing; they are perfectly innocent; the interesting fact about them is the general attitude which they enfold. The unquestioning faith of the man is that in setting down the simple daily facts of human life he has drowned the possibilities of love in filth. And Swift here represents, in an unflinchingly logical fashion, the opinions, more or less realized, more or less disguised, of most people even today."

The same delicate sex feeling appears in Mrs. Jameson who rebukes in her essay on Juliet, the bourgeois mixoscopia which Swift and the Anglophobiacs for revenue voice. "The famous soliloquy, 'gallop apace, ye fiery-footed steeds,' teems with luxuriant imagery. The loud adjuration, 'Come, come, Romeo, come,' expresses that fullness of enthusiastic admiration for her lover which possesses her whole soul, but expresses it as only Juliet could—or would have expressed it, in a bold and beautiful metaphor. Let it be remembered that in this speech Juliet is not supposed to be addressing an audience or even a confident. I confess I have been shocked at the utter want of taste and refinement in those who with coarse derision or in the spirit of prudery, yet more gross and perverse, have dared to comment on this beautiful 'Hymn to the Night' breathed out

by Juliet in the silence and solitude of her chamber. She is thinking aloud; it is the young heart 'triumphing to itself in words.' In the midst of all the vehemence with which she calls upon the night to bring Romeo to her arms, there is something so almost infantine in her perfect simplicity, so playful and fantastic in the imagery and language, that the charm of sentiment and innocence is thrown over the whole; and her impatience, to use her own expression, is truly that of a child before a festival that hath new robes and may not wear them."

The Swiftian view just expounded by Ellis, is precisely the mixoscopia which I have endeavored to depict. It is peculiarly present in the coarse Nationalists who bounded into prominence in Irish politics after the downfall of Parnell. This element was already present in the person of Biggar, of breach of promise fame. This class is strongly in evidence in the social conditions of a century ago, depicted by Lever and Lover. It appears in the party of widow Flanigan* in the conversation between the poetaster Reddy and Mrs. Riley: "I own," said Reddy, "I attempted that bold daring style of expression which Byron has introduced." "O, he's a fine pote certainly, but he's not moral, sir; and I'm afeared to let my daughter read such combustibles." "But he's grand," said Reddy. "For instance:

'She walks in beauty like the night.' "

"How wicked," said Mrs. Riley, "I don't like that night walking style of poetry at all." This affectation of modesty occurs at a time when marriage by capture was neither barbarous nor in the anti-social sense considered criminal.

The class here depicted has steadily risen in influence in Irish politics, excluding the Irish scholar and statesman. To it was due the downfall of Parnell, since its lay and clerical members thus sought power. That coarseness, venality and bureaucracy so much in evidence in the Irish politician of America, Canada and Australia, will reign in Ireland, is evident in the disgraceful management of the Ballinasloe insane hospital.†

*Handy Andy. †*Journal of Mental Science, 1904.*

Enfeeblement of the reaction to healthy sexual stimuli sometimes proceeding from religiosity, sometimes from alcohol or more often from both combined, strongly predisposes to mixoscopia. In the primitive type to which the dominant Irish mixoscopists belong, alcohol produces mixoscopia with such vivid religiosity that so-called "pious" people who hear this religiosity blatantly regret that such a religious person should have been such a victim of alcohol as to become insane. Erotic tendencies with enfeebled sexual power often, as Krafft-Ebing* has shown, take this type. Very often, remarks Laurent† have I met vigorous young men who preferred wine to women. One hereditary degenerate placed alcohol far above sexual pleasure. The mental state here portrayed is that of the auto-erotist finding supreme enjoyment in a sexo-emotional state, increased by the absence of a partner in the enjoyment. The mixoscopic conception of coitus adds to enjoyment, since it makes the subject superior to what is regarded as a "nasty business," to use the expression of a female "rounder," arrested two hundred times in twenty years for being drunk and disorderly.

This was the mental state of Jane Cakebread, the famous London inebriate, whose career led to the English Inebriates' Acts of 1898 and 1902. She had been convicted two hundred and eighty times in the police courts on the "drunk and disorderly" charge. According to Robert Jones,‡ she was not a drunkard in the ordinary sense of the term, having the vanity, love of display and notoriety found in hysterics and other instabilities. The auto-erotic mixoscopic element which kept her from sexual manifestations is evident in Jones' analysis of her mental state.

Her parents, who were of the small farmer class, had a very large family. With very little education she became what she called a "single handed parlor maid." While in service she was left a legacy of $500. From this time her downward career began along the lines depicted by Arthur Morrison§ in "Squire Napper," where a seemingly large

*Jahrb. f. Psych. Bd. X.
†Habitues des Prisons de Paris.
‡*Journal of Mental Science*, April, 1904.
§Tales of Mean Streets.

legacy suddenly left a workman with meagre wages, demoralizes the whole family. When admitted to the insane hospital in 1896, Jane, who had not been self-supporting for thirty years, in vaguely disconnected language stated she was a lady entitled to a fortune, a portion of which had been stolen. This was not necessarily a delusion, since, as Morrison shows, it is a common belief with people who have been left legacies under such circumstances. They believe that they have been cheated, because they have kept no account of the money spent and have a general vague idea that courts and lawyers are swindlers. This belief is born of the suspicion of primitive man, rather than from actual experience.

Jane's physiognomy was striking and her manner was gracious and condescending, but she was extremely changeable, becoming in a moment noisy, violent and threatening. While promising to behave, she possessed very little self-control, was abusive to the nurses and officials, and extremely difficult to manage. As time went by she became more noisy, more flagrantly untruthful, less and less amenable to discipline, and more inordinately fond of notice.

At the end of three years there was a total collapse, and she died of heart failure and dropsy, with cirrhosis of the liver and kidneys. The brain was well convoluted, of good size and weight, with some wasting of the central convolutions. There were adhesions at the apex of the right lung and marked atheroma of the aortic arch. The heart was fatty, with hypertrophy of the left ventricle. The liver was distinctly "hob nailed," fatty and indurated. The kidneys and spleen were the same, the abdomen and lower limbs were markedly oedematous. In Jane were present what Jones calls the "collective interests of the individual,"—vanity, self-complacency, self-esteem. Without pride, she desired admiration and approbation, and her exalted ideas of her own importance accorded well with her love of power. The happiness she derived from hearing her name called in the police court amply compensated for a night spent in a cell, and one of her greatest joys consisted in reading clippings or extracts about herself from

the police news. Her susceptibility to the opposite sex was merely an esthetic interest springing mainly from vanity. She would put up her hair in curl-papers, decorate herself with bits of ribbon, lace, etc., to impress the doctors on their rounds. Like a child, her greatest pleasure was to "show off," but she was indifferent and indiscriminating as to her audience. It was accompanied by jealousy, distrust of the nurses, who she thought injured her, and by violent outbursts of anger when praise was not forthcoming.

Believing herself a grand lady, she constituted herself a supervisor of the patients in the hospital, a conceit in which she was humored by the attendants. Such humoring always injures self-control of insane patients. Like all persons with an inordinate, illogical self-esteem, Jane was peculiarly susceptible to flattery and exceedingly liable to draw flattering inferences from ordinary courtesy. She was therefore peculiarly fickle and vacillating.

While considered by many as peculiarly religious because of her tendencies to enjoyment of emotion, she lacked ethical ideals and standards although she was not sensually immoral. Her religiosity had the usual intolerance for the opinions of others in ethics and religion. Her seeming untruthfulness was the result of child-like inability to distinguish between the wished for and the fact.

That most alcoholophobiac of cities, Evanston, Illinois, has created a replica of Jane Cakebread in Kate Kelley, who has been arrested a hundred and fifty times in twenty-five years, under much the same conditions. She has manifested Jane's characteristics to such an extent as to suggest to the police what is an essentially auto-erotic mixoscopic explanation of her antics. Hysteric desire for notoriety and the exquisite pleasure found by hysterics in shocking ordinary conventionalities, especially when these rise in Pharisaic prominence, as in Evanston, peculiarly foster the creation of such characters as Kate Kelley.

The influence of alcohol in production of mixoscopia is peculiarly evident in the South and West of Ireland, where illicit stills are a patriotic protest against the government. In Ireland, while the crime rate is the lowest in Europe,

this is partly due to the fact that Irish criminals leave Ireland as an unproductive field and partly to the fact that by intrigue anti-social crimes are ingeniously made to appear political. The rise in the Irish insanity rate since enforcement of restrictions on importations of Irish lunatics into Canada, Australia and the United States, significantly indicates the enormous manufacture of hereditary defectives. The least demonstrable of these occur in the lower farming, shop-keeping, sheebeen-keeping and other bourgeois mixoscopics. This class has wielded enormous influence of late in Ireland, particularly in the agricultural communities where the farmer, but not the farm laborer, has profited by the no-rent agitation. The mixoscopia so repellent to George Moore and Fiona Macleod has its origin in this class and its ecclesiastic members. The Irish ecclesiastic of Maynooth coinage never had the culture of the coinage of St. Omers and Douay. The mixoscopic influence of such ecclesiastics would be enormous when wielded through the distinction drawn by Sanchez* between mortal and venial sexual sins. Coarse views of sex relations described by Moore† naturally arise under such ultra-prudish prurient conditions. Familiarities just avoiding coitus are venial, but coitus is a mortal sin.

Irish marriage by capture, which survived as late as the nineteenth century, preserved a primitive mixoscopia which united easily with the lower Oriental mixoscopia present in the Norman church imposed by Henry II. The sculptures on the doorway arch of old Irish churches‡ of a female exposing her genitals in a most unequivocal manner to the gaze of all who enter, did not express mixoscopia, but a humane evolution of the phallic worship, which guarded buildings against the spirits of the earth, air, and storm by the sacrifice of maidens, built into the foundations of the building, into the middle or thrown from its top. These maiden symbols still survive in the use for such purposes of the horse shoe. The figures, after the domination of the Norman church, were given the de-

*De Matrimonio Usu.
†The Untilled Field.
‡Payne Knight: Worship of Priapus.

scriptive title Shelah-na-Gig (giddy Julian; a synonym for an immodest woman.) This title was first used long after the Norman conquest. High status of woman made use of these symbols venerable.

From the primitive idea that pregnancy arose from spirits,* the conception that coitus was attended by dangers from spirits, attracted by the woman, naturally developed. This conception was fostered by that dread of the unknown, which hangs as a pall over primitive life.†

Unions between the sexes therefore, came early under the sway of two classes of ritual, based on supposed dangers from contact: Those that obviated or neutralized taboo dangers; first: By simple methods, or second: By double or complex methods, typified by mutual inoculation. The first breaks taboo by removing or neutralizing taboo influence. The second breaks taboo between two persons by assimilating them through inter-inóculation. In one method, through marriage to trees, symbolism has taken the place of the thing symbolized. Symbolism, as Gomme has shown, occurs in folklore evolution when, for instance, human sacrifices are symbolized; first, by animals of the totem, to which the man belongs, and later, by the symbol of the animal. At times, the symbol of a human being, like the Shelah-na-Gig, is reverently employed from its greater potency. Amongst the Mundas, a mimic fight for the bride occurs. The pair, then anointed with tumeric, are wedded to two trees. They touch the tree with sinlan, clasp it and then are tied to it. Subsequently the groom touches the bride's forehead with sinlan. This symbolism insures the success of the succeeding marital ceremony. The bridegroom amongst the Kumis is married to a mango tree; he embraces it, is tied to it with thread, and then daubs it with red lead. The bride is likewise married to a mango. She is brought to her home in a basket and the groom is carried thither on a platform supported by men. When misfortune in Hindu marriage is foretold, the person concerned is first married to an earthen

*Crawley: Mystic Rose.
†Gomme: Ethnology in Folklore.

pot. The dangers of third marriage, much feared by the Hindus, are similarly obviated. In the Nayar "child marriages," a sword represents the groom. The Malay marriage is performed with the groom alone.

Marriage ceremonies included various abstinences from a natural impulse of egotistic sensibility recognizing the importance of the occasion, combined with spiritual fear, either of general danger or danger from each other. The common taboo of silence upon persons passing through a critical period, was imposed upon bride and groom. Bride and groom must not sleep for the same reason, and frequently must fast to prevent evil influences entering them through food. Here appears the association between comensal and sexual intercourse derived from the biologic connection between nutritive and sexual impulses. The taboo upon immediate consummation of marriage, avoids danger of close physical connection in which, as in eating together, sexual taboos are concentrated. The principle permeating all such taboos, is that temporary self-denial of a dangerous satisfaction obviates the risks of its immediate fulfillment by evading spirits. Later, as Crawley remarks, the idea develops in this rule that sexual intercourse as such is improper, and here appears the germ of mixoscopia.

Proxy marriages are initiations to ward off dangers from coitus. The danger of weakness and effeminacy arising by contagion from woman and from loss of strength (of body and soul) on the man's part by emission are lessened by certain ceremonies. One consisting in hymen perforation by an appointed person other than the husband, is most common in the lower stages of culture. The operators in Australia are painted with charcoal; a sacred custom especially produced when an avenging party is being sent out. Such initiation ceremonies are marriages in abstract. Amongst the Watavata, the bridegroom in capturing the bride is aided by four friends, who have access to her during the first five days of wedding festivities. This is not a survival of primitive promiscuity, but a preparation of the bride for the husband. The custom

among the Kurnai and Watisti is practically identical. The groomsmen do not represent tribal rights, but ward off dangers of the groom.

An important pre-marital religious service is defloration among Australian and African tribes like the Masai. Defloration is performed by the bride's father among the Sakais, Batas and Alfoers of Celebes. Such a folklore belief led an Illinois German farmer to rape two pubertal daughters in succession.*

Hymen defloration is a profession in the Philippines where the hymen has not been ruptured in childhood by the old woman usually employed for this. Defloration of the bride among some Eskimos is done by the angekok. Later, a belief results that contact of a holy person renders, as I have elsewhere shown, marital contact safe and thus insures fertility. When a Central Australian girl arrives at puberty, the hymen is perforated by persons who vary according to tribal usage, but the prospective husband is never included. After perforation the assistants have ceremonial access in stated order. In some tribes the men of a division which cannot intermarry with the girl's division have this access. The object is to remove coitus dangers from the husband and sometimes from the wife by ceremonial rehearsal. The danger partly coincides with the apparent physical impediment. The act is twain; perforation and access. The men who have access do not do this as an expiation for individual marriage. It is a religious altruistic act, not a reminder that they, as communal or group husbands, have as much right to woman as her groom. The fact that men sometimes of forbidden groups have access shows this. It is simply removal of danger by a proxy, as in other proxy marriages; here initiation and marriage are one.

The principle behind this is inoculation, which being one-sided is, while valuable for marriage in abstract or in initiation, naturally not common as a marital sacrament. The initiatory practice and marriage is in essence identical

*Jansen vs. The People: Illinois Reports, 159.

with love charm, like the marriage ceremony. The identity of principle is excellently illustrated in Morocco.

On the evening before the marriage (the henna night), the groom visits the bride. He applies henna to her hands, removes a ring from her finger and a bracelet from her arm, and wears the one or the other until the nuptials are finished. Thus assimilating himself to her, he brings himself into communion with her, satisfying his instincts of love and his sub-conscious fear of union at the same time. This is on the way to become a double inoculation in that he applies something to her. The common Hindoo practice of sinlar, by which the groom touches the bride with red ochre, sugar and water and the like, is inoculation of her with himself. The Bheel ceremony, in which the bride does this as well, shows inoculation become mutual.

The principle of inoculation is expressed also by either or both, the pair wearing each other's dress. Inoculation and assimilation is thus effected by wearing the clothes of the loved yet dreaded person. It survives in the ring exchange of the German marriage ceremony, which has become mere symbolism. In the English-speaking where but one ring is given the full symbolism of this is stated in the ceremony. The woman's superiority of the Anglo-Celtic race here occurs. The many cases where a lover wears a bracelet or article of clothing of his mistress are parallels of this. The love fetich is an atrophied survival. In the chivalric love of the middle ages this fetichism appears. The "favors" given by the fair one were both "tokens of remembrances," and sexual excitants of satisfaction. Sir Walter Scott significantly says: In the attack made by Buckingham on the Isle of Rhea, "favors" were found upon the corpse of many French soldiers, but for the manner in which they were disposed of we are compelled to refer to Howell and Wilson.* They were arranged around the sexual organs.

Mutual "inoculation" renders the union innocuous on either side and completes ideas of contact and is a union. Each gives to the other and receives from the other a

*Essays on Chivalry.

part. This, on the contact principle may be, as in love-charms, a lock of hair, a piece of clothing, food that has been touched or not, blood or the like. This affects union by so assimilating one to the other, as to produce identity of substance. When the act is done simultaneously, its sacramental character is intensified. The union thus effected has a binding force. Each part having given a part into the other's keeping is thereby bound. Having received part of the other, he or she has thereby a hold over the other. The act is the materialized expression of a desire for union, identical in principle with physical contact, especially with contact in love. This sums up the whole cycle of conceptions as to human relations latent in man. The ceremony of joining hands and the like is common. Here mere contact fulfills the union. It is a ceremonial pre-representation of marriage union, assisting that union by making it safe and by previously making it objective.

Double inoculation by means of dress, each wearing the dress of the other sex, survives in European folk-custom. The bride and groom exchange head-dresses and the like. After betrothal the Aimu boy and girl wear each other's clothes. This method of union is common in love-practices. A modern 'Arry and 'Arriet exchange hats on Bank Holiday from a principle inherent in human consciousness. The commonest of marriage ceremonies is eating and drinking together. This mutual inoculation by food is the strongest of ties and breaks the most important of sexual taboos, that against eating together, producing identity of substance. Thereby it introduces the mutual responsibility resulting from eating what is part of one's self to eat. Each has the other in pledge, and each is in pawn to the other. Any ill feeling or sin later will produce bad results between the pair. The closest union is produced with the closest of responsibilities.

The groom's part among the Masai is strikingly indicative of the fact that he had exchanged the spear for the distaff. The groom has to wear the garment of a ditu (girl) for one month. Imagine how ludicrous it would be in staid and dignified England or America were a young

man to spend his honeymoon in a cast-off suit of his wife's maiden attire. In Cos, the groom was dressed in women's clothes when he received the bride. The story of Heracles and Omphale is of this type. Plutarch, in the old fashion, makes the myth originate the custom. Argos brides must wear beards when they sleep with their husbands. The Spartan bride, clothed in a man's cloak and shoes, was placed on her bed in the darkness by her bridesmaid, to wait for the groom.

Polyandry, which resulted from this phase of proxy marriage, has survived much higher in culture than at first appears probable. It underlay the sin of Onan which was disobedience of polyandric tribal usages. It appears in the romance of Ruth and Boaz in the final ceremony of their marriage. The Western Inoits, according to Réclus,* see nothing shocking in a woman declaring that one husband does not content her.

Formerly a Florentine girl of good family, by a clause in the nuptial contract, claimed her right to take a lover whenever it should please her so to do. The Aleutian girls, enjoying during spinsterhood liberty of which they make free use, preserve at their espousals the right of a cicisbec. Their "adjutant" (an official term) assists the master of the house in his rights, duties, liabilities, active and passive. He contributes to the maintenance of the household and to support of the children. Women so very much married are considered extremely fortunate and enjoy a profound respect. The presence of the assistant is indispensable during the absence of the husband who, on his turn, patronizes and protects the young men expecting from them deference due from a younger brother. Among the Thlinkets and Koloshes, the attendant swain must be a brother, or at least a near relative to the master of the house. A Konyga caught in adultery must pay a fine to the husband, but if he be a member of the family, the husband may compel him to obey his orders and those of the wife with whom henceforth the association is legitimate. On the death of the Thlinket husband, the younger

*Primitive Folk.

brother marries the widow. The new captain requires in his lesser function the good offices of the third brother. It is obvious, as Réclus, remarks, that the cicisbeo is a levir. His function is a survival of fraternal polyandry, of which traces are still discernible among the Eskimo and may be studied from the life at Ladak, Thibet and Malabar. Cincinnati, Ohio, which exhibits so many survivals of primitive sex conditions, has lately had polyandry before its courts. In the case of Burke vs. Burke, Mrs. Burke was originally Mrs. Rambeau. The divorce from Rambeau was obtained in accordance with a contract similar to the implied one between the Inoit "captain" and his "adjutant." The first husband, somewhat advanced in years, was to be cherished in his decline by the wife and the second husband. The latter was to be the support of the family and ostensibly its head. The contract did not work as well as among the Inoits. Burke was stabbed by Rambeau under circumstances that rendered suppression of the circumstances of the assault, a matter of public policy. The difficulty seems to have arisen in the jealousy of Rambeau and the cruelty of Burke to Mrs. Burke. The first husband resented Burke's complete usurpation of Mrs. Burke and likewise his cruelty to her.

As danger is obviated by refraining from such exposure, in the same way as by abstinence at marriage, superstition and self-control alike being thus satisfied, so, when the individual is spiritually prepared, exposure or satisfaction becomes safe and even beneficial. After initiation Halmahera boys must expose themselves to the sun. Among the Hindus the bride had to look at the sun on the day before marriage. In Central Asia the young pair greet the rising sun, as do the Chacos. The fertilizing power of the sun is useful: "Happy is the bride whom the sun shines on."

The custom of night marriages is so general as to indicate the widespread influence of fear of evil.

Sexual shyness, not only in woman but in man, is intensified at marriage, and plays a large part in creating the dangerous sexual properties mutually feared. When fully

ceremonial, the idea occurs that satisfaction of these feelings will lead to their neutralization. The Sparta bridegroom supped at the wedding night at the men's mess, and then visited his bride, leaving her before daybreak. Sometimes children were born before the pair had seen each other's faces by day. In the Barar Islands, the groom has to hunt for his bride in a darkened room. This lasts a good while if she is shy. In South Africa the bridegroom may not see his bride till the whole of the marriage ceremonies have been performed. In Persia a husband never sees his wife till he has consummated the marriage. In South Arabia the bride and bridegroom have to sit immovable in the same position from noon till midnight, fasting in separate rooms. The bride is attended by women and the groom by men. They are not allowed to see each other till the night of the fourth day. In Egypt the groom cannot see the bride's face till she is in his absolute possession. Then comes the ceremony performed by him of uncovering her face. In Egypt this has been accentuated by the seclusion and veiling of women. In Morocco, at the feast before the marriage, the bride and groom sit together on a sort of throne. The bride's eyes are firmly closed, and she sits amid the revelry as immovable as a statue. The next day is the marriage. She is conducted after dark to her future home, accompanied by a crowd with lanterns and candles. She is led with closed eyes along the street by two relatives, each holding one of her hands. The bride's head is held in its proper position by a female relative, who walks behind her. She wears a veil, and is not allowed to open her eyes until she is set on the bridal bed with a girl friend beside her. Amongst the Zulus the bridal party proceeds to the groom's house with the bride hidden among them. They stand facing the groom, while the bride sings a song. Her companions then suddenly break away and she is discovered standing in the middle with a fringe of beads over her face. Amongst Kamauns the husband first sees his wife after the joining of hands. Amongst Bedui, of Northeast Africa, the bride is taken on the wedding eve by her girl friends to the groom's house closely

muffled up. Amongst the Jerusalem Jews the bride at the marriage ceremony stands under the canopy, her eyes closed so that she may not behold her husband's face before she reaches the bridal chamber. In Melanesia the bride is carried to her new home on someone's back wrapped in mats, with palm-fans held about her face, "because she is modest and shy." Amongst the Damaras the groom cannot see his bride for four days after marriage. When a Damara woman is asked in marriage, she covers her face for a time with a flap of head-dress made for this purpose. Among Thlinkets throughout the marriage ceremony the bride must look down and keep her head bowed. During the wedding day she hides in a corner of the house, which the groom is forbidden to enter. At a Yezede marriage the bride is covered from head to foot with a thick veil. Arrived at her new home she retires within a curtained corner of a darkened room, where she remains for three days before her husband is permitted to see her. In Corea the bride must cover her face with her long sleeves when meeting the bridegroom at the wedding. The Manchurian bride uncovers her face for the first time, when she descends from the nuptial couch. It is dangerous even to see dangerous persons. Sight is a source of contagion in primitive science. This belief coincides with psychologic aversion to seeing dangerous things, and with sexual shyness and timidity. In these customs is evident the belief that it is dangerous to the bride for her husband's eyes to be upon her. Bashfulness induces her neither to see him nor be seen by him. In these ideas originated the bridal veil and similar concealments. Abipone women often hid in the woods, "seeming to dread the assault of tigers less than the untried nuptials." When the bride is led to the groom's tent, eight girls hold a carpet in front of her. Among the Ethopia Beduoins the bride is concealed under a canopy carried by girls. At Druse marriages the bride is hidden in a long red veil, which is removed by the groom in the bridal chamber. The bridal veil is *en regle* in China, Burmah, Corea, Russia, Bulgaria, Manchuria and Persia, and must conceal the face entirely. Where a sacred um-

brella is held over the head, as amongst the Chinese, the idea is to prevent evil coming down on the sensitive part of the body.

In some Victorian tribes the young man when past the ceremonies of initiation, was introduced to the bride assigned to him to gaze at her, but was forbidden to converse with her. She was sent to her mother-in-lay, who took care of her until the marriage had taken place, but till then the young man had not access to his wife. At sunset the bride took her seat in front of her relatives and friends, being separated by a large fire from the bridegroom, seated in front of his own friends. He was then introduced by the groomsmen to the bride, who received him with downcast eyes and in perfect silence. After some feasting the pair were escorted to their future home. They were still sequestred in two rooms, sleeping on different sides of the fire and watched over by a female and male guardian, who provided them with food. After this period the bride stays with her parents for a fortnight and then goes to her husband. Amongst the Mount Sinai Arabs decency requires the bride to remain alone in her tent for a fortnight. She may leave it only at night, so as not to be seen by men. In some South African tribes the girl is put in a hut alone. After some days she is taken to another hut, and then to her husband.

In New Britain the bride stays in the hut of her intended for a few days alone, while her relatives bring her food. Meanwhile he is in one of the hiding places (known only to the men) in the forest or in the tall grass. In Fort Moresby the groom who sleeps with the bride must leave her before dawn, because it is a disgrace to be seen coming from her in daylight. The Tipperah serves the bride's father for three years, using her during this period as a wife, but must on the wedding night sleep with her surreptitiously, leave the house before dawn and absent himself for four days. Amongst the Nufoers bride and groom must not meet alone until the fifth day, and then only by night. For four days thereafter, the groom must leave his wife's chamber before dawn.

The fundamental element of mixoscopic conceptions is therefore fetichic fear of the unknown which underlies religion, art and science. Marriage rites are practically identical with love charms or coincide with precautions taken to lessen the dangers of contact between the sexes in ordinary life, and at the critical stages of puberty. In certain Australian tribes a man or woman can charm a person to love with the sacred bull-roarer. If he or she come quickly to the musician, the marriage is thereby complete. Women among the Australians are, as has already been pointed out, regarded as special attractions for spirits, certainly capricious, possibly malign. In a somewhat higher phase of culture, placation or defense against the spirits remains part of the marriage ceremony. Amongst the Mordvins, as the bridegroom's party sets out for the house of the bride, the "best man" marches thrice around the party with a drawn sword or scythe, imprecating curses upon ill-wishers. In Nizhegored the "best man" walks thrice around the party, against the sun, holding an ikon. Then he places himself in front and, scratching the ground with a knife, curses evil spirits and the evilly disposed. In Durham County, England, men with guns used to escort the bridal party to church. The guns were fired at intervals over the heads of the bride and bridesmaids. In Cleveland guns were fired over the heads of the newly married pair all the way from church. In China, when a new bride in her chair passed a certain place, evil spirits might approach and injure her; the figure a great majician (a Taoist priest) riding a tiger and brandishing a sword, was therefore carried in front of her chair. In Manchuria, when the bridal sedan-chair arrives at the bridegroom's house, the door is shut and crackers are fired to keep off "evil spirits." Two men run in front, each holding a red cloth, by which it is intended to ward off evil influences. The bride's sedan-chair is "disinfected" with incense to drive away evil spirits, and in it is put a calendar of idols who control the demons. Before the bride is taken out of the chair at the bridegroom's home, he fires three arrows at the blinds. In South Arabia the bride goes in procession

to the bridegroom's dwelling, her turban ornamented in front with a garlic bouquet for protection against the "evil eye." Amongst the Bechuamas the bridegroom throws an arrow into the hut before he enters to take the bride. The Adamanese bridegroom, when introduced to his bride, has arrows put in his hand. Amongst the Bheels and Bheelalahals the groom touches the "marriage shed" with a sword. Among the old Romans the bridegroom combed the bride's hair with a spear.

The practice of throwing rice originated in the idea of propitiating evil influences. In many cases it naturally developed therefrom into a sympathetic method of securing fertility by preventing demon possesion or change of the bridegroom's soul. The Celebes have a belief that the bridegroom's soul tends to fly away at marriage. Rice is therefore scattered over him to induce it to stay. Flour and sweetmeats were poured over the new bridegroom by the old Greeks.

Lustrations are employed to remove the mutual dangers of contact. Before the wedding the bridegroom in South Celebes bathes in holy water. The bride is fumigated. Shortly before the wedding the Abyssinian girl has a thorough ablution, and her diet is restricted. The Matabele bride, on arriving at the bridegroom's house, pours water over him. Purification by water is an integral part of Malay customs at birth, adolescence, marriage, sickness, death and every critical period. In all of these it is called "neutralizing rice-flour water; neutralizing being used in the sense of sterilizing the active element of germs or poisons, or of destroying the active potentialities of evil spirits." Lustrations are continued by the newly married pair for three days. The first wedding ceremonies consist in fumigating the bride and groom with incense and then smearing them with "neutralizing paste," which averts ill luck, Through a reverse phase of these lustrations, uncleanliness was fostered by the intense mixoscopic views the great Christian teachers took of the Roman world. Abundant material was found in abuses of bath houses which Juvenal satirized. These tended to stigmatize not only those who patronized the bath houses, but those

whose cleanliness seemed to denote the practice of bathing.* Through introduction of Oriental customs by the Crusaders, bath housos enormously increased in the 12th century. They were run by male and female panders and harlots, which is still the case to some extent in Russia. No respectable woman ever entered a public bath house. According to Christine de Pisan, "public baths and vapor baths should be avoided by honest women, except for good cause. They are expensive and no good comes from them for many obvious reasons. No woman, if she be wise and wish to keep her honor, would trust it therein." In the sixteenth century, balneary practices suddenly disappeared through the wave of asceticism which followed the Reformation. This was as noticeable among the upper as the lower classes. Honest women, according to Vermille, "took pride in claiming that they never permitted themselves certain ablutions." Among the English and the Dutch love of water was never entirely destroyed by that ecclesiastic mixoscopia, which regarded the body as vile. The influence of well-worship, which had been preserved under the church of St. Columbas, was destroyed through the ascetic ecclesiastic reaction, which in Scotland and Ireland exerted a strong influence, aided by the exigencies of persecution and guerilla warfare. Scottish contact with Holland, to some extent, offset this ecclesiastic tendency. The Irish philistinism George Moore pictured was a vile legacy of the Norman church which extirpated beautiful ideals that St. Columba inherited from the Druids and the Celtiberians. Well-worship, which still survives, was overwhelmed by the coarse fetichism of the reliquiary. Survivals of well-worship undoubtedly modified the uncleanliness of asceticism. The well represented the benificent female principle. With the rise of the Madonna cult came an assimilation of well-worship with Christianity, of which a prominent coarse example is the Grotto at Lourdes. The well decorations in connection with May-day and similar phallic ceremonies are survivals of the use of charms for removal of dangers from spirits attracted by woman at the union of the sexes.

*DuPouy: Medicine in the Middle Ages.

(*To be continued.*)

THE

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EDITORIAL.

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

FIELD SANITATION WITH THE JAPANESE.—Though the Japanese in the Manchurian campaign have quite as forcefully as the historic phalanx at Thermopolae, or as any forlorn hope of the American Revolutionary or civil wars, fully verified the old Roman maxim, *dulce et decorum est pro patrie mori,* they have also demonstrated their high appreciation of the value of the microscope and sanitation for the saving of men for active service, and proven anew the truth of the long ago uttered truism that:

> "Wise physicians, skilled our wounds to heal,
> Are more than armies to the public weal."

For while Japanese, officers and men, die cheerfully and with a cheer for the Mikado and his cause, their medical staff look well, with microscopic vision and suggestion, to

the proper sanitary precautions for their soldiers in barracks and field, with wonderful saving results in men fit for duty.

Men thus saved from sick and mortuary lists, are double contributions to the efficiency of military service; the nurses and pall bearers are not then taken from their places in the ranks. They only fight or fall as soldiers love to fight or fall, before the foe inbattle, and not in fighting that greatest and hitherto much too formidable a foe to armies afield or in camp, insidious microbic disease.

The hygiene of hospital, camp, and siege, and field forces in the armies of Japan appear to have attained the high mark of sanitation in the present war with Russia. The world has been able to learn so completely what the medical corps of the Russian army has done in this regard in the country of the Great Pirigof.

THE PSYCHOPATHIC ELEMENT IN HAZING.—The conduct of certain gangs of young men, by courtesy called classes, in our great universities, and lately of girls in a high school, has approached perilously near that of criminal lunacy. Under the leadership of a few neuropathically and psychopathically inclined unstables, violent hazing has been attempted or accomplished, which ought not to be looked upon lightly in an age when stability and equability of mental and moral power development should be the aim of education in a fair play government, strenuously aiming at the perpetuation of fair play freedom throughout its borders. It is astonishing what one mischievous and malicious psychopath can do on the wrong side of human justice and liberty with a lot of unrestrained boys, with just a sufficient number of neuropaths among them to make a boisterous and vicious following and lead the rest. A half dozen talented unstables, some of them predestined for paranoia, can work miracles of mischief in a crowd of college kids before, later in life, they reach their final destiny in the asylum for the insane.

The psychopathic element in hazing appeared a short while ago in the conduct of a high school for girls, and later in Cornell, and before in the other great universities, and in the naval and military academies.

It is astonishing how near the conduct of certain gangs of men called classes, and latterly women, under the leadership of a few neuropathically and psychopathically unstable, approaches the conduct of certain insane asylum inmates.

Education should aim to strengthen and make stable the psychic neurones during their evolution through childhood and youth to maturity of development and avert tendencies to reversion to barbaric habits and neuropathic inclinations that have become latent but not extinct, through generations of fortuitous culture in certain families and the toleration or countenance of hazing does not help the neurotically unstably inclined. The morbid inclinations and weakened inhibitions of the hazer are not benefited by large universities that tolerate this psychopathic, pernicious and brutal custom.

ASSOCIATING TRACTS AND BRAIN POWER.— In a paper recently read before the Association of American Anatomists, Dr. E. A. Spitzka emphasizes the position taken by his father, E. C. Spitzka, J. G. Kiernan, C. H. Hughes, and a number of alienists a quarter of a century ago, that "were it not for the manifold connections of the nerve cells in the cortex with each other, as well as with the periphery by means of the millions and millions of fibers which make up the white matter, such a brain would be as useless as a multitude of telephone and telegraph stations with all interconnecting wires destroyed." This is a paraphrase of the language employed by the elder Spitzka, in his "Somatic Etiology of Insanity," over a quarter of a century ago. "But," remarks E. C. Spitzka therein, "the largest hemisphere known, with the most crowded and most highly developed nerve cells, the most extensive connections with the periphery and the most perfect projection of that periphery in its intricately convoluted mass would, functionally speaking, represent nothing but a mass of pigeon-holed impressions, stored away without method or purpose, were it not for those arched fibers uniting the the different cortical centers with each other. The chief point of contrast noted on examining a transverse frontal

section through the cerebral hemisphere of a man and an ape, consists in the mass of the centrum ovale of Vieussens. It is the associating fibers that mainly mediate that complex co-ordination of the separate unit of thought and action which constitutes the anatomic basis of the highest mental functions." "It is evident," remarks E. S. Talbot, commenting (Degeneracy: Its Causes, Signs and Results,) on these views of the elder Spitzka, "that malconnection of cortical centers is at the root of various tropho-neurotic, nervous, mental, moral and other perversions, exhibited in degenerates. Deformity and deficiency of the corpus callosum in some degenerates is but an expression of general defect of associating tracts." "The corpus callosum," remarks E. A. Spitzka, in his paraphrase of the work of the elder Spitzka, "is an index which places the brain of man so far over that of the brute. When this structure is deficient it is invariably attended by profound weak-mindedness or total idiocy." This was excellently illustrated in the case cited by E. C. Spitzka from J. G. Kiernan, (Somatic Etiology of Insanity) where necropsy revealed the absence of the corpus callosum. The views of the younger Spitzka are exceedingly timely as tending to check a flood of *a priori* professoreal dicta as to the validity of the old phrenology which have been so enthusiastically received by kindred minds in discussions of the morbidity of society. "Complex cerebral functions must," as E. C. Spitzka remarked nearly three decades ago, "have a complex substratum. Nothing could be more unphilosophical for example, than to speak of intellectual cells in the cerebral cortex. Simple elements can have but simple functions; complex functions require a union of numerous simpler elements in a complex structural combination." In defiance of these long settled principles, certain sociologists accept the views of Hollander and kindred advocates of phrenology with the same avidity that they accept the Donnelly-Baconian theory of Shakespeare rejected by Baconian authorities like Spedding and all Shakespearian scholars. The phrenologic method is an easy way of theorizing which sweeps away the necessity for scientific study by sciolistic sociologists. K.

CLARIFIED WATER, and very much purified, for St. Louis, is now an assured and accomplished fact. It might have been done a quarter of a century ago in the light of chemical knowledge up to that date, but prudent and sanitarily wise people will continue to use crystal or boiled and filtered water for drinking purposes.

TUBERCULOSIS CONGRESS.—The late Congress on Tuberculosis, at its session at St. Louis, adopted resolutions calling on all civilized governments to appoint commissioners of public health, with seats in the cabinets or governing bodies of their respective countries, in order to aid in checking the spread of tuberculosis. The question of municipal sanitoria and sanitaria was discussed, and a resolution passed urging government authorities to establish and maintain institutions where tuberculous patients may be isolated and where they may receive suitable treatment.

The recent Baltimore Congress on the same subject revealed the alarming preponderance of this plague over other diseases in the death rate of Maryland.

This enlisting of public interest and concern is the beginning of the end of tuberculosis as a menace to public health.

BANQUET EMOTIONAL STRAIN, APOPLEXY AND CARDIAC PARALYSIS.—High cerebral vascular tension and the psychic emotional strain of the post-prandial speech have suddenly sealed the career of many meritorious and eminent men among us. The tragic death of Dr. I. N. Love, the recent illness which fell upon Secretary of the Navy, Paul Morton, the stroke that ended the illustrious career of Daniel Manning, of Mr. Cleveland's cabinet, are not yet forgotten illustrations of the dangers of high emotional strain after a full meal, as well as that of the historic and sudden death of the distinguished John Hunter, in the ward of his hospital while reprimanding a nurse for a delinquency.

The *Star*, of this city, looks upon the after-dinner speech as a menace, and thinks the speaking should come first and the dinner follow. There is certainly wisdom in

the suggestion. It undoubtedly would be wiser if the coffee and speaking preceded the wine, if the wine and brandy were not dispensed with altogether.

A full meal after a flow of wit would direct blood from brain to stomach for digestion purposes, and help to hasten essential rest after the over-emotional excitation of those who are wont to set the table in a roar.

A very light initial repast, if any, with coffee first, and later a full meal if desirable, would be more conservative of the brain of the spell binder banquet.

The wise, habitual speaker, would better adopt this plan of taking a light meal before "the meeting around the board" and turn down his glass 'till toward the close of "the feast of reason and the flow of soul," or never lift it.

Medical men familiar with the phraseology and pathology of the reciprocal movement of brain and mind under psychic strain might wisely observe this as a sound physiological rule in banquet speaking.

THE ATTEMPT AT PURIFYING THE CITY WATER suggests other sanitary precautions as rendering aseptic milk in restaurants, soiled linen in hotels, etc. The practice of carrying meats uncovered through our streets, and of dragging ice over our pavements is abominable. The vending of uncovered fruits and candies on street corners, and the selling of second hand clothes, bedding, etc., never disinfected is likewise a crime against the rights of innocent and often poverty imperiled purchasers.

KNEIPP CURE, GRASS CURE, OSTEOPATHY, CHRISTIAN SCIENCE AND HOPEFUL WILL POWER.—After facetious reference to Nebuchadnezzar, Bully Bottom and a young man of Brooklyn, who cured himself of dyspepsia on a diet of grass and water, and a woman, as usual "given up by the physician," who conquered consumption and "reached a ripe and beautiful age, full of good works and the joy of living" on daily meals of peanuts, the *Saturday Evening Post* concluding in a philosophic medical vein says: "the most important moral which these true stories teach is (including

the reported cases of osteopathy and Christian Science,) that the best of remedies is a determination on the part of the patient to get well," and the exalted vitality, let us add, and abandonment of depressing thought and energy, depraving habits of mind and body, which the hopeful resolution to try and get well engenders. These give the potency of curative suggestion and would help in any process of cure if timely and rightly inspired.

It requires a great preponderance of skill to counteract devitalizing hopelessness on the part of the patient who expects his doctor to carry him mentally as well as bodily through his ailment. Yet, a vitally strong medical advisor will aid the patient both mentally and physiologically to combat his malady, and save him from the fads that fail so often because their relief is not complete, lacking the added resources of enlightened science to support and promote suggestions of cure.

A hopefully suggestive resourceful medical science, as medical science is today, is far more efficient than suggestion without other than suggestive influence.

ADVERTISED MARVELOUS CURES.—In an editorial note which appeared in the *New York Medical Journal* and *Philadelphia Medical Journal*, August 27th, 1904, we observe an associated press communication, showing one of the methods by which the patent medicine manufacturers obtain their glowing testimonials:

"Remarkable testimony has been obtained by the post office department as to the ways in which testimonials are obtained by some of the big concerns engaged in this business. One large firm admitted that it had agents out seeking persons who had formerly occupied prominent positions in the community, but had suffered financial reverses and were harassed by debts they were unable to settle. The agents would obtain possession of the unpaid accounts and would then apply pressure to the unfortunate victims, demanding immediate payment in full. Finally, after long persecution, the desperate victim would be invited or commanded to call at the office of an attorney, where he would

be given to understand, that, if he would sign and swear to a testimonial, a receipt in full for the claims against him would be given. This seems incredible, but the facts are now on file in the records of the post office."

The cruelest part of the joke is that the article in the associated press communication is headed "Methods of Medical Men."—*Editorial, Canadian Journal of Medicine and Surgery.*

THE FIFTH INTERNATIONAL CONGRESS OF PSYCHOLOGY under the honorary presidency of Prof. L. Luciani, the active presidency of Prof. G. Sergi, of Rome, and the secretary generalship of Prof. A. Tamburini of Reggio-Emilia, and vice-secretary Dr. Sante De Sanctis, of Rome, will be in session at Rome from the 26th to the 30th of April, 1905.

The section on Experimental Psychology will be under the presidency of Prof. Giulio Fano, of Florence, that of Introspective Psychology under the presidency of Prof. Roberto Ardigo, of Padura; vice-presidents, Professors De Sarto, of Florence, and Dandolo, of Messina; Pathological Psychology, Prof. Enrico Morselli, of Genoa, and Criminal Pedagogic and Social Psychology will be presided over by Caesare Lombroso, of Turin.

Address communications to Dr. Sante de Sanctis, Secretary General, 92 Via Depretis, Rome.

DR. HENRY MUNSON LYMAN, DEAD.—Dr. Henry M. Lyman, for many years a professor and senior dean of Rush Medical College and one of the most prominent practitioners of the west, died in Evanston, Ill., November 21, aged 68. Dr. Lyman was born in Hilo, Hawaiian Islands, November 26, 1835, and graduated from Williams College, Massachusetts, in 1858, as valedictorian of his class. He commenced the study of medicine at Harvard University Medical School, Boston, but graduated—again as valedictorian—from the College of Physicians and Surgeons in the City of New York, in 1861. After a short term as interne in Bellevue Hospital, he entered the army and served as acting assistant

surgeon from 1862 to 1863, being on duty in the military hospitals of Nashville, Tenn. In 1863 he established himself in practice in Chicago, paying especial attention to diseases of the nervous system. From 1871 to 1876 he was professor of chemistry in Rush Medical College; from 1876 to 1877, professor of diseases of the nervous system; from 1877 to 1879, professor of physiology and of nervous diseases, and from 1889, professor and emeritus professor of the theory and practice of medicine in the same institution. He was also professor of medicine in the Northwestern University Woman's Medical School from 1880 to 1888. He was attending physician to Cook County Hospital, Chicago, from 1867 to 1876, and to the Presbyterian Hospital from 1884 until his retirement. He became consulting physician to St. Joseph's Hospital in 1890. Dr. Lyman's society affiliations included the Chicago Pathological Society, of which he was president in 1876; the Illinois State Medical Society, the American Neurological Association, of which he was president in 1892-1893; and the Association of American Physicians, of which he was president in 1891-1892. His chief contributions to the literature are his works on "Artificial Anesthesia and Anesthetics," published in 1880; "Insomnia and Other Disorders of Sleep," in 1886; a "Text-Book of Theory and Practice of Medicine," in 1892, and numerous articles in the literature.

GEORGE E. PETTY making a plea for more just judgment of morphine *habitues* in the August 27th *Medical Record* truly says: "The sudden deprivation of the drug may cause intolerable suffering, violent delirium, transient or permanent dementia or even death. In any case it causes heart weakness, often uncontrollable diarrhœa, and such a condition of misery that the patient is unable to bear his sufferings. Self-preservation is a law of nature, one of the strongest, and no man can be blamed for using whatever means he finds necessary to that end. If the public and physicians would recognize that it is unjustifiable to deprive the morphine user suddenly of his drug, that he is physically unable to stop it suddenly, the patient would be

in a better position for cure. The author cites cases that have been treated by him, of persons of good moral character, business ability and standing in the community who have for years used the drug, and have manifested no symptoms of moral degeneration or perversion. These were cases in which the habit was acquired during sickness, and in which the relatives recognized the necessity of the drug to the patient, and supplied it as needed. There was no incentive to deceit or crime, and no tendency in that direction was manifested. These patients were cured by appropriate treatment after having used the drug for years. The cure requires gradual deprivation, and the most careful handling and supportive treatment to bring the case to a successful issue. He asks consideration for these subjects of misfortune and censure as "morphine fiends."

SECURITY AGAINST SUICIDE IN HOSPITALS HAVING INSANE PATIENTS.—The recent suicide of a patient, at St. Vincent's Asylum for the insane, by means of a twisted sheet attached to the bars of her room window, suggests the reminder of the precautionary measures adopted in most state hospitals for the insane of having a strong wire netting in lieu of bars, and of having no bars or slats in transoms, but only a single narrow opening, too narrow for receiving the head. Those and other precautions against the freaks of the delirious or insane, such as knives and forks, no carving knives, no knobs on the inside of doors, always enclosed stairways and stair openings, should prevail in all hospitals where the delirious or insane are kept.

A PLEA FOR THE APPENDIX VERMIFORMIS.—That eminent surgeon, Mr. Macewen, in a recent Huxley lecture says:

"For many years I have believed that the human cecum and appendix are of value in digestion. The facts pointing in that direction have accumulated slowly, and are not all garnered; many require still to be investigated. One would have preferred to have waited until they were gone over again, re-tested, and either verified or dropped out. But

'art is so long' that I have ventured to present you with an unfinished picture, which I hope some of you will be able to correct and finish. What has been said is merely a contribution to the subject. In dealing with it in the future remember what Huxley says: 'Let us sit down before fact as a little child, be prepared to give up every pre-conceived notion, and to follow humbly wherever Nature may lead.'"

The Boston *Medical and Surgical Journal* regards it as a relief to learn that the appendix possibly has a use and that its conservation is amply justified by physiological facts.

And so "say we all of us."

Neurology has rescued the normal ovary from ruthless unwarrantable exsection. It is gratifying now to find so eminent a surgeon as Macewen coming to the rescue of our imperilled appendices, whose removal is sometimes, though not so often as was the ovary, needlessly done. The jewels in surgery's crown shine brightest in settings of conservative caution with skillful courage.

THE FAME OF FAIRCHILD'S PANCREATIS has extended to the turf and the name proved a winner at the Bennings track. Pancreatis, the pony that won, says the associated press dispatch, Nov, 28th, stands 14 hands high and weighs only 610 pounds. Jockey "Tiny" Hoffman, who piloted Pancreatis to victory, weighs 62 pounds. Pancreatis is also a good name to win with in the therapeutic race for life under many conditions confronting the clinician.

DR. R. PERCY SMITH'S PRESIDENTIAL ADDRESS before the sixty-third meeting of the British Medico-Psychological Association is a masterly resumé and analysis of systematized delusional insanity, paranoia or *Verrucktheit* and was approved by vote of thanks proposed by Blandford, seconded by Savage and commended by Rayner and the majority of the members of the distinguished psychtric association. The address makes good reading whether you hold to the English or the German view of paranoia.

The other original articles in the October number of

the *Journal of Mental Science*, viz.: Stoddart's contribution to the psychology of hallucination, Alfred Camels' histological studies on localization of cerebral function, Shuttleworth's Campbell's educational treatment of young epiliptics, and Merciers' Statistical and Stress Again, are all of special interest to readers of the ALIENIST AND NEUROLOGIST. This old standard English psychological journal, which has reached its two hundred and eleventh number, always contains matter of merit and attraction for the psychiater. It has been our guide, philosopher and friend on matters psychological from our youth up.

DR. HENRY E. ALLISON, who for fifteen years was Medical Superintendent of the Matteawan State Hospital at Fishkill-on-the-Hudson, New York, died there November 15, 1904. He was a faithful and efficient servitor of the public and an accomplished alienist.

THE FOURTH PAN-AMERICAN MEDICAL CONGRESS convened at Panama Jan. 2. Sessions were held in the afternoon; the mornings being given to excursions and sight-seeing in the Canal Zone. The Congress adjourned on the 7th of January.

ST. LOUIS MEDICAL REVIEW has passed into the hands of Kenneth W. Millican, M. D., M. R. C. S., editor, Vanol building, St. Louis, Mo. We cordially wish it continued prosperity.

SELECTIONS.

CLINICAL NEUROLOGY.

THE RESULTS OF TRAUMATISM ON MENTAL STATES, according to A. Meyer, (*American Journal of Insanity, January, 1904,*) are as follows:

1. The direct post-traumatic deliria with the following subdivisions:

(*a*) Preeminently febrile reactions.

(*b*) The delirium nervosum of Dupuytren not differing from deliria after operations, injuries, etc.

(*c*) The delirium of slow solution of coma with or without alcoholic basis.

(*d*) Forms of protracted deliria usually with numerous fabulations, etc., (with or without alcoholic or senile basis.)

2. The post-traumatic constitution.

(*a*) Types with mere facilitation of reaction to alcohol influenza, etc.

(*b*) Types with vaso-motor neurosis.

(*c*) Types with explosive diathesis.

(*d*) Types with hysteroid or epileptoid episodes with or without convulsions, such as most reflex psychoses.

(*e*) Types of paranoiac development.

3. Traumatic defect conditions.

(*a*) Primary defects allied to aphasia.

(*b*) Secondary deterioration in connection with epilepsy.

(*c*) Terminal deterioration due to progressive alterations of the primarily injured parts with or without arteriosclerosis.

4. Psychoses in which trauma is merely a contributory factor.

(*a*) Paretic dementia with or without traumatic stigmata.

(*b*) Manic depressive and other transitory psychoses, catonic deterioration and paranoiac conditions with or without traumatic stigmata.

5. Traumatic psychoses from injury not directly affecting the head.

A NEW SIGN OF BASILLAR MENINGITIS.—G. W. Squires, Avon, New York (*Medical Record,*) has found a new sign of basillar meningitis, which he says is invariably present in this disease, frequently as early as the fourth or fifth day, according to the severity of the attack. The sign is a rhythmical dilatation and contraction of the pupil, and is obtained as follows: Place the child's head between the knees of the physician face upward, with the body of the child supported on the bed, table, or lap of the nurse. Grasp the sides of the child's head with each hand and produce gradual and forcible extension of the head on the spinal column. As the head is brought back in this extension the pupils will be seen to commence to dilate simultaneously with the commencement of extension. The more extreme the extension the more the dilation. On flexion the pupils contract, so that when the chin is forcibly brought to the manubrium the pupils are well closed up. This can be done several times a minute, and each time the pupillary phenomena will be repeated. The dilated pupils, with extreme retraction of the head in the late stages of the disease, may be in some measure mechanical or hydrostatic from increased pressure by effusion on the nerve roots or centers at the base of the brain.—*The Doctor.*

RHEUMATOID ARTHRITIS AND NERVOUS DISEASE.—Rheumatoid arthritis has not generally been included in the nervous disorders, and only in one recent text book—that of Pearce—we find it thus placed. Nevertheless, the conviction seems to be growing that it is at least closely allied to certain of these diseases. Attention has been called to these points

by Spiller and Llewellyn Jones, who have pointed out apparent relationships with paralysis agitans, tetany, exophthalmic goiter and symmetric gangrene, and the latter author concludes that rheumatoid arthritis, like certain other toxemias, "tends to pass into that gloomy region of medicine consecrated to system diseases of the cord." There are many reasons for supposing that rheumatoid arthritis is even primarily associated with a neurotic pre-disposition, and that the toxemia is only an exciting factor. Such are the marked heredity in some cases, its occurrence in neurotic families (which has been frequently noticed) and the fact that it is not exclusively aroused into existence by toxic agencies, but that traumatism, exposure and nervous and debilitating influences may also be its antecedents. Still more striking in this connection are the facts that in some cases the motor paresis may locally precede the sensory and arthritic symptoms, a fact difficult to explain on the reflex theory of the rheumatic paralyses. That it depends on any special microbe seems highly improbable. Its aggravation by almost any form of active infection is against this hypothesis. While it will probably be long included among the more obscurely known disorders, its proper place, it seems possible, will be found from the balance of evidence to be among the diseases of the nervous system. A thorough pathologic study of cases in all stages of the disease as occasion offers is highly desirable.—*Journal A. M. A.*

THE PARASITE OF RABIES.—Lina Luzzani records (*Archivio per le Scienz Mediche*) the pathological findings in a case of rabies furiosa, in a child of ten years, bitten by a dog. Six weeks after the bite rabies developed, and ended fatally. The nervous system was examined by Negris. Protozoa in the pons, bulb and medulla, present; cornu ammonis, cerebellum, cerebrum, ganglion of Gasser, vagus, and superior cervical sympathetic; absent from the salivary glands and the skin of the wound. They were typical in form, but smaller in size than those found in the dog. This case corresponds with the reports of the disease in dogs; in the furious form the parasites are frequent in

the brain and ganglia; in the paralytic form they are frequent in the spinal and medulla and infrequent in the cerebrum.

STRYCHNIN IN DIABETES INSIPIDUS.—A man of 49, previously healthy, developed a typical diabetes insipidus after a severe concussion of the nervous system. Strychnin was administered—fifteen injections during twenty days—a total of .0905 gm. strchnin nitrate. The urine subsided from a daily 8,000 c.c. to 3,400 c.c. The strychnin was discontinued on account of symptoms of intoxication, but the urine continued its downward course to 2,400 and 1,700 c.c. and the patient is apparently cured. The density of the urine remained uninfluenced by the strychnin. It ranged from 1,007 to 1,002. The persistence of this figure for the specific gravity forbids the assumption of a complete cure, but the subsidence of all the symptoms certainly justifies further trials of strychnin in such cases.—*B. Leick, Dent. Med. Woch., Berlin. Jour. A. M. A.*

DR. GEORGE M. GOULD has found some cases of head disease not actually dependent on eye strain. Here is what he has lately (*Jour. A. M. A.*) said about migrainous headaches, etc., after a large clinical experience with them:

"Headaches are of an apparently amazing variety of kinds, and seemingly of causes. An examination of the literature also illustrates the same fact, each of these kinds by one or by others being called or described as migrainous. The mere index or enumeration of these kinds of headaches would fill many pages. In the first place there is a long list of headaches plainly due to organic and systemic diseases, such as tumor and traumatism of the brain, meningitis, fevers, infectious diseases, etc. These are, of course, excluded. They are few in numbers compared with the non-symptomatic and functional cases, but in many treatises they fill most, if not all, of the field of vision. Of the functional kind, one may likewise construct a huge list: The nervous, sick, periodic, hereditary, constitutional, dietary, hemicranic, menstrual, ocular, nasal, dental, con-

stipational, bilious, indigestional; those from intellectual overwork, physical exhaustion, worry, lack of food, from study, bad light, bad ventilation; from coryza, influenza, rheumatism, uterine disease, pregnancy, hysteria, anemia, diseases of the spinal cord, syphilis, and so on and so on. And, finally, there is a very large class which cannot be ascribed even to the vaguest and most far-off cause. Any one, two, or dozen of the kinds may be mixed in all proportions in any one case, and only omniscience—not possessed, at least, by young practitioners—could discern the explanation and dissolve the mystery. Lastly, the location, character and degree of the ache in, about, on and below the head, in spots, in halves, or of the whole, make confusion worse confounded.

CAUSE OF NEOPASTIC CACHEXIA.—The Canadian *Practitioner and Review* for October, editorially says:

"Quite often a small, non-ulcerating, malignant tumor produces such a marked cachexia that we are at a loss to account for it. It was assumed that the tumor cells secreted a poisonous substance which was absorbed by the system, but no one attempted to isolate this toxin. Early this year, however, Kullmann has found that the cells of cancer contain a substance which rapidly dissolves blood corpuscles. This toxin he isolated and injected into the bodies of animals, producing a prompt and active dissolution of the blood corpuscles. A similar substance has also been isolated from the cells of sarcoma.

"COMBINED PLANTAR" SIGN OF HYSTERIA.—The same author calls attention to the simultaneous abolition of the cortical plantar reflex or flexion reflex, and of the spinal plantar reflex or fascia lata reflex, which he calls the "combined plantar reflex." He regards its abolition as pathognomonic of hysteria.

RADIUM IN NERVE THERAPEUTICS.—Foveau de Courmelles describes numerous experiences to show the great sedative power possessed by radium. It soothes pain,

whether organic or cancerous, nervous or neuralgic. Some cases of facial neuralgia and one of sciatica, long rebellious to other measures, yielded to the action of the radium rays. The girdle pains in two cases of ataxia were cured, one by the radium and the other by the Röntgen rays. The subjects were not informed in regard to the nature of the treatment, so he thinks that suggestion may be excluded.

HEAVIEST BRAIN ON RECORD.—A man by the name of McNary, whose former home was in Kentucky, died in the Northern Indiana Hospital for the Insane. His relatives wired to inter the body in the hospital cemetery.

An autopsy was held, disclosing that the man had died from an affection of the heart, and that his brain, which was not diseased, was the heaviest ever found by medical men in the world's history.

The average weight is 47½ ounces, but McNary's weighs 77 ounces. The dead man was an attendant at the institution and powerful physically. He was fairly well educated. He wore an 8¼ size hat. The brain will be preserved and the discovery recorded in medical annals.

THE INFLUENZA BACILLUS.—The influenza bacillus has now been proven guilty of being a factor in producing chole-cystitis. This micro-organism has been found in an inflamed and purulent gall bladder, and in this particular case an influenzal bronchitis was considered the primary infection. Hayrovsky made the observation. Marvel, in *Jour. A. M. A.*, discusses the relationship of this same bacillus to the increase of appendicitis, which he believes has markedly increased during the past five years.—*Milwaukee Medical Journal*, August, 1904.

TRANSIENT DIABETES.—E. Mann (*Berliner klin. Woch.*, No. 30, 1904) reports a unique case in a man 45 years old with an unmistakable diagnosis of diabetes insipidus suddenly terminating in a true diabetes mellitus. The sugar in the urine, which was considerable in amount, persisted for sixteen days, after which time it disappeared entirely.

The patient, somewhat later, died of a carcinoma of the stomach, the necropsy showing an extensive involvement of of the pancreas.

LOCALIZATION OF MOTOR FUNCTIONS IN SPINE.—This was one of the subjects on the order of the day at the recent neurologic congress. Addresses were presented by Sano, of Anthwerp, Grassett, of Montpellier, and Parhon, of Bucharest. They emphasized the fact that much further study is needed on this subject, and also that the various theories proposed are all too exclusive.

MODE OF ARRESTING EPILEPTIC SEIZURE.—Crocq, of Brussels, has found that the clonic spasms can be suppressed and the consciousness restored by placing the epileptic on his left side during the tonic period. This method of arresting the seizure was first proposed by McConaghey of Edinburgh, and Crocq has found it successful in every instance in which he has applied it.

THE CRIMINAL INSANE.—After long discussion of this subject the congress adopted resolutions asking for the creation of special asylums for the particularly dangerous insane as an urgent necessity. This would include the criminally insane.

SODIUM NITRITE IN TABES.—Oberthur has cured the pains in rebellious cases of tabes by sodium nitrite given by mouth or subcutaneously.—*Paris Congress Neurology, Report in Seminac Medical and Journal A. M. A.*

NEUROTHERAPY.

INDICATIONS FOR INTERVENTION IN GASTRIC ULCER.—A. T. Stewart, Oneida, Ill. (*Ill. Med. Jour.*, October.) Gastric ulcer is an affection more common than has generally been supposed, and if we rely on the so-called

classical symptoms we will fail to render an early diagnosis of about 50 per cent of cases.

All cases of suspected gastric ulcer should first be submitted to thorough medical treatment along the lines of rest and suitable diet with the object of having the hemoglobin approximate the normal.

Should the ulceration prove intractable, or relapses occur, gastroenterotomy should be performed to secure the physiological rest necessary to the repair of the ulcer.

Perforation demands immediate operation.

Remote complications such as disabling adhesions around the pyloris.

Pyloric contraction, kinkling of the bile ducts, great dilation, serious impairment of health, generally treated as chronic indigestion, are all practically surgical cases.

In repeated small hemorrhages, or the so-called chronic hematermesis with persistent anemia surgical intervention is indicated.

OSMIC ACID INJECTIONS FOR THE RELIEF OF TRIFACIAL NEURALGIA.—J. B. Murphy, Chicago, (*Jour. A. M. A.*, Oct. 8, 1904) in his second paper reports fourteen cases and concludes:

Trifacial neuralgia, tic douloureux, is not the result of a pathologic entity which has so far been definitely determined.

The tendency after all types of operation, with the possible exception of removal of the sensory root behind the ganglion, is to recurrence of the disease.

This is probably due to the regeneration of certain nerve elements following the deep operation, and anastomosis and retention following the superficial.

Sudden shocks and irritation to the terminal filaments of the trifacial not infrequently cause an immediate and occasionally a permanent cessation of the neuralgic pain.

The mortality from the superficial exsections is practically nil; the mortality from the intracranial operations is great. The hazard is greater than should be taken in a disease which does not in itself jeopardize life.

Injections of osmic acid in 1 to 2 per cent solution into the nerve trunks relieve the pain immediately, and in a large percentage of cases for a long period of time.

The injections into the superficial tissue for peripheral neuralgia should be abandoned, as the nerve trunks are easily located, and there is no danger of superficial necrosis following such operation.

It should never be injected into a motor nerve or a motor nerve area, and, therefore, never into the spinal nerves except in amputation stumps.

It produces a local necrosis of the tissue into which it is injected and even of the wall of the foramen. This necrosis does not suppurate unless the area is exposed to mouth infection. In that case the suppuration often continues for weeks, draining into the mouth, giving no special inconvenience, and in no way interfering with the final result.

The best results are obtained with a 1½ to 2 per cent solution; this should be injected in many places in the nerve trunk and also into the foramen.

All of the nerve branches should be injected—the palatine, lingual, mandibular, superior maxillary (infraorbital), and supraorbital. They can all be exposed through mouth incisions, except the supraorbital. Many times there are three or four divisions of the supraorbital and they should be searched for carefully and each injected. Occasionally it is necessary to inject the auricular branch. The posterior palatine is not so difficult to inject as one would at first imagine.

The foramina can and may be injected without anaesthesia or incision. The procedure is quite painful, however, and is not certain in its results.

The injections can be made with local or general anaesthesia. Murphy prefers the general.

The injection is free from danger.

Judging theoretically from the experience with incisions, resections and ganglion operations, the relief should not be permanent after the injection of the osmic acid. From clinical experience up to date, however, and particularly from

Bennett's showing, the fact is that many cases are permanently cured. Time alone must determine the final result of this treatment. Its ease of application, its nil mortality, and its immediate results forcefully commend its use.

In the discussion which followed, C. K. Mills, of Philadelphia, endorsed gasserian extirpation. Wier, of New York, said the osmic acid treatment had failed in his hands, years ago. Frazier and Spiller discussed questions of pathology.

A. M.

FOR NEURALGIA.—Dr. Bastie (*Revue francaise de med. et de chir.*, 7, 1904,) reports excellent results from a pill composed of extract of valerian, 3; hyoscyamine, 0.045, or extract of hyoscyamus, 0.75 and morphine, 0.15. This is given at 9 or 10 o'clock in the evening and repeated a half hour later. Another pill is given the following morning at 5 and one at 8. These are sufficient to relieve the pain completely. If there is a recurrence a pill should be given morning and evening for eight days. Between the attacks fifteen grains of quinine are administered twice a day. All uncomplicated neuralgias are said to yield to this treatment. Coca leaf. Stiff doses of quinine. Ten grains ter die would do better and the malarial forms would recover without the anodyne.

THE TREATMENT OF TRIGEMINAL NEURALGIA.—(Dr. Anschutz, *Munch. Med. Wochenschrift*, No. 39, 1904,) suggests the use of injections, after internal medication has been found ineffective, of 1 ccm of 1 per cent solution of osmic acid into the canal of the nerve. In nine simple cases the attacks disappeared for from a few months to two years. Other substances, *e. g.*, absolute alcohol and formaline also were used with similar results.

THE ANTAGONISM OF STRYCHNINE AND ALCOHOL.—French asserts his confidence in this antagonism in *Merck's Archives* for July, 1904. He believes the most important of the drugs employed for chronic alcoholism is strychnine. Its well known properties point the way to its use in this disease. It is the most powerful nerve tonic

known to the medical profession. It acts upon the entire nervous system, but with a special tendency to the spinal nerves and the cardiac, respiratory and vasomotor centers. It not only renders the mind more clear and active, but even seems to strengthen the will power. It increases intestinal peristalsis, and aids elimination. Briefly stated, its basic action is almost exactly antagonistic to that of alcohol. It is a tonic and true stimulant, as opposed to an anesthetic and a paralyzant.

The system of the inebriate is relaxed in every part, paralyzed in a greater or less degree, unable to carry on its functions properly. Mentally and physically the drunkard is dull, nerveless, incapable. The essence of his condition is that he has lost the power to control himself. He lacks the vigor and endurance that once were his. His mind is dulled, and his moral sense is weakened.

It is in such a condition as this that strychnine has its proper field of action. By its use the tissues are revivified. As a part of its effect, every nerve and muscle is keyed to its highest pitch. The mind acts more clearly, and the man is raised out of his soddenness and indifference. The world takes on fresh colors, and life assumes a new interest. The feeling of oppression and inability gives way to one of lightness and elasticity. The terrible craving for alcohol, the dull, horrible gnawing of the stomach, that fearful, all-gone sensation, which in the drunkard's previous experience was only to be relieved by more alcohol, now begins to grow less and soon disappears entirely, while in its place there comes a sense of well-being, of elevation, of ability, of the power to accomplish, which is so unlike that false sense of confidence which comes with the first glass of an intoxicant, and so far superior to it, that the man no longer seeks to drown his grief in alcohol. His appetite for this is gone and he no longer seeks or desires that for which but yesterday he would have periled body and soul. All these effects have been brought about by the action of strychnine in antagonizing those of alchohol.

These convictions were formed as the result of several years of special experience in the sanitarium treatment of

alcoholism, and have but been deepened by the observations of similar effects in private practice during the years that have followed.

A specially illustrative case follows, the patient having remained sober for ten years after complete withdrawal of alcohol and the substitution of strychnine in full therapeutic doses.

INTERRUPTED CIRCULATION AS A THERAPEUTIC AGENT.—(Ewart, W., *Lancet*, vol. clxvii, No. 7 of vol. ii., p. 442, Aug. 13, 1904.) This is an ancient method, first described by Peré, and repeatedly rediscovered in the last 200 years. The central idea is compression of the veins and necessarily of the lymphatics, in this way increasing the local nutrition. This method was applied by Cushing in the treatment of Raynaud's disease, there being marked improvement in the local condition. He first produced an emptying of the part and then relieved the pressure, the capillaries being congested by the sudden influx of blood.

The technique of the method is simple. A padded armlet of soft leather, or failing this a circular pad of lint and cotton-wool, of sufficient thickness to protect the nerves is placed around the upper arm or thigh. India rubber tubing of suitable thickness is placed over the pad, and the two ends of the loop are put upon the stretch with one hand. The other hand grasps the tubes close to the front of the limb, thus tightening the loop into a strong ligature. The degree of arterial occlusion depends on the strength with which the two ends of the loop are pulled upon. Previous to this the limb has been drained of its venous blood by elevating and stroking. The effect of the compression is to cause cutaneous blanching and numbness of the extremity. Usually a minute or two of this is sufficient. The tube is then loosened, and there at once follows a bright cutaneous flush of capillary injection and a pleasant feeling of warmth. The maneuver is repeated at intervals for five or six times. Two or more such sittings may be used daily. The method is so simple that it can be entrusted to a nurse. It has been used in the treatment of rheumatoid arthritis and other

joint conditions. These cases of synovial effusion have been benefited in larger degree than those with periarticular fibrosis. In the treatment of joint stiffness there is definite help in the numbness which accompanies the stage of ischemia, which allows with prudence an increased amount of passive motion to be applied.—*Abstract in Medicine.*

CLINICAL PSYCHIATRY.

DEMENTIA PRECOX.—While the term dementia precox was first used by Pick in 1891, to designate a group of cases of the juvenile insanities characterized by progressive mental deterioration, Kraepelin's name is chiefly associated with the modern clinical acceptance of the term. Dementia precox stands in some danger of losing its philologic significance through frequent reports of cases in adult life, and even in extreme old age. There are few physicians in or outside of asylum practice to-day who do not see frequent illustrations of the more or less classic types of Kraepelin's description. Indeed, about a fifth of all the insane admitted to asylum care are of dementia precox, hence the importance of knowing the nature and cause of this deteriorating mental disorder. Nor is science unaware of the pressing importance or the solution of this problem. Nearly every psychiatric journal contains researches into the etiopathology of dementia precox. Notwithstanding that the clinical foundation of dementia precox appears firmly established, there are a few who deny that Kraepelin's clinical description of this psychosis signifies any real advance in our knowledge of psychiatry. The great value of Kraepelin's work along this line, however, is shown by the rapid adoption of dementia precox as a clinical entity in asylum practice here and abroad. It stands the proof of clinical needs. Sachs* very properly raises the question whether all the insanities of the juvenile period are to be classed with dementia precox. He presents cases which he believes are non-dementing psychoses occurring in

* Proceedings Amer. Neurolog. Assn., September, 1904; Proceedings N. Y. Neurolog. Soc., October, 1904.

this period. In rare instances simple melancholias may begin at this period, and, of course, in such dementia does not appreciably enter. It is true Kraepelin maintains that the great majority of the juvenile insane deteriorate, but he expressly states that a small per cent. do not; they may not require asylum care, but may remain at home and finally be able to take up their life work in their chosen narrow field.

To detect the presence or absence of slight grades of mental deterioration in any given case is often difficult under ideal conditions; thus in asylum records, which are based on the severer grades of dementia precox and in which a certain uniformty of deterioration ought to be recorded, the degree of deterioration varies somewhat with the personal equation of the different staff physicians who make the notes. One needs to live in more or less constant contact with the insane to properly appreciate many of the difficulties of the problem. Certainly the routine office consultation of private practice is often a very inaccurate method in deciding these delicate points. The statistics of asylums Sachs believes to be insufficient to determine the dementing or non-dementing character of these psychoses, as only the worst mental cases go there; consequently, the invariable mental deterioration noted in cases sent there is vitiated. Unfortunately the inclusion of outside data often must be misleading and inaccurate. If some mental deterioration is invariably present in dementia precox, then Sachs believes his cases are exceptional and form a new type in the adolescent insanities. The subdivision of dementia precox as made by Kraepelin is only tentative; many atypical cases are certain of occurrence the more intently the types are studied. Kraepelin was the first to recognize this himself. A desire for simplicity in classification of the juvenile insanities, however, will demand much proof of those who attempt to establish new types of the adolescent period.

One of the strongest arguments for the dementing character of this psychosis must be based on the fact that it almost invariably develops in a soil of family and per-

sonal degeneracy. We would expect that the deterioration would be accompanied by a degenerative lesion either in the cortical neuron or its association processes. Researches are slowly accumulating which seem to support this view. There are but few who still believe in an autointoxication pathology for dementia precox, the origin of which must have been largely fanciful.

There are reasons to believe that the early death of imperfectly developed association tracts in the cerebral cortex may explain much in the pathology of this condition. We would urge a reapplication of Gower's abiotrophy hypothesis for the early deterioration of certain brain tracts in dementia precox. It is at present the best explanation at hand for the early death of nerve systems in juvenile cord diseases, as shown in hereditary ataxia for example.—*Jour. A. M. A.*

NEUROPHYSIOLOGY.

THE APPETITE.—Meisl (*Weiner Klinische Raud*) claims for the food appetite a strong metabolic factor, inasmuch as its impulses from the cortex play such an important role in the excitation of so many sensory centers, controlling in a great measure the secretion of the digestive juices, and the further utilization of food.

The appetite alone produces a flow of salivary secretion and a gastric secretion. Without this "appetite gastric juice" the digestion of milk, meat and bread stuffs becomes appreciably a slower and weaker process. The enjoyment of food becomes, therefore, a physiologic prerequisite.

Meisl further asserts that the inhibitions to the pancreas are arrested by appetite, and that the secretion is actually increased. The removal of inhibiting influences is very important and comes into full play at the instance of the splendid mood—the feeling of well-being, as it has been described, which follows a good meal—physiologically enjoyed.

Appetite is the highest mental evolution of the in-

stincts, and is for the preservation of the individual, what sexual love is for the preservation of the race.—*Excerpt by A. S. Bley, in St. Louis Cour. Med.*

THE INFLUENCE OF CASTRATION ON THE QUANTITY OF PHOSPHORUS IN THE SYSTEM.—Heymann (Archir. f. Gynaek., Vol. LXXIII, p. 366), comes to the conclusion that not only is there no increase of body phosphorus when animals are subjected to castration, but on the contrary a decided decrease. This decrease is marked as well in the phosphates of the soft parts as in those of the skeleton. The quantity of lecithin is not influenced by castration.—*Excerpt by F. J. T., in St. Louis Medical Review.*

NEUROSURGERY.

BONE TISSUES WITHIN THE BRAIN SUBSTANCE.—The Inclusion Theory of Tumor Formation.—D. J. McCarthy, (*Univ. Penn. Med. Bul.*) notes the presence of true osseous tissue with all the histological structure of bone within the brain as being of great rarity. He experimented on the lower animals to show the effect of constant cortical irritation. Pieces of serrated copper wire were sterilized and inserted beneath the dura of growing cats. In one kitten, a month old, the wire penetrated the brain near the supra longitudinal fissure, one centimeter behind the motor area. The animal died four months later after repeated convulsions. The brain was hardened and a section made through it involving the part penetrated. He found a hard mass the size of a small bean here of recent formation. There was no calcification in the central areas of the tumor, but calcification was beginning in the peripheral areas. The growth was very vascular. There were capillary hemorrhages, round cell infiltration, and rarefaction of surrounding brain tissue in the wound. McCarthy thinks that either a bit of dura or periosteum or possibly of bone from the needle opening, were carried down into the brain with the wire and, as brain tissue so early in

life is very vascular and active, they continued to develop further formation of bone and that this shows true transposition of bone.

NEUROLOGY AND ORTHOPEDICS.—O'Vulpius (*Munchener medicinische Wochenschrift, Neurologie und Orthopädie*), calls attention to the borderland between neurology and orthopedics as the most interesting and promising of all that come to the orthopedist. The results being surprising to him. "The prospects are better the more circumscribed the paralysis and the greater the functional capacity of the muscles supplying the power, but success is obtained even when an antagonist muscle is utilized." For poliomyelitis and its consequences, he asserts that there are very few cases in which it is not possible to essentially improve or cure the patient by carefully individualized orthopedic treatment. Orthopedic appliances or orthopedic surgery can also afford valuable results in transverse myelitis, and the former will be found useful in tabes, not only for the spine, but for the knee and ankle. Splints check the use of the limb somewhat, and relieve the weight while counteracting the destructive process in the cartilages of the joint. An actual curative action can be ascribed to them in tabes and syringomyelia unattainable by any other means.

NEUROPATHOLOGY.

CURIOUS PATHOLOGICAL EFFECT OF RADIUM ON EGGS.—"Chicks," says a writer in the *Revue Scientifique*, "that have been subjected to radioactive influence all present malformations that appear to be specific. From 80 eggs inoculated successively during a period of 24 to 70 hours under the influence of a preparation of about 35 per cent. chloride of radium, placed in a glass tube on the egg shell, so that the embryo would be influenced by the radiations, M. Jan Tur obtained the same number of deformed embryos, all presenting the same teratological characteristics.

The action takes effect especially on the central parts, the surrounding portions of the blastoderms remaining untouched. The absolute absence of the protovertebræ [embryonic skeleton] is notable in a certain number of embryos; all the others (90 per cent.) furnished them in process of formation. Besides this there seemed to be a special vascular formation in the center of the embryo and other phenomena showing a peculiar localization of the injurious radioactive effects. Thus a peculiar type of deformity results in the fowl. The fact that the uninjured parts of the embryo developed separately leads the author to believe that the inner and outer parts of the embryo possess what he calls 'evolutive autonomy.' "—*Translation, Literary Digest.*

REVIEWS, BOOK NOTICES, REPRINTS, ETC.

ADOLESCENCE: ITS PSYCHOLOGY AND ITS RELATIONS TO PHYSIOLOGY, ANTHROPOLOGY, SOCIOLOGY, SEX, CRIME, RELIGION AND EDUCATION. By G. Stanley Hall, Ph. D., LL. D., President of Clark University, New York. D. Appleton & Co., 1904.

The aim of the present work and the style of its author may be grasped from the following statements of its purposes in the preface: "That, recognizing fully all that has hitherto been done in this direction, the genetic ideas of the soul which pervade this work are now in both matter and method, and that if true they mark an extension of evolution into the psychic field of the utmost importance, is the conviction of the author. Although most of even his ablest philosophical contemporaries, both American and European, must regard all such conceptions much as Agassiz did Darwinism, he believes that they open up the only possible line of advance for psychic studies, if they are ever to escape from their dishonorable captivity to epistemology, which has today all the aridity, unprogressiveness and barrenness of Greek sophism and medieval scholasticism, without standing, as did these, in vital relations to the problems of their age.

"Idealism, metaphysics and religion spring from basal needs of the human soul, and are indispensible in some form to every sound and comprehensive view of it, as well as necessary to a complete science. But these are now volatilized for both theory and practice by the present lust for theories of the nature of knowledge, which have become a veritable and multiform psychosis. To a psychology broad enough to include all the philosophic disciplines, this

extravasation of thought, especially in a practical land like ours, presents a challenging problem. In academic isolation from the throbbing life of the great world, with but faint interest in the acquaintance with nature, afield or even in the laboratory, in habitual communion with the second-hand sources of knowledge found in books, in the solitude of study, the sedentary and mentally pampered thinker has lost reality and devotes himself to a passionate quest of it as if it were a Golden Fleece or a Holy Grail to be rediscovered or a sacred sepulchre to be won from the paynim scientists. With little experience in willing and far less with the floods of feeling that have invigorated the life of the man in the past, the 'experience' of the adult consciousness he so persistently analyses is at best but a provincial oracle of the soul, which is incalculably older, vaster or more organized than it. These searchers still think in a pre-evolutionary age, and, if they do not have recourse to pure apriorism or creationism, are peculiarly prone to lapse to some savage type of thought like spiritism, telepathy or transmundane irruption, and their interest in the soul is both impelled and guided by the imperious question of the survival after death, which is not and, probably, never can be, a problem of science. It is they who give us a bankrupt psychology without a soul. Beginning with Berkeley's ephebic dreamery about the existence of the external world and Hume's satirical and not very sincere corollary of negation of the self, which Kant took in grim German earnest, they re-edit the latter with countless variants to find new patent ways out of an agnosticism that belongs, if anywhere, more to senescence than to adolescence. Just as infancy and senility have a certain correspondence, as does each stage of individual evolution and devolution, and as youth needs to anticipate the problems of old age and even of death, so the young need to feel by anticipation the great problems of reality, but not so seriously as to endanger losing their souls and the world, which is so much easier to teach them how to find them again. Just as it is only a crippled belief in God that rests on theological arguments for his being, so at the

age when the whole heart of youth goes out to reality, it is only these made prematurely old by the pedagogy of doubt that need the cheap, artificial confirmation of epistemology in order to face life with resolution and enthusiasm. The studies of the mind need new contact with life at as many points as possible. The psychic activities of childhood and youth and of the common average man, often the horror of previous philosophy and the actually as distinct from the theoretically practical, are worthy of all scientific honor."

There is one striking element of error in the school of experimental psychologists: the tendency to the use of unanalysed statistics and the absence of attempts at control experiments, such as are furnished through the denudations of insanity. While the influence of this element is not as great as usual, here, still, is present and largely due to the use of "authorities" like the one quoted on page 303, whose chief contribution to the physiology of adolescence is the very dubious testimony in court, on page 165 of the *Alienist and Neurologist*, 1895. The individual in question does not have the standing ascribed to him by Dr. Hall, among scientists. There are many similar eulogisms of obscure individuals. On the other hand neither American authors on the psychoses of adolescence and puberty prior to 1884 are quoted, nor is there reference work of American biologists like the discussion of the sexual appetite and hunger in Science, 1881. The work, despite demonstrably great merits, has not unnaturally led to well deserved criticism, since Dr. Hall's "authorities" seem the center of a New England medical Brahmins set and adherents of a New York political machine which contains among its members some medical sycophants of Tweed. The evolution of Dr. Hall is of the coarse early Darwinistic type, not the later logical neo-LaMarckism which deals with the subject from the embryogenic standpoint. The book is not up to the usual standard of the publishers. K.

MENTAL DEFECTIVES: THEIR HISTORY, TREATMENT AND TRAINING. By Martin W. Barr, M. D., Chief Physi-

cian, Pennsylvania Training School for Feeble-Minded Children, Elwyn, Pa.

This valuable book gives the result of an experience of almost twenty years in carrying forward principles of treatment and of training, tested, proven and defined — this book addresses itself primarily to anxious parents and to earnest teachers, as well as to the scientist. The author's statistics are accurate and statements trustworthy. He emphasizes the utter hopelessness of cure, and also the needless waste of energy in attempting to teach an idiot, and seeks to make clear the possibilities that may be attained in the training of the imbeciie, the urgent need of preventing the backward child from degenerating into imbecility, and of safeguarding the absolutely irresponsible *ammoral* imbecile from crime and its penalty.

The book has 152 illustrations, octavo, and sells at $4.00 net, in cloth. The well-known house of P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia, are the publishers. It is the best book of our day on the subject on which it treats.

TEXT-BOOK OF INSANITY BASED ON CLINICAL OBSERVATIONS, for Practitioners and Students of Medicine. By Dr. R. von Krafft-Ebing, late Professor of Psychiatry and Nervous Diseases in the University of Vienna, authorized translation from the latest German Edition by Charles Gilbert Chaddock, M. D., Professor of Diseases of the Nervous System in the Marion-Sims-Beaumont College of Medicine, St. Louis, Mo. Published by the F. A. Davis Company, Philadelphia.

In view of the author's opening declaration that "Clinical psychiatry is an imperical science forming a part of nervous pathology," and the assertion that the work is "based on clinical observation," there would be small chance for adverse criticism, since innovations, did they exist, could be reconciled by the author's vast experience, close observation and personal pathological investigations; however, we predict little will be found to condemn or criticise and much to commend in this elaborate addition to

psychiatric science, the name of its author being a sufficient guarantee of its general accuracy.

The work is appropriately divided into three "books"; the first being given to an introduction to the study of psychiatry, where is found valuable general observations upon mental diseases, as well as a historic review of the development of psychiatry as a science, etc.

In this subdivision, we find the author's definition of mental diseases as "diffuse diseases of the cerebral cortex," in support of which he reasons that, "psychic disease proves the existence of a disease of the cerebral cortex; and, since circumscribed cortical disease (focal lesions) can occasion only symptoms of defect referable to the diseased portion of the cortex, the psychic abnormality can only be conditioned by a diffuse change in the cerebral cortex."

In the second "book," general pathology and therapy, and in the third, special pathology and therapy, of Insanity, is considered.

Thirty-one pages is devoted to the causes of insanity and forty, to its prophylaxis and treatment.

Referring to the importance of the study of psychiatry, the author has to say that, "Inasmuch as it undertakes the investigation of the etiology of insanity, one among the worst of social evils, it forms an interesting part of hygiene, the problem of which is the prevention of disease." "Here it touches the domain of pedagogics, since not infrequently mental disease is the result of a faulty education which did not take into consideration the peculiarities of constitution and temperment. Should the science of pedagogy make a deeper study of man in his normal and pathologic relations, many of the faults and difficulties of education would disappear; and the choice of many inappropriate occupations would be obviated, and many minds saved.

Suggestions are given for the rearing and education of the child from infancy to maturity, the development of its morals and character, choice of occupation, etc.,—all most excellent advice, but difficult to have carried out in practice.

Practical advice is also given for the treatment of im-

pending insanity, which, as the author states, "Seldom comes like a thunderbolt out of a clear sky. For the most part, it develops slowly in the course of months or years;" however, even when early recognized by the physician, it is often difficult to convince the patient or friends of the impending calamity until too late to avert disaster.

The work is practical, comprehensive and readable (for the latter, obligations are due the translator and publisher,) and is a valuable contribution to psychiatric literature.

D. S. B.

THE COLORADO CITY OF SUNSHINE. The Annual Report of the Department of Public Health of the City of Colorado Springs for 1904, showing an estimated population of 30,000 and a total death rate of 14.90 per thousand, is before us. Peter Oliver Hanford, M. D., is the health commissioner. It shows a death rate of 5.60 from tuberculosis. A pretty good showing, considering the number of tuberculous who go there in the hopeless stages of that malady.

A TREATISE ON DISEASES OF THE NERVOUS SYSTEM. By L. Harrison Mettler, A. M., M. D., Associate Professor of Neurology, College of Medicine of the University of Illinois; etc., Chicago. Cleveland Press, Chicago, publishers.

The author makes a new departure in classifying the diseases of the nervous system upon a pathological rather than upon mere anatomical, topographical bases, which appears a desirable innovation. Although the work generally is well-balanced, some of the more common forms of partial aphasia have not been mentioned, notably, apraxia.

The chapter on vertigo is especially good; his treatment of "The Traumatic Neuroses" is impartial and largely given to a resume of the history and literature of the subject, while spinal concussion is disposed with in a short paragraph, in which he says, "The term is misleading and had better be dropped."

The work is a "safe and sane" exposition of Neuro-

logical progress, the author accepting with apparent deliberation such as has the stamp of authority while discussing briefly prominent theories.

Under primary neuronic degeneration is a definition of "Abiatrophy," coined by Sir Wm. R. Gowers in 1902.

The book is enhanced by profuse and appropriate illustrations.

Although this is a comprehensive treatise upon diseases of the nervous system, the descriptions are clear without prolixity, and concise without abridgment, making it an ideal work for the practitioner and student, as well as for ready reference. D. S. B.

THE SEXUAL LIFE. By C. W. Malchow, M. D., Professor of Proctology and Associate in Clinical Medicine, Hamline University College of Physicians and Surgeons, etc., Minneapolis, Minn.

This is a treatise on sexual matters "designed for advanced students and the professions," containing much valuable information on a subject, a knowledge of which the laity in general is grossly ignorant, though they are apt to be mislead by the author's treatment of the subject of sexual hygiene.

The author says of the sexual embrace, that "each person should be governed by their own appetite or want, and guided by their conditions in this, as in other habits" —apparently a *reductio ad absurdum* since the pernicious effects of an uncurbed appetite in sexual matters, eating, drinking or the use of tobacco is practically universally conceded.

It is doubtful if general clinical observation will confirm the author's conviction of the harmlessness of permitting the sexual appetite to govern the frequency of coition.

The work is published by the Burton Co. of Minneapolis, Minn. D. S. B.

The Physician's Pocket Account Book, by Dr. J. J. Taylor. This is a neat, compact, easily kept and strictly legal book, carried in the pocket, always with you, show-

ing each person's account at a glance. All entries are made but once, on the day when the services are rendered, in plain legal language, and require no posting or further attention. Published by the author, 4105 Walnut street, Philadelphia.

Blakiston's Physician's Visiting List for 1905. This is the fifty-fourth year of its publication; and we are glad to say that, notwithstanding the competition it has had during the last few years, its sale still continues and it is, we believe, the most popular physician's diary now in use. P. Blakiston's Son & Co., Philadelphia.

The Climate and Waters of Hot Springs, Virginia. By Guy Hinsdale, A. M., M. D., Hot Springs, Va., Fellow of the College of Physicians of Philadelphia and of the American Academy of Medicine; Member of the American Neurological Association; Corresponding Fellow of the British Balneological and Climatological Society.

The Importance of Careful General Preparation of the Patient for Surgical Operation. By Augustin H. Goelet, M. D., Professor of Gynecology, New York School of Clinical Medicine; Gynecological Surgeon to the Metropolitan Hospital for Women and Children, New York, etc.

The Presidential Address on Paranoia, delivered at the Sixty-third annual meeting of the Medico-Psychological Association, held in London on July 21st and 22nd, 1904. By R. Percy Smith, M. D., F. R. C. P.

A Large Fibro-Sarcoma Treated by Roentgen Radiation. By Clarence Edward Skinner, M. D., LL. D., Physician in charge of the Newhope Private Sanitarium, New Haven, Conn., etc.

The Treatment of Arthritis Deformans. Read at the Fifty-fifth Annual Session of the American Medical Association, in the section on Practice of Medicine, and approved

for publication by the Executive Committee: Drs. J. M. Anders, Frank Jones and W. S. Thayer. By Clarence Edward Skinner, M. D., LL. D., Physician in charge of the Newhope Private Sanitarium, New Haven, Conn.

Does Absence of External Injury Legally Demonstrate Fright or Mental Etiology? By James G. Kiernan, M. D., Chicago.

A Case of Supposed Primary Tuberculosis of the Pharyngeal Tonsil. By Donald M. Barstow, M. D., New York.

The Making of an Educated Farmer. Published by the University of Missouri, Columbia, Mo.

Neurasthenia, Alcoholism, Insanity. By William Lee Howard, M. D., Baltimore, Md.

University of Missouri at the Louisiana Purchase Exposition, St. Louis, Mo., 1904.

Paretic Dementia and Depressing Delusions. By James G. Kiernan, M. D., Chicago.

Dipsomania and Its Treatment. By William Lee Howard, M. D., Baltimore, Md.

Mental Abnormalities. By J. T. Searcy, M. D., Tuscaloosa, Ala.

THE
ALIENIST AND NEUROLOGIST.

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STATUS OF INSANE HOMICIDES UNDER ILLINOIS LAW.

AS ILLUSTRATED IN JUDGE WINDES' CHARGE IN THE HASTINGS CASE.

BY JAS. G. KIERNAN, M. D.,

CHICAGO.

Fellow Chicago Academy of Medicine; Honorary Member Chicago Neurological Society; Honorary President Section of Nervous and Mental Diseases, Pan-American Medical Congress, 1893; Foreign Associate Member French Medico-Psychological Association; Professor Medical Jurisprudence, Dearborn Medical College.

WHAT is called the legal status of insanity, is but too often *a priori dicta* of dogmatic judges, the product of illegal legislation from the judicial bench. Under English common law, that the rights of the individual are the central starting point, is evident from the legal presumption of innocence under which any logical hypothesis of innocence in the case of an accused is made the duty of a jury. This presumption results from the rights of the individual to, as Jefferson puts it, life, liberty and pursuit of

happiness. This right has always been supported by English constitutional statesmen against invasion by judge, monarch, police, military and corporation, who have attempted to distort common law into the Procustean bed of state tyranny. Precedents from Scotland and Ireland are of no value in other English-speaking countries. In Ireland, oppressive statutes from the time of Wentworth, the bitter enemy of freedom and the common law, have destroyed English common law and its prototype, the Irish common or Brehon law. In Scotland, Roman law is seen in more dangerous tyrannic features than the majority jury or the verdict of not proven. Judicial torture, always illegal in England, was legal in Scotland until the nineteenth century. Illinois, despite legislative and judicial attempts to the contrary, has remained a state where common-law principles strongly obtain. Although it has been stated by the President of the United States that the common law is not part of Federal law, yet Amendment VII. of the Constitution declares that: No fact tried by a jury shall be otherwise reexamined in any court of the United States than according to the common law. Furthermore: Powers, not delegated to the United States, nor prohibited to the states, are reserved to the states respectively or to the people. Power to legislate is emphatically denied any judge by the constitution. English-speaking judges, particularly those free from direct responsibility to the people, have always shown illegal tendencies to usurp legislative powers. They early, as Green* points out, have read into the common law royal supremacy to a degree hardly realized by the average citizen. For such usurpations the Star Chamber, with its illegal employment of torture for the benefit of monopolies, and allied courts were abolished in the reign of Charles I. The English constitutional party rose in 1640 to the slogan that the judges had overthrown law by the Ship-Money decision in favor of Charles I. Jeffreys, in his usurpations, merely followed precedents set by the judges of James I. and Charles I. Federal court usurpation, for this reason, was feared and fought by Jefferson, Jackson and Lincoln.

* History of the English People.

So great had been judicial abuses when Lincoln and Hamlin were nominated in 1860 that the fifth article of the platform upon which they ran denounced "the attempted enforcement of unqualified property rights through the intervention of the Federal courts on behalf of the extreme pretensions of a purely local interest." Federal courts more than any others, are responsible for the clearly illegal claim that motive has no bearing or significance in charges of alleged violation of law. Judge Cox charged in the Guiteau case that if the jury were unable to discover any motive at all, Guiteau's act was simply murder and it was their duty to find Guiteau guilty. The Federal courts are not the only usurpers of legislative powers, since for legislative usurpation through the great writ of injunction by which the Jim Fisk-Jay Gould combination seized the Erie Railroad, three judges were impeached and driven from the New York bench.

"As the ancient theory of diabolism gradually passed away," remarks Judge Doe in a world-famous decision,* "insanity was still attributed to special providences and not to the operation of the general laws of health. The sufferers were treated for wickedness rather than sickness. Among men of science, the investigation of the subject is now disencumbered of all theological complications. But this is a modern emancipation not yet realized by the mass of even the most enlightened communities. Very few persons have an adequate conception of the fact that insanity is a disease. The common notion of it is of something not merely marvellous, but also peculiarly, vaguely and indescribably connected with a higher or lower world. The insane are generally considered as more than sick; and if they are not spoken of as possessed, their condition, to the popular apprehension, is still enveloped in a supernatural shadow. The Lord Chancellor of England declared, in the House of Lords, March 11, 1862, that: 'the introduction of medical opinions and medical theories into this subject has proceeded upon the vicious principle of considering insanity as a disease.' This remark indicates how slowly legal

* State vs. Pike.

superstitions are worn out, and how dogmatically the highest legal authorities of this age maintain, at law, tests of insanity, which are medical theories differing from those rejected by the same authorities, only in being obsolete.

"It was, for a long time, supposed that men, however insane, if they knew an act to be wrong, could refrain from doing it. But whether that supposition is correct or not is a pure question of fact. The supposition is a supposition of fact; in other words, a medical supposition, in other words, a medical theory. Whether it originated in the medical or any other profession, or in the general notions of mankind, is immaterial. It is as medical in its nature as the opposite theory. The knowledge in all its forms and the delusion test are medical theories, introduced in immature stages of science and in the dim light of earlier times, and subsequently, upon more extensive observations and more critical examinations, repudiated by the medical profession. But legal tribunals have claimed these tests as immutable principles of law, and have fancied that they were abundantly vindicated by a sweeping denunciation of medical theories, unconscious that this aggressive defence was an irresistible assault upon their own position.

"When the authorities of the common law began to deal with insanity they adopted the prevailing medical theories. The distinction between the duty of the court to decide questions of law, and the duty of the jury to decide questions of fact, was not appreciated and observed as it now is. In criminal cases, the jury might decide the law as well as the fact. In civil and criminal cases, the court gave the jury their opinion of the facts, as well as the law, and the difference between a question of fact and a question of law was generally of little or no practical importance. When new trials had not come into use, when prisoners were not allowed the assistance of counsel in relations to matters of fact, and juries were punished at the discretion of the court for finding their verdict contrary to the direction of the judge, the sphere of court was latitudinarian. The judicial practice of directing or advising juries in matters of fact has never been discontinued in England. And this practice has carried into

reports and treaties, on various branches of the law, many opinions of mere matters of fact. Without any complications or material partition between law and fact, without a plain demarcation between a circumscribed province of the court and an independent province of the jury, the judges gave to juries, on questions of insanity, the best opinions which the times afforded. In this manner opinions purely medical and pathological in their characters, relating entirely to questions of fact, and full of error, as medical experts now testify, passed into books of law and acquired the force of judicial decisions. Defective medical theories usurped the position of common-law principles. A usurpation, which, detected, should cease. The manifest imposture of an extinct medical theory pretending to be legal authority cannot appeal for our support to our reason or even to our sympathy. The proverbial reverence for precedent does not readily yield, but when it comes to be understood that a precedent is medicine and not law, the reverence in which it is held will, in the course of time, subside.

"The legal profession, in profound ignorance of mental disease, have assailed the superintendents of asylums—who knew all that was known on the subject, and to whom the world owes an incalculable debt—as visionary theorists and sentimental philosophers, attempting to overturn settled principles of law, whereas, in fact, the legal profession were invading the province of medicine and attempting to install old, exploded medical theories in the place of facts established in the progress of scientific knowledge. The invading party will escape from a false position when it withdraws into its own territory, and the administration of justice will avoid discredit when the controversy is thus brought to an end. Whether the old or the new medical theories are correct is a question of fact for the jury; it is not the business of the court to know whether any of them are correct. The law does not change with every advance of science, nor does it maintain a fantastic consistency by adhering to medical mistakes which science has corrected. The legal principle, however much it may formerly have been obscured by pathological darkness and confusion of law and fact, is, that a product of

that disease is not a contract, a will, or a crime. It is often difficult to ascertain whether an individual had a mental disease, or whether an act was the product of that disease, but these difficulties arise from the nature of the facts to be investigated and not from the law; they are practical difficulties to be solved by the jury, and not legal difficulties for the court. If our precedents practically established old medical theories which science had rejected, and absolutely rejected those which science had established, they might at least claim the merit of formal consistency. But the precedents require the jury to be instructed in the new medical theories by experts, and the old medical theories by the judge.

"It is common practice for experts, under the oath of a witness, to inform the jury, in substance, that knowledge is not the test. And the situation is still more impressive when the judge is forced by an impulse of humanity, as he often is, substantially to advise the jury to acquit the accused on the testimony of the expert, in violation of the test asserted by himself. The predicament is one which cannot be prolonged after it is realized. If tests for insanity are matters of law, the practice of allowing experts to testify what they are should be discontinued. If they are matters of fact the judge should no longer testify without being sworn as a witness and showing himself qualified to testify as an expert. To say that the expert testifies to the tests of mental disease as a fact, and the judge declares the test of criminal responsibility as a rule of law is only to state the dilemma in another form. For, if the alleged act of a defendant was the act of his mental disease, it was not, in law, his act, and he is no more responsible for it than he would have been if it had been the act of his involuntary intoxication, or of any other person using the defendant's hand against his utmost resistance; if the defendant's knowledge is a test of responsibility in one of these cases, it is the test in all of them. If he does know the act to be wrong he is equally irresponsible whether his will is overcome and his hand used by the irresistible power of his own mental disease, or by the irresistible power of another person. When

disease is a propelling uncontrollable power the man is as innocent as the weapon—the mental and moral elements are as guiltless as the material. If his mental, moral and bodily strength is subjugated and pressed to an involuntary service it is immaterial whether it is done by his disease, or by another man, or a brute or any physical force of art or nature set in operation without any fault on his part. If a man knowing the difference between right and wrong, but deprived by either of these agencies, of the power to choose between them, he is punished for his inability to make the choice—is punished for incapacity, and that is the very thing for which the law says he shall not be punished. He might as well be punished for an incapacity to distinguish right from wrong as for incapacity to resist a mental disease which forces upon him choice of the wrong. Whether it is a possible condition in nature for a man knowing the wrongfulness of an act to be rendered by mental disease incapable of choosing not to do it and of not doing it, and whether a defendant in a particular instance has been thus incapacitated are obviously questions of fact, but whether they are questions of fact or law when an expert testifies that there may be such condition and that upon personal examination he thinks the defendant is or was in such a condition that his disease has overcome or suspended, or temporarily or permanently obliterated his capacity of choosing a known right and a known wrong, and the judge says that knowledge is a test of capacity, the judge flatly contradicts the expert. Either the expert testifies to law or the judge testifies to fact. From this dilemma the authorities afford no escape. The whole difficulty is that the courts have undertaken to declare that to be law which is a matter of fact."*

The influence of the principles thus laid down by Judge Doe is apparent in the instructions to the jury by Judge Windes in the Illinois case of the People vs. Hastings hereinafter cited. In this case a milkman suffering from decided persecutory delusions of long standing, shot and killed a usurer or "loan shark" under circumstances of great deliberation seemingly, and under provocations which without any

*Lawson's Criminal Defenses: Insanity.

insanity were exceedingly great. To the defendant, however, the actions of the loan shark were part of the general web of delusional persecution in which he was involved. Two years after his acquittal, the defendant under the influence of secondary hallucinations, proceeding from his persecutory delusions committed suicide after wandering from his home in the vain attempt to escape his persecutions. The instructions which explain the case more in detail, given by Judge Windes at the instance of Judge R. M. Wing and Patrick H. O'Donnell, of counsel for the defense, were as follows:

"The court instructs you, that if you find from the evidence, that on the 27th day of November, last, the defendant was affected with insanity, and held the insane delusion that the deceased was persecuting him and that the defendant insanely believed when he learned that his horse, on the afternoon of November 27th, had been taken on an execution issued on a judgment rendered on a note for $35.00 which the defendant had made in favor of the deceased, that the taking of this said horse was a part of the plan of persecution which he believed the deceased was then engaged in against him, and that then there arose in his mind on account of his insane delusion an irresistible insane impulse to bring such persecution to an end by killing the deceased: and that thereupon the defendant by reason of said insane impulse and said insanity, and being then irresistibly impelled thereby, fired the fatal shot which killed the deceased, then under the law he is not responsible for said killing and you must find him not guilty.

"The court instructs you, that although you may believe from the evidence that the defendant on the 27th day of last November, was conscious of what he was doing when he left his milk wagon and home and came down town and bought the revolver from Hymen, the pawn-broker, and although you may further believe from the evidence that the defendant was conscious of what he was doing when he went from the pawnshop to the office of the deceased on the eighth floor of the Rookery building and there had with the deceased the conversation testified to in this case; yet,

if you find that the defendant at that time was affected with insanity, and that by reason of such insanity he was not conscious of firing the fatal shot at the time he fired it, or if there is in your minds a reasonable doubt upon this subject arising from the evidence, then the law makes it your duty to find the defendant not guilty.

"The court instructs you that if after a careful consideration of the evidence in this case there should be in your minds a reasonable doubt as to whether or not the defendant by reason of the disease of insanity knew and realized at the time that he shot the deceased that he was shooting him, then it is your duty under the law to find the defendant not guilty by your verdict.

"The court instructs you that if you find that the defendant was affected with insanity at the time of the homicide, that in determining whether the defendant in the commission of said homicide was able to distinguish that said homicidal act was wrong, and in determining whether he possessed sufficient will power to refrain from the doing of said act, it will be your duty to consider carefully all the evidence in the case bearing upon said questions, and to use also in the determination of said questions your observation of and experience with the insane, if you have had opportunities for such observation and experience, but it will not do for you to determine an insane person's ability to distinguish the wrong of an act and his power to refrain from the doing of said wrongful act by your knowledge and acquaintance with the human mind while sane, and your knowledge and acquaintance with the power of the human will in a sane person, and in the determination of these questions the court directs you to resolve any and all reasonable doubts that may arise in your minds respecting said questions in favor of the defendant, by holding that he could not distinguish that the homicidal act was wrong and had not the will power to refrain from the doing thereof.

"The court instructs you that the law does not hold the defendant to blame for the doing of any act of which he was not conscious at the time he did it if such absence of consciousness resulted from insanity, and should there exist

in your mind a reasonable doubt arising out of the evidence in this case as to whether or not the defendant on account of the disease of insanity was conscious of shooting the deceased at the time he shot him, then you must find the defendant not guilty.

"The court instructs you that if you find from the consideration of the evidence that the defendant at the time he committed the homicide was insane, it will be your duty, under the law, to inquire whether such insanity prevented him from considering his homicidal act as wrong, and it further will be your duty, in case you conclude that he did consider said homicidal act to be wrong, whether he had sufficient will power to refrain from the doing of said homicidal act, and if you conclude either that he did not consider said homicidal act wrong, or did not have sufficient will power at the time to refrain from the doing thereof, then under the law he is not responsible for said act, and you must find him not guilty.

"The court instructs you that if the defendant was insane at the time of the killing he could bear no malice, and if he killed the deceased without malice he must be found not guilty, and to raise a doubt of his sanity is to raise a doubt of his malice; sanity is as necessary to guilt as any other fact; so, if there exists a reasonable doubt of the defendant's sanity in your minds there must exist in your minds a reasonable doubt of his guilt and you must find him not guilty. Sanity is an ingredient of crime, and as essential as the act itself, and if sanity is wanting there can be no crime, and if you entertain a reasonable doubt on the question of sanity the defendant is entitled to the benefit of the doubt. The burden is on the prosecution to prove guilt, and if insanity is relied on and evidence is made tending to establish such condition of mind, and a reasonable doubt is thereby raised in your minds as to the insanity of the defendant, the defendant shall have the benefit of the doubt. Where evidence of the insanity of the accused has been introduced, and a reasonable doubt of his sanity is thereby created he cannot be convicted of the crime charged, and it will be your duty to find him not guilty.

"The court instructs you that if, after a fair and impartial consideration of all the evidence there be a reasonable doubt in your minds as to any of the material elements necessary to constitute the offense charged in this case, it is your duty upon your oaths as jurors, to give the defendant the full benefit of any such doubt by finding him not guilty.

"The court instructs you that while the law presumes all men to be sane, yet this presumption may be overcome by evidence tendered to prove the insanity of the defendant at the time of the commission of the alleged offense. When such evidence is introduced then the presumption of sanity ceases and the prosecution before it is entitled to a verdict of guilty is bound to prove the sanity of the accused beyond a reasonable doubt. So, in this case, in which the defense of insanity is interposed, if you, after considering all the evidence, entertain a reasonable doubt of the sanity of the defendant at the time of the homicide, then your verdict must be not guilty.

"The court instructs you that it is not necessary in order to entitle the defendant to a verdict of not guilty, that the defense should prove that the defendant is now or ever has been an insane person, but that if from a consideration of the evidence in the case there arises in your minds a reasonable doubt as to the defendant's sanity at the precise moment he committed the act charged, then it is your duty to find him not guilty.

"The court instructs you that the defense of insanity in the behalf of the defendant in this case is a legitimate defense, and you should not be in the slightest degree prejudiced against him because there has been introduced in his behalf evidence of insanity, and in this case, if the evidence introduced is sufficient to raise a reasonable doubt as to his sanity at the time he killed the deceased, the law of this state requires the prosecution to prove beyond a reasonable doubt that at the time he shot the deceased as charged in the indictment he was sufficiently sane to distinguish between right and wrong, good and evil, upon the very occasion when he killed the deceased, and unless you believe

beyond a reasonable doubt that the prosecution has thus proven the charge made in the indictment, your verdict must be not guilty.

"The court instructs you that under the law the defendant is not compelled to testify in his own behalf and you must not take the fact into consideration that he did not testify on this trial.

"The court instructs you that although you may believe from the evidence that the defendant on the day of the killing of the deceased, left his milk wagon on Campbell Avenue and visited the pawn shop of Hyman and bought the revolver and cartridges, and armed with said weapon visited the office of the deceased in the Rookery building to kill said deceased because he thought the deceased had caused his horse to be taken on an execution issued on a judgment rendered before Justice Lyons on a note which the defendant had given the deceased; yet, if from a consideration of all the evidence you entertain a reasonable doubt as to the defendant's sanity at the time of said killing, and find that he then was affected with insanity to the extent of depriving him of the power of distinguishing the right and wrong of said killing, and was unable by reason of such insanity to refrain from killing the deceased, then your verdict must be not guilty.

"The court instructs you, that if you find from the evidence, that the defendant on the day of the killing of the deceased was affected with insanity, then, although you should believe from the evidence that he upon learning that his horse had been taken on an execution issued on a judgment theretofore rendered on a promissory note for $35.00 which he had given the deceased, made up his mind to kill the deceased, and then left his milk wagon on Campbell Avenue and visited Hyman's pawn shop to purchase the revolver and cartridges in evidence, and visited the office of the deceased on the eighth floor of the Rookery building, with the intention of killing him, and in pursuance of said intention did then and there kill the deceased; yet, under the law of this state you must find him not guilty, if you have a reasonable doubt from a consideration of all the evi-

dence as to whether or not such insanity was the efficient cause of the killing of the deceased, and that he would not have done the act but for said insanity, and that the insanity was of such a degree as to create in his mind an uncontrollable impulse to do the killing by overriding his reason and judgment, and obliterating his sense of right and wrong as to such killing, and depriving him at the time of the power of choosing between them.

"The court instructs you that if you find from the evidence in this case, that the defendant on the day of the killing of the deceased was affected with insanity, then although you may believe from the evidence that he knew what he was doing that day, when he left his home and went to Hyman's pawn shop and purchased the revolver in evidence, and knew that he visited the office of the deceased in the Rookery building, and knew what he then said to him before the shooting, and knew that he shot him, and knew that he was doing wrong in shooting and killing him; yet, under the law, if you entertain a reasonable doubt as to the defendant then being able, by reason of said insanity, to have refrained from killing the deceased, your verdict must be not guilty.

"If upon a fair and impartial consideration of the evidence there arises in the minds of the jury any reasonable doubt as to any material element in the case, it is the duty of the jury to give to the accused the benefit of such doubt, and return a verdict of not guilty, notwithstanding the jury might entertain suspicion or conjecture as to the probability of the guilt of the accused, the law not permitting a human being to be deprived of his liberty or life upon mere suspicion, conjecture or guess.

"The jury are further instructed that if, upon consideration of all the evidence in this case, they find there are two distinct hypotheses equally supported by the testimony in this case, and that one of such hypotheses is consistent with the idea of the guilt of the accused and the other is consistent with the innocence of the accused, then it is the policy of the law, and the law makes it the duty of the jury to adopt

that hypothesis which is consistent with the innocence of the accused and find him not guilty.

"The jury are the sole judges of the credibility of witnesses and of the weight to be given to their testimony, and in determining what weight, if any, they will give to the testimony of any witness, the jury have the right to take into account the appearance of the witness upon the stand, his manner of testifying, his candor or lack of candor, if any appear in testifying; his interest, if any, in the result of the prosecution, the consistency or inconsistency, the probability or improbability of the truth of his testimony viewed in the light of all the other facts and circumstances appearing; and in so considering the testimony of any witness who has testified in the case the jury have the right to call to their aid their own observation and experience as men in the affairs of life and to say what weight, if any, they will give to the testimony of such witness; and if the jury believe that any witness has willfully sworn falsely as to any material facts they have the right to disregard the whole of such witness' testimony, except in such particulars, if any there be, as they believe to be true.

"The court instructs you, that, although you should believe beyond a reasonable doubt from the evidence in this case, that the defendant on the 27th day of November, last, when told by his daughter that his horse had been taken, knew what she said, and knew when he left his milk wagon in the street and started towards his home, that he had left his milk wagon and started home, and knew that his daughter accompanied him, and knew that he entered his home, and knew that he left it, and knew that he visited the pawn shop of witness Hyman, and knew that he bought the revolver in evidence and cartridges for the same, and knew the incidents testified to have occurred when the revolver and cartridges were purchased, and knew where the office of the deceased was in the Rookery building, and knew he was visiting said office, and knew what he said to the deceased just before shooting him, and knew at the time he shot him that he was shooting him; yet, under the law, you must find him not guilty of the crime charged in this case, if you,

after carefully considering all the evidence, find that he was affected with insanity at the time, and entertain a reasonable doubt of his being able, by reason of such insanity, to know that he was doing wrong in killing the deceased.

"In order to sustain the defense of insanity it is not necessary that the insanity of the accused be established by a preponderance of the evidence; if, upon the whole evidence the jury entertain a reasonable doubt as to the sanity of the accused they must acquit him.

"While it is true the law presumes every man to be sane and responsible for his acts until the contrary appears from the evidence, still, if there is evidence in this case tending to rebut this presumption sufficient to raise a reasonable doubt upon the issue of insanity the burden of proof is upon the people to show, by the evidence, beyond a reasonable doubt, that the defendant was sane, as explained in these instructions, at the time the alleged offense was committed.

SOME OBSERVATIONS ON DEMENTIA PRECOX (ADOLESCENT INSANITY).

By DANIEL R. BROWER, A. M., M. D., LL.D.

CHICAGO.

Professor of Nervous and Mental Diseases, Rush Medical College. Read by Title at the Pan-American Congress, January 5th, 1905.

THE title, Dementia Precox, sanctioned by the authority of the great master in psychiatry—Kraepelin—is objectionable because it stamps the disease in the minds of many with incurability, whereas those who have had much to do with this form of insanity know that treatment commenced early and followed earnestly results in a fair proportion of recoveries. The term adolescent insanity is better. It carries with it no bad prognosis and fixes it as the insanity of development, or rather of its disorders—a group of morbid mental symptoms occurring at about the period of sexual development. It should be noted, however, that not every case of mental derangement occurring between the thirteenth and the twenty-fifth years is one of adolescent insanity. While this period has its own types, it is also a stage of life in which any mental weakness may reveal itself. Many cases of recurrent insanity make their appearance about this time. Hysterical derangement may date from this period, and under conditions of special strain confusional psychosis may occur. Congenital paretic dementia often has its first manifestation about the age of puberty, so in short, any of the clinical types except senile dementia may appear during these ten or fifteen years. Adolescent insanity is a special form of alienation under the strain of sexual development,

characterized by explosive emotional states, by intellectual anomalies, by perceptive disturbances and by excited, stuporous or melancholic manifestations.

In its mild form mental disturbance is a gross exaggeration of natural peculiarities of youth, as egotism, boastfulness, cruelty, pugnacity and sexual depravity, with inability to meet the ordinary requirements of school and home.

In more severe cases there is maniacal manifestation, exaltation, ideas of self-importance, megalomania, boisterous talking, quarrelsome and destructive outbursts, obscene conduct, excessive masturbation.

In the melancholic type there are delusions of persecution, suspicion, gloomy thoughts, loss of energy and interest, suicidal tendency, masturbation, amenorrhea.

The stuporous cases are usually the sequelæ of one or the other types above mentioned, or may alternate with them and be marked by the presence of catalepsy, and if these several forms do not improve they travel with more or less rapidity to dementia.

Etiology.—The nisus of puberty develops the inherent weakness of family history. This heredity is not necessarily insanity for the nervous disorders on transmission may undergo transformation, and hysteria, epilepsy and megrim in the parents may be adolescent insanity in the child. Alcohol, syphilis and tuberculosis are the potent factors in modern society developing neurotic tendency in children. Their parents, having ancestral weakness, are poor trainers for the children. A badly regulated household—immorality on the part of parents, vicious environment, poverty, with its poor food, bad ventilation and unhygienic living, all aid immensely to the inherent defects of the child. The school life is often an important aid in the development of the psychosis.

We need inspection of the schools by medical experts who can, by the study of the physical signs of mental dullness, impaired nutrition, and defects in development, determine what care and treatment each child should have. The great defect of our school system is herding together a large number of children, some of whom are dull and backward,

thin, pale and delicate, and are unable by physical and mental conditions to reach the standard of normal children, but are forced to it, or they fail, and the discouragement intensifies their deficiencies. Attention should be given in every school to the physical development of the pupil, and between each literary exercise for the development of the intellectual and emotional and perceptive territories, gymnastics should be given for the development of the motor territories, so that at the end the man shall have a well rounded mental and physical status. These neurotic children should have special provision made for them in school, where more attention can be given to each child's peculiarities, and where manual training will be a special feature.

Cases of adolescent insanity are often excessive masturbators, and this vile practice is often regarded as the cause of the alienation, but it is indeed more frequently a symptom, and as the mental condition improves the practice will be lessened and abandoned. Amenorrhea, so frequently present in the female cases, is too frequently regarded as an etiologic factor, whereas it is a symptom of the depressed condition of the general nutrition, and as the patient improves in this respect the menses return.

This psychosis has a prodromal period. It may be six to nine months in duration, during which the child, formerly much interested and successful in school work, becomes careless, indifferent aud neglectful; from having been useful, obedient and affectionate at home, becomes indifferent, disobedient, unreasonable and impudent; from having been kind and helpful to other members of the household, becomes cross, cruel and uncompanionable, forsaking the companionship of his playmates for solitude. There becomes manifest a silly laugh without any evidence of good humor or joyous impulse; emotional indifference; nothing touches them; nothing moves them. There develops pyscho-motor retardation. Slow psychical reaction; several seconds often necessary before simple questions can be answered, and then only after several repetitions.

The symptoms become more pronounced. As striking characteristics there are carelessness, lack of judgment,

egotism, quarrelsomeness, nauseous sentimentality, excess in alcohol, tobacco, venery, offences against social proprieties, sudden impulses occurring without warning, motiveless, and often denied; marked emotional infirmity with capacity to remember and understand. Movements expressionless and yet made without impairment. No disorientation; occasional decided suicidal tendencies, and an attempt at self-destruction may be the first thing to call attention to their mental derangement. The morbid acts may take other directions—assaults, arson, and even homicide may occur.

The patient often sleeps poorly, has a poor appetite, complains of headache, suffers from constipation, tires easily, has usually a very low hemoglobin record and a deficiency of red blood corpuscles.

The reflexes, both superficial and deep, are usually exaggerated, and Dunton* has called attention to a sign that should be emphasized, that is mechanical irritability of the facial nerve.

Some of the cases manifest paranoiac symptoms, run a rapid course and terminate in dementia. These begin with restlessness, headache, emotional depression, passing rapidly into a delusional state with ideas of persecution, and sooner or later megalomaniac ideas.

Another type is the catatonic or insanity of muscular tension. This form begins usually with a melancholic stage, with preliminary neurasthenic symptoms—headache, insomnia, etc., passing gradually into a more or less acutely depressed state, with sometimes hallucinations and delusions of a depressing or terrifying nature. The patient talks constantly or by spells without regard to sense; a continuous flow of words (*"verbigeration."*) Sooner or later muscular stiffness or tension, varying in degree from merely a slight rigidity, making the movements stiff and somewhat awkward, to a complete waxy flexibility, in which the patient is like a jointed lay figure, the limbs retaining any position in which they are placed, until gradually, by force of gravity, they become relaxed.

Diagnosis.—The diagnosis of adolescent insanity must

* American Journal Med. Sciences, xxxiii, p. 109.

be made from neurasthenia. The cases show the tired feeling, the exaggerated reflexes and the tremor of neurasthenia, but the differentiation can usually be made by a careful study of the mental condition. The slight emotional disturbance usual; the slow psychical reaction; the negativism, stereopoty and impulsiveness are not found in neurasthenia. The condition of orientation assists in the differentiation from acute confusional insanity and the physical finding from general paresis.

Prevention.—The children with a psycho-neurotic ancestry demand the most careful attention to diet, exercise, education and environment, in order to enable them to withstand the stress of puberty. If each of these factors had been duly considered by the distinguised physician and Superintendent of the London County Asylum, Dr. Jones could not have written of this disease that it is "now so common that it may almost be described as the scourge of our asylums, for it attacks prematurely our most promising youth; it is practically incurable, and will fill our asylums of the future with the hopelssly insane."*

Treatment.—The cases should be recognized early. Alteration in the mental condition at the nisus of puberty should be more seriously considered. School should be stopped; the Weir Mitchell rest cure meets the early indication of the majority of cases; isolation, rest, a fatty and nitrogenous diet, eliminants, tonics, massage, general faradization and baths. After the underlying causative and pathological factors have been thus removed or improved, then we continue our treatment with change of residence and climate, which may be desirable.

There is much in the investigations that have been made into the pathology of adolescent insanity by Dunton, Labouchier, Bredier and others, to lead one to suppose that the disease is caused by an auto-intoxication, probably emanating from the sexual organs, and this makes manifest the necessity for elimination by bowels, skin and kidneys, and for maintaining the highest possible standard of general nutrition by alteratives and tonics.

*American Jour. of Insanity, April, 1904, p. 592.

One case I am now watching with much interest seems to have been cured by sending him to the country and getting him interested in raising pigeons for the city market. He came to me about four years ago with a neurotic family history, a personal history of the ordinary diseases of childhood, and with having been very successful in his school work and much interested in the sports of his companions. He became shy, retiring and seclusive; became careless and indifferent in his school work; quarrelsome with the other members of his family. He was then sixteen years old. I immediately stopped his school work, gave him the rest cure, treated the anemia with Blaud's mass, the constipation with aloetics, the insomnia with small doses of chloralamid, and gave him daily massage, electricity and cold wet packs, and after a time he was eating well, sleeping well; the constipation was relieved, the hemoglobin record up to normal, and his weight re-established. Then he went to a relative in the country and there began pigeon experience, and now, after four years, I find no evidence of the degenerative process that was rapidly pushing him to dementia.

The difficulty in all such cases is to find some congenial occupation that is not too strenuous, away from the excitement and noise of a city.

OUTLINES OF PSYCHIATRY IN CLINICAL LECTURES.*

BY DR. C. WERNICKE,

Professor in Breslau.†

LECTURE THIRTY-FOUR.

Examples of akinetic motility psychosis. General immobility. Negativism. Flexibilitas cerea. Muscular rigidity. Maintenance of positions. Parakinetic conduct in standing and walking. Verbigeration. Pseudoflexibilitas. Condition of the sensorium. Katalepsy. Melancholia attonita or cum stupore, Kahlbaum's katatonia. Course of the disease. Terminations.

EVERY diffuse defect in motility, or in other words, all states of general immobility implies that we can learn nothing as to the inner processes, the state of mind and the patients' state of ideation. The facial expression here leaves us in the lurch, for the akinesis often extends over this part of the expressive movements, so that a direct demented expression may be the result of the absence of expression. Owing to these circumstances it is impossible to present a pure case of akinetic motility psychosis from the clinic, or it cannot be claimed with certainty that the case is pure, ere the patient comes out of the motionless state and is able to give information of his internal processes. This awkward position is, of course, the result merely of our insufficient knowledge in this matter, and we must not give up the hope that we will later succeed in recognizing pure akinetic states

*Continued from *Alienist and Neurologist*, Vol. xxvi, No. 1.

†English by Dr. W. Alfred McCorn, late Supt. Elizabeth General Hospital, Elizabeth N. J.

at the time of the existing immobility by definite signs peculiar to them. But at present I must confine myself to singling out a few examples of akinetic motility psychoses, as they can be best used for the purpose of instruction. For this purpose the report of the presentation of Mrs. K. might be the most suitable, whom I have presented in the remission of a hyperkinetic motility psychosis. The patient has then passed into a state of general immobility, which, interrupted only by brief periods of hyperkinesis, has been presented as permanent and still was transitory, while an essential loss of strength indicated an approaching unfavorable termination. It is then the matter of the akinetic phase of a cyclic motility psychosis, in which both phases more than the motility alone are affected. The report of the demonstration is as follows:

The patient is brought in on a portable table and placed in the auditorium.

Conduct of the patient left to herself: She lies in bed on her back, head somewhat elevated on the pillow. The eyes are rigid without being fixed, directed into vacancy; winking is rare. The features are inanimate, corresponding to a state of exhaustion, somewhat distorted by half-open mouth and the corners of the mouth lowered.

Conduct to external irritation: As the patient's name is called repeatedly and loudly, even grasped by the arm, the only reaction observed is a greater frequency of winking. The eyes continue to stare into vacancy and are not turned to the examiner.

Maintenance of positions imparted: In elevating the right arm a very marked resistance (negativism) occurs, which gradually abates and becomes equalized (waxy flexibility). The arms remain in any position given them, even if they are uncomfortable, until they are put in another position. It is especially conspicuous that the patient, in spite of her evident weakness, holds the arm fixed to a right angle at the elbow and somewhat abducted at the shoulder, wholly without support for a long time.

Another condition is seen in the lower extremities: As these are grasped by the legs and moved back and forth,

the whole pelvis also moves. (Muscular rigidity of the pelvis-thigh muscles, as in spastic spinal paralysis.) Besides the legs are perfectly flaccid and at once fall from the force of gravity when elevated. The head is freely and easily movable in all directions, whereas the attempt to separate the lower jaw from the upper meets with very marked resistance, as it is impossible later to separate the eyelids, as they are kept closed after the patient's outbreak of crying.

Condition of the reflexes: The tendon reflexes in the legs are unchanged, those of the arms distinctly exaggerated. The reflex excitability of the cutaneous capillaries is normal.

In pricking the soles of the feet with a needle the patient reacts promptly by dorsal flexion of the toes, then of the whole foot; on repeated pricking she turns and twists them back and forth, and finally withdraws them by flexing the knees. Patient wrinkles the eyebrows somewhat and her face has the intimation of a painful expression.

The condition of the hands is very similar. These are turned back and forth, but not withdrawn, although they are in no way restrained, but let rest freely on the open palms of the examiner. The right hand is not withdrawn.

In pricking the cheeks, nose and lips with a needle, she distorts the face in a markedly painful way and begins to cry with suppressed sobs. The reactive akinesis is interrupted by painful irritation.

As the patient on request to sit up continues immobile, she is raised up in bed.

Conduct of the patient toward incentives to active movements: As she is requested to stand up, it is noticed that she moves the legs somewhat as if she would attempt it, but falls backward with the trunk in the recumbent posture. She is raised up again and sits, when, in spite of the good intention just proven, she crosses the legs very improperly. On further encouragement she attempts to get up, but only succeeds with considerable assistance. The patient is now taken by the hand and led across the room, to which she offers no resistance, but at each step she must be given a slight pull on the hand. The gait is of an au-

tomatic character; the several steps are separated by marked pauses. In standing her knees are slightly bent, the feet together, and she sways back and forth, but she does not take a steady position on her feet.

Many times requested to walk the patient begins to slowly lean forward, suddenly and unexpectedly begins to run the moment her center of gravity is beyond her center of support; this movement assumes an accelerated character similar to the propulsion in paralysis agitans, and is evidently to be regarded as the preventative of the threatened falling forward from the initial inclination. In her course she reaches the bed, lets herself fall and lay in a quite proper lateral position.

As she is again placed on her feet, the patient, who has not ceased sobbing since pricking with the needle, sways markedly, yet supported by an attendant, and except winking more often, reacts in no way to any demands made of her. She must be put to bed again and is carried out.

While in this patient, at the time of the hyperkinetic phase and in the transitional periods between the opposite phases, it could be established that besides the motility, that orientation in all three domains of consciousness was affected by the disease. I choose the following case chiefly because it presents unusually pure akinetic, respectively parakinetic symptoms alone, while the orientation is wholly retained and it has not once been possible to elicit any intimation of explanatory ideas from the patient prepared to give any information. The abnormal sensations, of which the patient complained were, besides headache, exclusively perverse muscular sensations, respectively sensations of position, belong then to the disorders of psychomotor identification. The case is that of a spinster of 47, sister of a physician, so that the anamnestic statements are unusually reliable.

Until the beginning of her illness the patient had been a teacher of science in a grammar school, no heredity, formerly well, became ill in September, 1897, after the menses, with troubles which were considered to be hysterical, but increased in a few weeks to a state of general immobility. Tube feeding was necessary for weeks. Gradual remission

of the akinesis, but stereotyped movements. In place of mutism, verbigeration; no real hyperkinesis. Improvement in speech by encouragement and verbal suggestion. Cessation of all symptoms to hope of restitution. Relapse in October, 1898, similar to the present, but worse, according to the patient's statement. Left hand constantly clinched. After a few weeks another remission, progressive improvement to almost free mobility. Apparently normal for a few weeks (brother is a physician.) Another relapse three or four weeks ago, again with the occurrence of menstruation. According to the patient's statement it now becomes worse daily.

Condition May 8th, 1899: Nutrition good, distorted features, organic and physical functions intact. Patient sits in fixed position, left hand to the head, eyes directed forward, paper and pencil lie on the table before her. Expression unhappy, perplexed; outburst of tears on seeing her brother, facial expression not fixed, changes intelligently in the course of the examination. Patient gets up spontaneously, seizes paper and pencil with right hand, intimates that she will go into the adjoining room, her usual abode, sits there in her accustomed place, the eyes directed to a definite place on the opposite wall. This direction is forcibly maintained, so that the patient neither looks at the questioner nor down when she writes. All answers are hastily written with lead pencil, in abbreviated form, e. g., to the question, why so excited: "No help." Complete mutism, still on being urged to attempt to repeat with evident effort. But instead of pronouncing the word "Anna," verbigeration of the syllable ruh-ruh—occurred, which is finally lost in inaudible, rhythmically repeated r-r. If she can show the tongue is denied, but after some effort succeeds spasmodically for an instant. Instead of written answers, often intelligent gestures, which the patient uses preferably. But usually both hands are occupied, one is always pressed to the back part of the head, the other, with extended index finger rhythmically taps some part of the body, face, trunk or thighs. What is on the head? "Inward," "now pricks many times," "fine nerves," "sick-

ness," "worse every day," "worse after eating." Why is the hand held there? "Not let loose, otherwise falls back," "as if it breaks." Whether she can otherwise move freely? "Fingers held to a point." What else is complained of? "Great restlessness in eating," "nerve weakness," "restlessness during the day," "must often pass water," "not well," "no help." Stress and many hypnotics are given as the cause of the disease. Has been worse in October. Of the written statements of the patient the following are mentioned: She must cry, is confused, complains of restlessness, not of anxiety, knows and understands everything, can write, but the examination tires her, it is hard for her to keep the eyes open. The brain is sound, only the brain nerves are ill. Writes name, age; that she has menstruated every three weeks. Outside influence, electricity, secret forces, voices in conversation. When she closes her eyes she sees bright colors. She must be watched when she closes her eyes.

The patient leans back as if exhausted, closes the eyes, lets the right hand fall over the sofa arm, the left remains on the side of the head. The right hand now makes rhythmical twitching movements. On my remark that this is involuntary, a transient thankful glance, patient grasps my hand with her right and carries it to her mouth to kiss it. In passive removal of the left hand from the side of the head, but sometimes spontaneously also, the right replaces the left on the side of the head. The right is always used for any action, although the left is freely movable. But the patient is unable to give the right hand on leaving; makes helpless gestures instead. Spontaneous gestures are few, then hasty, most often changes of location from inner restlessness. No flexibilities. Patient must be waited upon, is tidy, is willingly fed with the spoon. Sleep and nutrition good. Complete comprehension of the situation, attachment for the nurse, sufficient interest and memory of daily events.

With resistance the patient is gotten to sit in a chair by the window and to fix a finger held before her; for a moment she seems to be able to move the eyes voluntarily, yet the haste with which the patient strives to give the

eyes the former direction, prevents a certain judgment. As to the relation a certain place on the wall has with her eye movements, it is impossible to learn anything positive in spite of all efforts. That it exists, the patient tries to express by various gestures; that it is a command, electricity, magnetism or some secret force she definitely denies.

It is one of the greatest rareties that such good information is obtained in an akinetic motility psychosis at the time of its existence. It is evidently possible only when the area of akinesis is as circumscribed in the patient mentioned. But this circumscribed condition is also vary rare in cases acutely ill.

A few further instances of akinetic motility psychoses will inform us further of the aggregate of the symptoms belonging here. The first occurred during my time in Berlin.

The University Professor B., 33 years old, had had a severe articular rheumatism three years before, then was well, without family tendency to nervous diseases. For two years he has labored beyond his strength on a scientific work. Three days prior to his mental illness an attack of dysentery with bloody stools, marked meteorism and very intense pain. Much run down physically, the patient became delirious, mistook persons, had visions, saw devils, heard voices. This condition increased, while simultaneously a general muscular rigidity occurred, at first paroxysmally, then of longer duration. After two days almost motionless, patient convulsively held a crucifix in the hand for half a day, excitedly raved about the devil, uttered inarticulate sounds at night especially. Then these reactions to false sensations ceased and the patient remained for eight days in a perfectly motionless state, usually accompanied by muscular rigidity, in which he generally kept the eyes tightly closed; could swallow fluids occasionally, while at other times he spit out everything; passed the excrements in his clothes. In this condition he was taken to an insane hospital in a carriage, but owing to his rigidity could only be gotten in and out of the carriage with difficulty, and sat leaning back with stiffly extended arms and legs and only poorly supported. He could be led to his room, or really

was slowly pushed. Absolute mutism, only interrupted on the third day after admission by inarticulate outcrys for several hours; facial expression stupid. On the eleventh day of the disease the tension of the muscles ceased. On being accosted, lip movements but no sound, still occasionally opened the eyes. On the following days great lassitude, generally perfectly motionless, but occasional outcries. Patient then began to leave the bed occasionally, stood at the window for a long time with the arms extended, elevated, and cried out several times. Went on the corridor in his night dress, once answered very slowly and softly: "I do not know." On the fourteenth day the first spontaneous utterance, patient said to his attendant: "See, Carl, how I am." On the following day it was learned that the patient had pain over the whole body; does not know where he is, who he is, claims he has no head, is quartered. Speech is slow and childish. Every request is felt to be arduous. On the nineteenth, grasping the head with the hand: "This is not my head, my head is changed, I have a strange head, I am perfectly hollow." Marked improvement from the twenty-second day, better statements; patient is tidy. Feeling in the head as though it was sore—a confused feeling, patient feels that he is very ill, asks for reports. Then continued improvement, tries to orientate himself; information as to his thoughts during the severe illness. He has sometimes felt that his brain consisted of many parts, which moved back and forth; another time as if he had no brain, but a piece of ice in his head. Patient remembers that he has considered himself a steamship (explanatory idea), that he has believed he has ruined the navigation on the Rhine, in that he has twisted all the rudders. He has believed the world would be separated and he has been able to bring it together, he has been at the royal palace, has there destroyed the floor and then tried to replace it with tile; Prince Bismarck had come and looked at him maliciously. Patient wonders how such perverse ideas can occur to a person. He knows of no reason for the muscular rigidity. Progressive disease insight, sleep and appetite good, appearance improved. A few complaints of an uncomfortable feel-

ing of pressure at a certain place in the left parietal region, which later occurred paroxysmally. In complete convalescence six weeks after the onset of the disease, after a visit and a bad night following, a state of mild excitement occurred, in which the patient accused himself of an indiscretion on the day previous, talked hurriedly in a tremulous voice, trembled all over the body, made nervous movements with the hands, began to cry. He was quieted by encouragement, later was in a stable mood, only occasionally complains of pressure in the head as above described, or of a pulsation—a feeling as if the brain moved back and forth. These troubles gradually disappeared, and about six months after the outbreak of his disease the patient was discharged from the institution completely recovered. Since then twelve years have past, during which the patient, an honored professor, has been perfectly well in his former position.

A still more acute disease type is presented by the Doctor of Laws, 26 years old, of Jewish descent, whom I could present a few days ago. He had become acutely ill with anxious ideas and the most profound perplexity, had refused food many days and attempted suicide four times, all of which fortunately have been frustrated. We found him sitting in bed with congested face, hot head, feverish appearance, but not accelerated, only very weak pulse. The facial expression was somewhat rigid; immovable. Patient did not answer questions, but followed the questioner with his eyes. He did not comply with any requests, did not show the tongue, nor open the mouth. The effort to open the lips caused rather the opposite effect of an involuntary closure, the hand grasped was held apparently resistively. Besides, the patient sat quite immovable in normal posture, only from time to time slight shivering and trembling movements occurred, as if a shiver passed over the body. If the patient was taken out of bed, which was without resistance or very slight, it was noticed that he reeled and was not complete master of his movements. Finally he succeeded in standing alone, and it was then conspicuous that he held the right leg half flexed and rested only the outer border of the foot on the floor, while the

left leg supported the body. In this position the patient remained unsupported several minutes with the same unmoved facial expression. It was now attempted to put his head in another position by bending the neck. An essential resistance was manifested, which continued beyond the medium position, so that finally the patient stood with head and trunk bent forward. He has never used his hand in defense. In these movements the patient has not in the meantime been able to resume the old position, and swayed; in this new position he changes his legs and now stands on the right, while the left is half flexed and only slightly rests it on the external border of the foot. The next day we found the patient squatting in bed with his legs under him, the flaccid position of the legs being conspicuous. To-day the approach of the hand causes a withdrawal of the upper extremity approached and of the trunk on that side, while touching the legs does not have a similar effect; not a trace of real defensive movement is to be observed. I now placed my right hand in the patient's right palm, his hand then closed, while I began to exercise a slow traction by means of my flexed fingers. The more I pull the firmer he holds the fingers, and so I was able to draw the trunk to a position leaning over the edge of the bed. He remains in this position as long as I pull and gradually returns to the former when I cease pulling. This patient is now taken out of bed and seems about to fall, for his lower extremities failed completely. But if one proceeds cautiously and supports him on both sides, it is seen that he can use them well, yet owing to the abnormal position an unusual amount of force must be employed. He remains in a squatting, almost sitting posture, with legs crossed, and is thus able to move forward unsupported and to regain his balance when he loses it. It seems as though he might fall any moment, yet he actually keeps himself securely on his legs.*

Another patient who has laid in bed groaining, only very rarely answers, and usually seems occupied first in pursing up her mouth, then everting it snout-like, recently becomes

*The patient passes his excrement in his clothing, absolutely refuses food, and was fed once with the tube in the narcosis. Death from pneumonia after a few days.

ill, is taken out of bed and made to walk, and then plants one foot before the other slowly and cautiously at definite distances in a dancing manner, somewhat like a rope dancer. As she is let stand quietly a while, she rests on one leg and flexes the other so that she only touches the floor with the toes; indeed she raises it from the floor completely.

All these peculiar movements are without perceptible purpose, without change in the facial expression and without the patients being able to give a motive when they are able to speak, as in the last case. In repose, whether in bed or sitting on a chair, a part of these patients assume a *fixed abnormal position*, e. g., by flexing the cervical vertebra forward, so that in reclining the head is always raised from the pillow, or a squatting position is taken, like that of the male patient above described.

Within the general immobility a localized tonic muscular spasm may occur and the area of the muscles implicated in speech is preferably affected. I remind you of the patient Kl., who became very acutely ill with stormy symptoms, and the next day was admitted to the clinic. He seemed to be conscious and followed the examiner with his eyes. The tongue, far protruded, lay between the firmly closed jaws; it was greatly swollen, cyanotic and gangrenous in the vicinity of the teeth deeply sunken into it. The patient was unable to utter more than a sound or to swallow even fluids, and must be fed with the nasal tube. The pain sense and reflexes seemed all greatly blunted. After I had waited in vain the greater part of the day for the muscular tension to abate, I decided on reposition under chloroform, and fixed the jaw in a half open position. A half somnolent state of many days duration now followed, and only very gradually was the protruded tongue withdrawn into the mouth; then the patient became convalescent and could be discharged recovered in a short time. The peculiarity of this case was that the patient still at a time he controlled his other movements, must keep his tongue in this extremely protruded position. This patient, 32 years old, a draughtsman, gave definite information, as soon as he

could speak, that he always orientated and completely conscious at the time of the general immobility.

Part of the cases presented, like part of those reported, prove that the akinetic motility psychosis embraces very different disease types, which only have in common that they represent an akinetic state of different degree and different extent during a continuous period of the disease, varying greatly in duration, as the most conspicuous symptom. We shall later be able to make a somewhat sharper differentiation. At present we keep in mind somewhat more closely the different motor symptoms in particular.

The akinesis extending over a greater part of the muscles we call *immobility*. It varies, as our cases show, according to the degree, in that it sometimes is so marked that it leads to the cessation of almost all reaction and causes a condition similar to apparent death. In fact, confusions of such cases with actual death must have repeatedly occurred, which is explained by the fact that the respiration and the circulation in such cases may be greatly lowered and a condition like syncopy sometimes exist. I return to this again. If such cases are excepted, it is a matter usually of somnolent states, which cannot be confounded with actual death by physicians at least, for the heart sounds, the respiratory murmur and the pulse, if weakened, are plainly perceptible. The extremities are usually cool, occasionally cyanotic, the temperature may be essentially lowered. These are the cases which with great regularity appear from time to time in the daily press and excite sensation as "sleeping ulan" or "apparent death of a prisoner for weeks." In fact in part of these cases every reaction to painful stimuli ceases, either in consequence of clouding of the sensorium, actual analgesia, or real loss of reflex action. Still, in the majority of cases a reflex to a needle prick is demonstrable, if merely a twitching of the eyelids and on the application of the prick to the most sensitive parts of the face or eyes even. A blunting of the tendon reflexes, especially the knee-jerk, unquestionably occurs sometimes, still not in the condition of longer durations spoken of here. On the contrary, the tendon reflexes are

usually exaggerated, so that patellar clonus and even foot clonus may occur. The excrements are usually passed in bed, at other times catheterization of the bladder and attention to the bowels are necessary. Swallowing is usually greatly disordered, so that prolonged artificial feeding is necessary. Still it is rare that the collected saliva is not spontaneously swallowed and a real reflex paralysis of deglutition demonstrable. However, this undoubtedly occurs in more acute temporary periods, often with increased secretion of saliva. Of course, the condition described includes the cessation of all initiative movements, the complete mutism. Remnants of reactions, as e. g., a tremor of the eyelids, are usually present. In the eyelids a reaction is almost always noticeable to passive movements, even in cases where the passive motility is exactly like that of a lifeless body, i. e., not only retained but increased. This condition is not the usual one in continued immobility, but corresponds to more acute phases of akinesis. A blunting of passive motility is often met with, a condition which may vary greatly. It is the most common in these motionless patients, only the excessive movements meet with resistance, or that only certain groups of muscles present it. Here belong primarily the muscles closing the eyes, mouth and jaws. This more local resistance belongs in the domain of those symptoms which are generally called negativism. *Negativism* is shown in the lids when the attempt to open them is made by apparently active resistance, and thus the firmer closure of the eye; in the lips by a closure of the mouth in attempting to separate the lips, in the jaws by a resistance which is the stronger the more it is tried to force the lower jaw down. The masseters and temporals are then felt to be hard and swollen. This firm closure of the jaws offers the usual hindrance to the introduction of the feeding tube by the mouth, so that this method of nourishment is only exceptionally possible, and hence the introduction of the tube through the nose is preferable. Next to the localities described, the negativism is the most often met with in the muscles of the neck, so that the passive raising of the head from the pillow not only meets with resistance, but is responded to by a

vigorous banding the head backward, a state of rigidity of the neck which ceases as soon as the effort is discontinued. The symptom of negativism has the characteristic that it seems to reflexly follow the passive muscular extension and is increased accordingly as the passive movement is forced. It therefore occasionally occurs in the extremities only when the movement is performed rapidly and with large excursions, while a slow and less extensive movement often meets with no resistance. If the general immobility is not very marked these efforts may cause manifestations of pain, like distortion of the face or a flow of tears; in such cases a painful stiffness of the joints, owing to the maintained fixation in one position may be assumed. However, I find cases which are characterized by a diffuse painfulness of the muscles.

The test of passive motility very often reveals the state of *waxy flexibility*, *flexibilitas cerea*. Thus it is that every passive movement meets with a moderate equal resistance in all the joints implicated. Its result is the maintenance of positions imparted. Flexibilitas cerea is always the most pronounced in the extremities; in the neck a certain degree of negativism usually prevails. The positions which may be imparted to patients with flexibilitas cerea, may be very uncomfortable and still be maintained a long time; thus in the recumbent posture all the limbs may be raised nearly vertical and this position be maintained. When the patients sit on a chair the trunk may be bent to one side, the arm outstretched, one leg elevated, and thus the patients put in a position which could be maintained a long time by normal persons only with great effort. If the patients are placed on the feet one leg may be so flexed in all its joints that only the tips of the toes touch the floor, or by proceeding cautiously a flexed position of the knees may be taken, or the trunk bent so that the arms touch the floor. Under these conditions the patient often seems to have a special faculty of preserving the equilibrium, so that the comparison with Golz' decapitated frog is involuntarily obtruded. In all these experiments the patient takes no part, even in moderate immobility no feature is distorted, no glance turned to the

examiner. The maintenance of uncomfortable positions may be observed for five, ten minutes and longer, according to the degree of immobility; finally and often the limbs yield to the force of gravity and uncomfortable positions of the trunk are corrected. The rare cases of continued muscular rigidity constitute an exception.

Muscular rigidity is a manifestation which usually occurs only paroxysmally in more general immobility. I have never seen it continued uninterrupted for days. But the attacks are occasionally observed in almost every case. They either occur spontaneously or from trifling causes, which then usually consist of attempts to get the patient up or to make passive movements. In the nurse's notes the statement is then often found: the patients had stiffened themselves. Profuse perspiration quite often occurs or the face becomes congested. Such attacks usually last only a few minutes, but in severe cases for hours. It is these attacks in which the patients are suspended, merely supported at the head and feet, as in the hypnotic experiment, and may even be laidened besides. As in tetanus, it is a matter of a tonic muscular spasm, often no less powerful and with an implication of the masseters and facial muscles, but the remissions characteristic of tetanus and the ever renewed sudden shocks are absent: the whole condition is always continuous, usually of less stormy character. That these states of rigidity may interfere with the patient's transfer, we have seen in the instance of one patient. You remember that our patient, Mrs. K. presented a state of moderate localized rigidity, namely, of the pelvic-thigh muscles only; this condition might have another meaning and be regarded merely as the mechanical consequence of prolonged immobility, analogous to the muscular stiffness in paralyzed limbs.

If a patient with general immobility is met with, it is always advisable to take him out of bed and place him on his feet. It is then usually discovered that the person seemingly dead can stand and walk, if only some precaution is exercised and the patient sufficiently supported. I refer to the patient presented, whose knees gave away, but then was able to walk and stand, if in noticeably changed form.

A complete failure of the legs, as in flaccid paralysis, only occurs in temporary, more acute states; whereas the lack of spontaneity in these patients is always very conspicuous. They stand in infinitum, whereas as they are placed and a change of location is only to be attained when they are shoved or a change in equilibrium necessitates them to move. The conduct of Mrs. K. was characteristic in this respect. This lack of spontaneity is comprehensible when we observe the conduct of the patients, as soon as a milder degree of the motility permitted, to institute somewhat more complicated experiments. Under certain conditions it is possible, e. g. for such patients to mount a chair, but they show they are absolutely incapable of getting down, and may, if forced, finally fall awkwardly. It is similarly that the patients plainly show that they have understood the command to get in or out of bed, that they make futile attempts to comply, but that it is impossible for them to institute the necessary muscular co-ordinations. Evidently in these cases the motor mechanism is not at their perfect command as in normal persons, and one consequence is the initiative akinesis, the other an effect often manifested—I refer to our patient, Mrs. W., who had motor perplexity.

The parakinetic symptoms, which generally appear in the patient's change of location from external causes, point to a derangement of the motor mechanism. We can only assume that such perverse positions as the patient takes while the general mechanism of walking and standing was retained, must depend on a perversion of the sensations of position or some other constituent in the complex sum of motor ideas. As the maintenance of equilibrium cannot depend evidently on a special degree of physical ability, the possibility of an unconscious, in other words, compensation effected exclusively within the consciousness of the body alone remains. The *change in the form of movement* from the normal may vary greatly in the individual case. Thus, e. g., in the peculiar gait of the rope dancer who, cautiously balancing, places one foot exactly before the other, or walks wholly on the heels or on the edge of the foot, etc. That it is a matter of hallucinations of the muscle sense, as Cramer

presumes, is irrespective of the inappropriate use of the term hallucination, therefore improbable, because the perverse position must be regarded as the correcture of certain symptoms of defect. You remember that I have always expressly emphasized the representation of motility in the consciousness of the body. How much I was justified in this you will perceive from what has been said.

Certain parakinetic symptoms which we have had an opportunity to become acquainted with in the hyperkinetic motility psychosis, are to be ascribed with greater probability to processes of irritation; in fact, it is impossible to draw a sharp boundary here between hyperkinesis and parakinesis. As in our patient, Miss M., in most cases of less marked, but still more diffused akinesis, either temporarily and only on certain causes, or still, in a certain phase of the disease *verbigeration* occurs, i. e., the monotonous repetition of words, interjections or parts of sentences, often of perfectly absurd construction. Thus a patient constantly verbigerated the words for months: "Anna Miamara Kochlunsky o Landlaben." It is simply a matter of a symptom of irritation, for the patient constantly repeated this phrase and was not even essentially disturbed in it by eating. But that a restriction of the process of speech to certain motor tracts existed, is to be concluded that the patient on cessation of the verbigeration was no longer able to talk in spite of evident desire, in other words, had a motor aphasia. I here mention a patient who had been dumb for five years and then had to again learn to talk. In other cases this connection between verbigeration and mu ism may be observed. That verbigeration occurs in writing, of course in those not completely motionless, is only incidentally stated here.

Parakinetic manifestations, which are analogous to verbigeration, are often observed on cessation of the immobility; they are the so-called *stereotyped movements*, certain movements of the limbs, which are rhythmically repeated in a monotonous manner, then pseudo-spontaneous movements of a certain uniform kind. In these the clinical connection with an absence of movements, the state of immobility, is plainly

recognizable in many cases. We have become acquainted with instances in our cases like Miss M. You will have occasion to see other examples on the clinical visits. Thus one patient makes constant movements with the mouth, in that she everts it snout-like, another patient utters at about equal intervals a half groaning, half grunting sound, without any other signs of an affect; another patient you have seen eating, how he aimlessly dips the spoon into the bowl and takes it out empty. He thus behaved like anyone who, buried in deep thought, does everything purely mechanically. We saw another patient constantly making rocking movements of the trunk, another nodding movements of the head. One patient performs a more complicated movement, in that he puts one hand in the hair, then describes a circle about his head and becomes quiet. The evident aimlessness of these movements is occasionally concealed by the fact that some object is manipulated in proper manner, as when a patient repeatedly lifts her bed covers by one corner and smoothes them. But in this case manipulation is evidently aimless. Also more or less forcible movements of the whole body, as in female patients frequent coition-like movements of the trunk belong in this category. Even very complicated co-ordinated movements, apparently spontaneous, as e. g., that a patient always marches to a certain corner of the room, then turns and goes back, prove to be pseudo-spontaneous movements by their connection with mutism and other akinetic symptoms, as well as by their rhythmical repetition. They are then movements which are monotonously restricted to certain muscles or a definite co-ordinated movement which belong here. Similar movements are rhythmically repeated among the hyperkinetic symptoms, but never in so circumscribed and localized manner.

Besides negativism and the waxy flexibility with respect to the passive motility of the limbs or trunk and head, still another disorder to be differentiated is quite often met with. The patients seem conspicuously willing to yield to the passive movements, sometimes it even appears as if they actually assisted. Then the position thus effected is usually

maintained. This symptom, in which any resistance in the joints is wanting, may be placed beside waxy flexibility as *pseudoflexibilitas*. The apathy of the patients toward the movements is usually like that in real flexibility. The most natural interpretation of this symptom, which usually occurs in immobility of moderate degree, is that it depends on a sort of suggestive offect on the patients. In a certain measure the execution of a movement is suggested by the examiner to the patient, toward which he is apathetic. That the akinesis, the absence of spontaneous effects on the muscles, affords the most favorable basis, is readily comprehensible. The pseudoflexibility then often appears when the real waxy flexibility abates and an improvement in the patient's condition is observed. It thus shows a milder degree of the disturbance previously mentioned. It accords with our conception that a suggestive action is the reason that in this stage of the disease it is sometimes possible to influence by verbal suggestion other akinetic symptoms, like mutism, refusal of food and filthy habits. But it is only these cases in which the suggestive method of treatment is successfully employed. That in the psychosis every effort is in vain, is the general experience of all observers and the most competent hypnotizers.

The maintenance of certain positions is not exclusively combined with the symptoms of waxy flexibility or pseudoflexibilitas, it occurs independently of these, in that the patients voluntarily and apparently spontaneously take certain positions and maintain them with pathological persistency. In this respect the remarkable manifestation is the most often met with that the head is held up from the pillow in a bent position of the neck. This uncomfortable position usually ceases only when sleep occurs. A patient of this sort stated why she held her head in this position: She had the feeling that the head might otherwise fall backward. The next most often observed is the assumption and maintenance of a certain squatting position, often very uncomfortable, e. g., with crossed legs or with trunk turned half to one side, or the preservation of a position between sitting and reclining, while the arm is used as a support, etc. Wholly perverse po-

sitions are more rare, which are not so long maintained generally, e. g., that a patient takes the gynecological knee-chest position, or a patient stands on the head leaning against the wall. In attempting to correct these fixed positions the action may vary. A part of the patients quietly yield but at once return to the former position; other patients become resistive and violent under certain conditions. This is true when movements or series of movements located in certain groups of muscles will be prevented.

This present attempt to describe the cardinal akinetic symptoms might embrace a number of apparently heterogeneous manifestations. In the effort to describe those belonging together I have been guided exclusively by the experiences of the clinic. But it will have been noticed how much depends on the greater or less extent of the akinetic symptoms. Certain symptoms belong exclusively or largely to general immobility of high degree, e. g., waxy flexibility and muscular rigidity; others prove to be predeliction symptoms, which we find pronounced in only partial akinesis or in general akinesis, but of mild degree. Here belong mutism, negativism of the mouth, jaws and neck, also refusal of food. In general pseudoflexibility, circumscribed pseudospontaneous movements and exclusively reactive mutism belong to akinesis of moderate degree spread over the whole body. It is common to the large majority of cases and is innate in the akinetic symptoms, that no information is obtained of the inner processes and the probable motive for the patient's conduct. It is very often possible to ascertain, either in periods of remission or after the disease has passed, that alleged voices or commanding inhibitory content have determined the patient's conduct. That these phonemes explain nothing, I need not fully discuss after my previous statements as to the significance of hallucinations and phonemes. They need rather the explanation, and it is easy to find it in the affect of motor perplexity, which we can generally presume for the motor identification disorders, but which is plainly described by a part of the patients during or after their illness. Presumption for this is merely a certain degree of retained sensorium.

We thus come to the further question as to how far the akinetic conduct permits conclusions as to the *state of the sensorium*. In this respect a proposition may be advanced with certainty, namely, that the state of the sensorium is plainly dependent on the extent of the akinetic symptoms, similarly as this might be claimed of muscular rigidity. In states of severe general immobility a clouding of the sensorium is generally met with which may be so marked that painful irritations do not penetrate it. Accordingly a memory of the time thus spent does not generally exist, or only in that visionary hallucinations or actual dreams may frequently appear and be considered real. In hysterical etiology the state of the sensorium usually corresponds more to that of so-called ecstacy, and the memories have a tone of feeling of supernatural events. In these patients fixed positions are met with, as they are peculiar to the expression of enraptured ecstacy. Those cases which have led to the advancement of a special disease type: *catalepsy*, are especially well known. Since the knowledge of the motility psychoses instituted by Kahlbaum, this alleged type of a functional nervous disease has more and more disappeared from the text-books. Without contesting that in hysteria akinetic states of shorter duration than elsewhere and of especially favorable termination occur, I might expressly emphasize that these cases belong to the group of akinetic motility psychoses. We find the contrast to these dream-like states in cases like that of Miss M., when the clearness of the consciousness leaves nothing to be desired and even permits instituting a tolerably exact psychical status. All intervening cases show a more or less clear sensorium, and accordingly a slight diffusion or milder grade of the akinesis. Where in only moderate diffusion or milder degree of the akinesis the sensorium is essentially clouded, delirious traits, like motor restlessness and indications of occupation delirium are often intermingled. The highest degree of unconsciousness is found in the rare acute cases, in which the muscular rigidity is intermingled to an epileptiform degree, occasionally in epileptic seizures, only of longer duration, and which cause death in a few days.

The state of intense general immobility has always been known to alienists; it was called attonicity and considered the essential basis of a special disease type: *melancholia attonita,* or melancholia *cum stupore.* I have not referred to it because this disease has nothing to do with the affective melancholia in our sense; it is recommended to drop this name and substitute that of the akinetic motility psychosis. That besides attonicity a whole series of other motor symptoms occur which belong together clinically, Kahlbaum has proven in his monograph on katatonia, its relation to melancholia is explained, and the importance of the state of muscular rigidity in the insane emphasized. Thus far Kahlbaum must be recognized as the real founder of the theory of the motility psychosis.

It is proper that I use this opportunity to do justice to Kahlbaum's service. Next to Meynert we are indebted to this great student and observer for the greatest advancement clinical psychiatry has made of late. It might be readily conceived that I take the same stand as Kahlbaum has for the setting forth of katatonia, the more so as the importance of his work is more and more acknowledged and a few gifted young psychiaters have taken it up. Still the value of Kahlbaum's work must be perceived essentially in the fact that he has collected a number of important stones for the erection of his structure, while this structure is not durable. He has not escaped the fate of all authors who have labored monographically in a definite domain and has outlined a much too broad disease type, which signifies a step backward in so far as the narrow conception of melancholia attonita or cum stupore has passed away. Hence the difficulty in gaining general recognition of his disease type and and the active opposition to it still. The motility symptoms above described are not at all confined to the motility psychoses so-called by me; they are to be met with in a large number of other far more complicated cases, and not merely in those of acute origin. Only where, as in the cases above mentioned, they either alone or largely constitute the disease type, is it justifiable to accept a special disease of essentially motor content of the symptoms. I might especially

emphasize that "katatonic," or in our sense, specific motor symptoms, are generally met with in the majority of progressive chronic psychoses in some phase of the disease. We will perceive therein a warning to restrict our disease type to akinetic motility psychosis as much as possible.

As much as we may consider this the practical clinical standpoint, it suffices to admit the impossibility of outlining the boundary in the one direction, that in the background of the akinetic motility psychosis an extensive disorientation may be present which will conceal, e. g., the decisive akinetic symptoms. Perhaps we will later acquire data to differentiate in this direction the parakinetic motility psychosis from its combined forms, but at present and in the existing state of our knowledge, it would be obliged to rend asunder these cases essentially agreeing with respect to the akinetic symptoms. The implication of the sensorium, which is present in the most pronounced cases, has unmistakably the significance of an extension of the disease process to the psychomotor domain. We are accustomed to oppose to these symptoms on the part of the sensorium, as general disease, the focal symptoms of the brain diseases, but must not forget that they depend, just like the indirect focal symptoms differentiated by me on a summation of several defects, and like them represent a secondary effect (reflex effect of authors) of the focal disease, that this higher degree of clouding of the sensorium concludes a certain disorientation in all three domains of consciousness, and so we see that the greater extension of the disease process is not to be separated according to the nature of the affair from the intensity. Accordingly, a severe implication of the sensorium is to be exclusively observed in the higher degree of general immobility. There must then be other criteria, according to which we will try to differentiate the disease type of the akinetic motility psychosis, and we find these chiefly in the course of the disease. Consequently we will regard as akinetic motility psychosis those acute diseases which present in rapid development the above described complex of akinetic and parakinetic symptoms, and are continually kept up by the longer duration of the disease. That the further course can

be entirely different, is just as comprehensible as the current experience that after an apoplectic attack with marked unconsciousness at one time complete restitution may occur; again one circumscribed, then a series of focal symptoms. These focal symptoms, which begin under manifestations of pronounced insult, present in this restricted sense a prospect of recovery, and the significance of this fact is doubtless that a focal symptom arising in this way may depend on secondary effect and be an indirect focal symptom; but, of course, the same apoplectic onset may be direct and therefore accompany incurable focal symptoms. So of the akinetic motility psychosis a part of these cases, which begin with stupor and muscular rigidity, are capable of recovery, of which the case of our professor is the most convincing.

The beginning of the akinetic motility psychosis may be very sudden, almost apoplectiform. The very acute cases of rapidly deleterious course recently mentioned seemed to have commenced apoplectiform. But irrespective of these, a similar acute onset sometimes occurs. In the course of the year the case has repeatedly occurred that these patients were found motionless on the street or in a strange house and brought to our Clinic, while it might be subsequently established that the patients carried on their usual occupation until then. At other times an initial stage of a few days is observed, in which a perplexity of not exclusively motor type with outbursts of anxiety and despair controls the picture; our professor is an example. An initial stage of delirium of relativity lasting for weeks probably characterizes a special category of cases. The duration of the akinetic and parakinetic condition usually amounts to a few weeks. The mutual relation is unquestioned that the akinesis represents the more intense symptom, consequently the parakinetic symptoms usually first appear when a remission in the akinesis is observed. In the more rare cases of intense diffuse akinesis with relatively clear sensorium, the parakinetic symptoms, like verbigeration, stereotyped movements, altered gait, etc., then especially appear, if in pronounced initiative akinesis it is possible to get the patient

to make reactive movements. A paranoiac stage, in which more or less parakinetic symptoms may be intermingled, follows the akinetic parakinetic stage, in which we must perceive the acme of the disease curve. In this paranoiac stage is generally seen whether and in how far other identification disorders like those of the psychomotor domain were contained in the disease type. To the most favorable cases belong those like our professor, in which the paranoiac stage might be assumed to exist so long as perfect disease insight into the dream-like events of the akinetic state was not acquired. As in these cases so in most of similar favorable course special hypochondriacal symptoms prove to be signs of more diffuse somatopsychical disorientation during the paranoiac stage.

The establishment of sporadic delusions, which are not united to the dream-like memories, merely indicates a paranoiac state. Signs of psychical enfeeblement, like emotional instability and great exhaustibility, are intermingled in these favorable cases. Another time a pronounced dementia, which usually after quite long duration of a half to a year may still terminate in recovery, follows the akinetic parakinetic stage, another time forms the definite termination of the disease. Quite often the stage of dementia is followed by an intervening paranoiac stage, and these seem to be the cases which largely terminate in permanent dementia. If the paranoiac stage is very marked, i. e., advanced to actual systematization, a correcture may still occur, and then a slow and uniform increase in disease insight is observed, and finally in about a year complete recovery without defect. In this favorable course the elementary symptoms of phonemes and delirium of relativity soon disappear. In other cases a progressive systematization occurs, when religious grandiose and persecutory ideas, a so-called prophetic delirium result, sometimes with the best planned foundation and evidently great intellectual productiveness. Essential memory defects may accompany the paranoiac as well as the demented stage; they are related to the akinetic stage.

If we ask to what is it due that at one time a paranoiac, at another a demented stage follows the akinetic-

parakinetic, only a review of a large number of cases can, of course, afford a solution. Hence it seems proven that the state of the sensorium during the akinetic phase is to be chiefly considered. The more it is implicated the more the state approximates sleep or unconsciousness, the more readily a demented stage develops, and this generally follows the so-called "dazed" conditions with attendant delirious symptoms. If the sensorium is only slightly implicated pronounced paranoiac states occur, though these may be curable. Although this result is drawn from a statistical review of the cases, it confirms what we might have previously expected. The delusion formation of the paranoiac stage here depends, as in other cases, chiefly on explanatory delusions, and for their formation a certain degree of retained sensorium is presumed. The case of Miss M., which I have reported, seems to be an example that explanatory ideas may be wanting in perfectly clear sensorium, but it is to be considered that the case is relatively recent, and according to all analogies the occurrence of explanatory ideas may be expected later. I must expressly emphasize the not so rare termination in complete recovery, which I have observed after merely indicated as well as pronounced paranoiac stage as after a stage of dementia, for in Kraepelin's book dementia is said to be the regular termination of these cases. Here, as well as elsewhere, little consideration and an ignoring of facts are met with, which are the least suited to a text-book. The tendency to recurrence emphasized by Kraepelin is in no way greater than in most other acute psychoses.

With respect to the *etiology*, it affects preferably young persons and largely those of the female sex. It is related to menstruation. Quite often the puerperal state or other exhausting influences are to be met with as the chief causes. Emotions have often preceded, and hysteria, as already stated, furnishes a certain portion of cases. Proportionately large is the percentage of cases which had previously been referred to a congenital imbecility of moderate degree or a retardation of mental development.

The *diagnosis* meets with no difficulties with respect to

the akinetic state if the above description is adhered to. It is only possible to diagnose our clearly outlined disease type of acute akinetic motility psychosis when the anamnesis of the case is known, then it can be established that the akinetic symptoms have independent significance and not grafted on another disease type previously present. Hence a certain duration of the akinetic state *in continuo* is important for the differential diagnosis from other motility psychoses to be spoken of later. Only a remittent condition of the akinetic phase, so that it is interrupted by a cessation of the symptoms for a few days, sometimes occurs and must be expressly mentioned. Sporadic interruptions of the immobility by apparently spontaneous acts to be really considered reaction to hallucinations have been spoken of. I only touch upon the diagnosis from melancholia owing to the still prevalent confusion in nomenclature. The pronounced cases of so-called melancholia attonita or *cum stupore* all belong here. Only intrapsychical akinesis or dementia and the so-called depressive melancholia could be confounded with our disease. Still the pronounced reactive akinesis is never found, as in the akinetic motility psychosis, the contrast between the defective initiative and the well retained reactions to external stimulation is always very conspicuous. Further, in dementia, as well as in depressive melancholia, the specific motor symptoms of muscular rigidity, negativism, flexibilitas cerea and pseudoflexibility are wanting.

The *treatment* of the akinetic motility psychosis has a number of the most important tasks to accomplish, which are joined to very definite symptoms. Here belongs primarily the effort to overcome the refusal of food. These cases must usually be fed artificially for a long time, i. e., by the use of the tube. Much has been said for and against the propriety of this measure, and there are still a few authors who reject it owing to the dangers incident to it. I am far from denying these dangers; must emphasize rather that in the most careful manipulation and with much practice in this procedure it may occur that the patients inspire the food and in this way suffocate. This occurred to me once, and the tracheotomy at once performed could not avert the fatal

termination. But that will only warn us not to force the feeding under all conditions, but to cease at once as soon as violent strangling or coughing interfere with the flow of the feeding mixture, or it may seem uncertain whether the tube is in the trachea or not. The mechanical difficulty which is sometimes encountered, consists in a paralytic lowering of the larnyx, the same condition which sometimes greatly interferes with the introduction of the tube in acute bulbar paralysis. In other cases this condition does not exist, but a spasmodic constriction of the pharynx, by which the larynx is pressed against the posterior pharyngeal wall and the same hindrance produced. The tube introduced by the mouth then impinges on the upper border of the elevated epiglottis, and if it is possible to pass this, then against the open glottis. If such difficulties are encountered it is recommended to pour in a small quantity of some indifferent fluid, like clear water. In every case wait until strangling and coughing have in a measure ceased. If this is not to be attained the attempt to feed is to be given up and repeated at another time. If it does not succeed then, while the indication for forced feeding still exists, the employment of a mild degree of narcosis will have to be resorted to. It is recommended not to use chloroform, but ether, and the narcosis is not to be carried beyond the point that a reflex act of swallowing can occur. At another time it will be preferable to entirely dispense with the introduction of the tube and to be satisfied if only small amounts of fluids are swallowed spontaneously, also nutritive clysters are to be tried. But there are always certain exceptional cases in which such difficulties are met with, either that an energetic conscious resistance is confronted or that it is a matter of a dream-like, impulsive resistance in totally mistaking the situation or dominating hypochondriacal and anxious ideas. In by far the larger number of cases artificial feeding is without essential resistance, and it would be wrong not to employ it in these cases, because it offers dangers in certain other cases. The patients often become quickly habituated to the operation and even assist or manifest other signs of gratitude. Generally a thick Nelaton's

catheter with lateral openings is to be selected. Feeding through the nose is more practical by far and usually easier than that by the mouth. A mixture of milk, sugar and eggs in Voit's proportions is generally recommended for tube feeding. Medicines or wine may be properly poured in after the feeding. Feeding is usually to be performed twice in twenty-four hours.

The necessity of feeding is partly due to the severity of the disease. I cite the case of a young girl who was admitted to the Clinic on the eighth day after the acute onset of her disease and died within three weeks with irregular fever and rapid loss of strength. The feeding encountered no difficulties and was performed regularly, nevertheless the loss in weight amounted to eighteen pounds at the time of death, then almost a pound a day. The autopsy showed no organic disease but the abnormally low brain weight of 1100 grams. A similar loss in weight in spite of sufficient nourishment is quite often observed in akinetic motility psychosis, and shows how severe the whole disease type is to be regarded.

Next to attention to the nutrition, that to the bowels and bladder is the most important. Catheterization is quite often necessary, besides a sort of habit is to be striven for by taking the patient out of bed regularly and to the closet. In very clouded sensorium or in consequence of other conditions dejections in bed occur, so that the greatest attention to cleanliness is to be carried out. Besides, the danger of decubitis is so slight that I have never seen it in this disease.

In my opinion the state of the muscles is a special and grateful object of treatment, but I cannot cite extensive experience in this line, because the conditions of the Clinic are unfavorable. But consider what great value the state of the muscles must have in part for metabolism, in part for the patient's subjective well-being, a systematic treatment of the muscles is to be attempted in all the cases when the external conditions render it possible. This treatment will have to consist in regular passive movements, massage and local faradization of the muscles. I need not

especially call attention to a proper care of the skin by ablutions and baths.

The *prognosis* of the disease *quoad vitam* is always questionable, not only owing to the dangers due to the individual symptoms, like refusal of food, but from the whole character of the disease, as I have already stated. Besides the acute initial stage is of special danger in many cases, in that the physical perplexity may cause severe self-mutilations, the autopsychical perplexity suicidal attempts. I have cited a case in which many suicidal attempts had been frustrated before the patient was admitted.† If the akinetic stage is passed life in general is no longer endangered, i. e., if no special complications exist, of which I will merely mention those of stomatitis and scorbutic hemorrhages into the tissue. Now the question becomes important whether restitution, the termination in dementia or a progressive chronic psychosis is to be expected. In many cases the prognosis in this respect may be derived from the weight curve. A rapid increase in weight with corresponding improvement in the psychical symptoms permits a quite certain conclusion of complete recovery. Whereas if a pronounced stage of dementia occurs, the increase in weight is of no value in the prognosis; restitution may even occur after a dementia of long duration—to half a year or over. A rapid rise in the weight curve, while a pronounced paranoiac stage develops simultaneously, seems to be of unfavorable import for the final termination.

†See the case 2, Heft 1, of the "Krankenvorstellungen."

(*To be concluded.*)

MIXOSCOPIC ADOLESCENT SURVIVALS IN ART, LITERATURE AND PSEUDO-ETHICS.*

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PRIMITIVE man cannot avoid considering things as endowed with the inner properties discerned in himself, since he has no critical sense.* For him, every object lives, wills, is kindly or unkindly disposed. Thus everything inspires him with suspicion, so that he scarce ventures to touch even the plant which affords him nourishment without propitiatory rights.† As man can ascribe to objects such notions and passions only as he has himself, primitive man attributes to his fetich his own desires, magnified to the highest degree, his hunger, his thirst, his love, his hate, his caprice and his rage. The object like the child's doll, continues to be in the primitive mind that which it is in the external form. The stone remains a stone, the river a river. Water itself in its proper form and with its native properties is invested with anthropopathic characteristics. The same apprehension of things occurs in children. The little girl who, in perfect serious-

* Continued from the *Alienist and Neurologist*, Feb., 1905.

* F. Schultze: Fetichism.

† Bastian: Beitr. z. vergleich. Psychologie.

ness, regards the doll as a playmate, who strips and clothes it, feeds and chastises it, puts it to bed and hushes it to sleep, calls it by a personal name, etc., never imagines that all her care is bestowed on a lifeless thing. For her, the doll is possessed of a human life bestowed upon it by herself. The fetichic conception here described establish a mysterious "religious" state which necessitates restriction and safeguards or taboos.* Men and women at marriage, women during menstruation, pregnancy and childbirth, infants, boys and girls at puberty, not to mention other critical conditions, are in this mysterious "religious" state. They are dangerous and are themselves in danger. The person, as Frazer† has lucidly remarked, charged with this electric force, which is both dangerous and beneficent, must be insulated by various taboos.

Primitive taboo still exists in all its pristine strength, but split up into religious, moral and social habits, each distinguished by different terminology. The ease with which the Polynesian term taboo passed into modern languages illustrates, as Crawley forcibly remarks, the continuity of culture and the identity of elementary human ideas. From the anthropopathic conception of primitive man arises his belief in the omnipresence of "spirits," with like caprices and passions, to himself. Supernatural personification does not cover all of primitive spiritualism. These dangers are still undifferentiated and combined in one *genus* in which there is no distinction between natural and supernatural, real and ideal, nor between persons and other existences. These "spirits" are really material, though unseen; many are simply "influences," states of matter, impersonal forces. The atmosphere is thus charged with "bacteria" of invisible mischief, or with "spiritual" electricity. Man needs to walk warily, since at any moment he may be endangered by this hylo-idealistic force.

These "influences" produce states of "religious" peril. This primitive conception of danger leads to the precautions of "religious" type characteristic of early ritual. It

* Crawley: Mystic Rose.
† Golden Bough.

appears in two main forms: the predication of evil and the imposition of taboo. Primitive man, indeed, mankind in general, are very secretive concerning their functional life.

Evil "spirits" are not always clearly distinguished from transmissible properties of matter. When President McCosh ascribed the typhoid epidemic at Princeton University, a quarter of a century ago, to a "mysterious dispensation of Providence," he adopted this conception of primitive man.

General ideas concerning human relations are the medium through which all taboo works. These conceptions center upon contact. Ideas of contact are at the root of the conceptions of human relations at any stage of culture. Contact is the one universal test, as it is the most elementary form, of mutual relations. Desire or willingness for physical contact is an animal emotion more or less subconscious, characteristic of similarity, harmony, friendship or love. Avoidance of contact, whether consciously or subconsciously presented, is no less the universal characteristic of human relation where similarity, harmony, friendship or love is absent. Primitive physics no less that modern recognizes that contact is a modified for of a blow. Avoidance of contact is the most conspicuous phenomenon of taboo when its dangerous character is dominant.

This material transmissibility renders contact of such importance. Transmission of properties, whether of nature, man or "spirits," is behind avoidance or desire for contact. Every part of the body, according to primitive science, is impregnated by man's properties. The parts especially so considered are those held to have special connection with life and soul, chiefly important organs and centers.

Biologically the sexual impulse is a development from the nutritive.* The primary close connection of the two functions continued in thought, subconscious and physiologic and appears sometimes above the threshold of consciousness. If contact of the two sexes be always potentially dangerous through fear of contagion of properties, this danger is in primitive thought multiplied and enhanced when

* Clevenger: Physiology and Psychology.

the contact is most intimate. The supreme biologic importance of the nutritive impulse, of which the sexual is an extenuation or complement, and the delicate mechanism of the reproductive organs, have determined in the usual ratio man's psychologic attitude toward the function. Periodicity has made coitus less ordinary psychologically and more shrouded in secrecy than hunger. It is hence, more surrounded by fear and mystery. The instinct for performing important functions in secret arises from anxiety for unimpeded performance and from fear of interruption.

Sexual taboos originated in sex differentiation, occupation differences and sex solidarity. This biologic phase is permeated by a religious element involved in human relations regulated by contact. The central motor element is the dread of transmission of properties of one sex to another. Women being, in primitive biology, the great spirit attractor, has the most mystic functions. The origin of the occult powers attributed to women, according to Durkheim,* is to be found in primitive ideas concerning blood. Blood is generally taboo and taboos everything which comes in contact with it. Woman is periodically the theatre of bloody manifestations, and therefore tends to be chronically taboo for other members of the community. A more or less conscious anxiety, a certain religious fear, cannot fail to enter into all relations of her companions with her, and that is why all such relations are reduced to a minimum. While the primitive emotion is mainly one of veneration, there is an element of fear in such veneration, and what men fear is to some degree odious to them. Woman at menstruation has, according to primitive theology, intercourse with the spiritual world, and is more or less a potential witch or properly a vala, for, as Havelock Ellis† points out, she is not accurately described in the couplet:

> Oh menstruating woman, thou 'rt a fiend
> From which all nature should be closely screened.

Like all supernatural elements in primitive theology, she has the capricious goodness of primitive man himself.

* L'Annee Sociologique.
† Psychology of Sex, Vol. II.

For these reasons, relations of man and woman are always potentially dangerous and later sinful. Intercourse (comensal or sexual) is particularly dangerous from its intimacy. Of the comensal influence, traces are discernible in the lower and middle class German women who serve the men first, afterward eating themselves.

Sexual relations even when lawful are dangerous. Such relations are so intimate that they are incompatible with "repulsion" between the sexes, since the barrier between them does not permit of close union. As the organs specially concerned are the source of the dreaded manifestations, there is likewise potential danger in living together.

In primitive thought, all intercourse has a note of material danger which later splits up into ideas of sin. This results from the breaking of personal and sex taboos through intercourse. Material results of taboo violation naturally evolve into violation of ethics. The *malum prohibitum* thus becomes the *malum in se*. Even ceremonial taboo breaking does not always remove these material dangers and their ethic evolvements. Where sexual taboo is fully developed, the life of husband and wife is a sort of divorce *a mensa a thoro* and the life of men and women is that of two divided castes.

Modern Europeans still fear that quasi-spiritual agencies create marital incapacity and infidelity.* Charms against these are still bought in drug stores in Continental European districts of American cities. To "inoculate" against marital incapacity and infidelity females often place a marriage or engagement ring over a flaccid penis, which later requires surgical removal. This practice crops up in many forms under all stages of culture.

The American wife of a neurasthenic preacher, sexually much exhausted by the erethism of "holiness" meetings, thus created priapism of several days duration. This the wife regarded as an answer to prayer for relief of "love loss" (marital incapacity) caused by spells of evil-seeking women. The husband (sexually much overstrained by the priapism and resultant marital embraces) had to be relieved

* Mystic Rose.

by a saw from the "answer to prayer" applied to his penis by his affectionate wife. In an Ohio case reported by W. B. Wenning* of Cincinnati, a German-American bride of two weeks' duration, on the advice of old German women, slipped her wedding ring over her husband's penis while he was asleep. From the root of the much-swollen penis the ring had to be sawn. In the case of a Kansas clergyman, reported by J. T. Pickerel, of Herndon, † the penis was blackened and swollen to five times its usual size. Woman's hair is sometimes made into a ring for this purpose. This seems a survival of the practice of wrapping around the waist of a recently-circumcised Dieri boy a rope of hair from men's, women's and children's heads. The spell (against which this is a counter charm) appears in witch folklore as low as that of the Central Australians. They believe that sterility will result if a young girl playfully tries on a man's hair waistband. This cramps her internal organs, rendering them incapable of the expansion necessary for fertility. Among the Irish ‡ the woman presented her lover with a bracelet of her hair. Bracelets among the English § were worn around neck, arm or thigh. The so-called love locks of the cavaliers and "confidence operators" ‖ were devoted to this purpose. The occult phallic charm significance of the wedding ring led to an onslaught on it during the Puritan Commonwealth, when onslaught was made on seemingly coarse phallic ceremonies. This Butler ¶ gives as the chief reason:

> Others were for abolishing
> That tool of matrimony, a ring,
> With which th' unsanctified Bridegroom
> Is married only to a thumb,
> (As wise as ringing of a pig
> That used to break up ground and dig)
> The bride to nothing but her will
> That nulls the after-marriage still.

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* Cincinnati *Lancet-Clinic*, 1890.
† *Medical World*, 1890.
‡ Camden: Ancient and Modern Manners of the Irish.
§ Lodges: "Wit's Miserie."
‖ Greene: Defence of Coney-Catching.
¶ Hudibras.

The mixoscopic phase of phallic ceremonies loomed up during the coarse reign of James I. which seems a prophetic replica of that of Charles II. James' "Book of Sports" legally constrained the Puritans to enjoy themselves in what would often seem today coarse fashion. In an attempt to remove coarse phallic ceremonies from marriage, the English Commonwealth made an attempt at marriage reform, afterward secured by permitting registrar marriages. This was an attempt to make marriage a contract free from all fetichism and from the coarse ceremonials thereon resultant. Even as late as the eighteenth century there were many coarse phallic ceremonies connected with marriage. The ceremonial access not only survived in kissing the bride, but in the custom of undressing the couple. The bridesmaids undressed the bride and placed her in bed. Later the bridegroom was undressed by the groomsmen and placed alongside her.

The ring method of securing constancy naturally evolved into the padlock elsewhere described. These were voluntarily worn by men. Nélaton* reports the case of a male patient of Dupuytren's Clinic, who had worn for five years, two gold padlocks with which a woman had locked his prepuce. Association of comensality and reproduction looms up here also. The bride cake† passed through a wedding ring is a well-known charm to secure marriage. This cake and the "kail," "broose" or sack posset were competed for in ways that recall the ceremonies of marriage by capture. One procedure recalls ceremonial access: After the male has eaten a fish closing the vagina, the lovers sup from a cup afterward placed in the vagina; often after, but generally before coitus. In an American case reported by Willard Parker,‡ of New York, a sixty-year-old debauchée placed a goblet in the vagina. In a case reported by N. A. Tolmatcheff, of Kazan,§ a small wine glass was introduced. These placations of "spirits" attendant on women crop up

* Chirurgie T. VI.
† Brand's Antiquities.
‡ *Amer. Jour. Med. Sciences*, Vol. xviii, 1849.
§ Rusky Vratch, 1892.

quite frequently, but are usually regarded as algophilistic expressions though there is an obscure idea of preventing "ill luck" behind them. Children often "feed" their vaginas. This co-mingling of comensal and sexual ideas also crops up in the insane. The vaginas of the patients of one ward in the Cook County Insane Hospital (under charge of a female medical politician and two relatives of boodlers) contained decomposed food placed there under an obscure idea of "feeding" the sexual apparatus.

(*To be continued.*)

THE PANAMA PAN-AMERICAN MEDICAL CONGRESS.

THE SANITARY, SOCIAL, TOPOGRAPHICAL AND POLITICAL ASPECTS OF THE PANAMA CANAL ZONE.

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

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THE fourth Pan-American Medical Congress, held on the 3-4-5-6 of January, has passed into history. Some embarrassment, in connection therewith, was occasioned by the delayed arrival, until the afternoon of the sixth day, of the Eastern contingent, which started from Baltimore by the steamer *Athos*, being delayed by stress of adverse weather until the afternoon of the last day of regular session. But this part of the congress, consisting of Drs. Guiteras, Keene, McDonald, Nancrede and others, held sessions on the steamer *en route*, and on report of their work to the congress, after their arrival, their proceedings were, on motion, duly accepted and recorded as part of the congress.

The *Athos* was equally unfortunate returning. Only three of its party of physicians held to the steamer to the end of the return trip, the others becoming alarmed and deserting at different ports. They finally reached Baltimore four days late, after encountering severe gales, being

carried 150 miles out to sea and the party having given themselves up for lost.

The most interesting and apropos papers and discussions were those of the second day, on yellow fever, if we might except the severely and fatally prevalent, pernicious malarial disease, manifest especially in haemoglobinuria or black water fever along the canal belt and the Chagres River district generally. This is the destructive malarial toxhaemia, which, with its icteroid hue, bloody urine, bilious vomiting and nephritis, ending so often in death from blood cell destruction and its hemorrhagic, uraemic and embolic sequallae, and which so decimated and terrorized the "forty-niner" gold seekers who went by that route to California, the new Eldorado for Americans living in the middle of the last century and for a couple of decades later, when the course of travel to the Sutter Mill country was changed by the completion of the overland railway route via Omaha to San Francisco in 1869. This black water fever is the same grave disease as the black water fever of the west coast of Africa, and so closely resembles yellow fever that it is not singular that, before the wonderful modern advances in bacteriology, eminent observers like Doctor Samuel Cartwright, of New Orleans, should have regarded these two morbid entities as identical. The appearance of the parasites of aestio-autumnal and quartan fever might suggest the possibility of an evolutional relation as well as the clinical resemblance of yellow and pernicious fever.

In the days of my youth when acting as an interne in the U. S. Marine Hospital of this city, I recollect especially two Greek sailors, who, as deck hands, had come up from New Orleans on a Mississippi River steamer, and had been taken ill and sent to us. Though diagnosticated by the custom house physician as yellow fever, their symptoms were so much like pernicious bilious remittant fever, that they were for several days so regarded, but they both died and the original diagnosis was allowed to stand.

From all that could be learned, the black water fever is quite as pernicious as yellow fever and the yellow fever seems to be engrafted upon a soil enervated by continuous

prevalence of more or less malaria in the system, combatted by doses of quinine too minute taken at too long intervals, as for instance three grains of quinine taken only once a day as a prophylactic, as recommended by that otherwise vigilant and capable health officer of the Isthmus, Dr. Gorgas.

I regret to have to differ from him in regard to the complete potency of these small daily doses. But, craving Colonel Gorgas' pardon, fidelity to the demands of imperrilled humanity on the Isthmus and to a sound therapy, compel this gentle suggestive dissenting protest. Microscopic examinations of malaria germ poisoned blood before and after the administration show that eight grains of quinine sulphate is necessary, in ordinary human organisms, to paralyze the plasmodium malariæ and to keep them inactive, the repetition of at least three eight-grain doses is ordinarily necessary.

I have ordinarily given three ten-grain doses of the bisulphate, or six five-grain doses daily to counteract the malarial poison. There is a tradition among many southern practitioners in the United States, especially in the regions of Texas where break-bone and pernicious malarial fever prevail, that small, long-continued and inadequate, only partly abortive prophylactic doses of the cinchona salts predispose to the fatal forms of malarial melanaemia. And this tradition may be found of record in several of the southern state medical journals, especially in those of Texas. Some southern doctors have maintained that quinine in any dose short of complete malarial destruction renders a person often malarially poisoned, liable to malarial haemoglobinuria. I believe this contention to be a clinical and pathological truth. Temporizing with insufficient doses of quinine in malarial disease does not save the patient from the final disastrous effects of chronic paludism. An abortive or inadequate prophylaxis, while it postpones the advent of pronounced malarial fever attack by keeping the plasmodium of Laveran more or less quiescent, does not fully protect the blood and vital nerve centers from the depressing and destructive effect of malarial cachaemia. The vaso-motor

centers especially suffer in proneness to paresis and sequent hyperaemia. Vital nerve center metabolic influence and resistance are weakened and under a vigorous onslaught of the plasmodia, at an unguarded time, the patient is overwhelmed and malarial toxhaemia appears in hemoglobinuric plasmodium form with all of its other attendant alarming symptoms and speedily fatal ending.

My experience at Panama and Colon was not an especially invigorating one—the weather was depressingly warm and humid much of the time, and on the way home a mosquito bit me at Colon and at Bocas del Toro on board the ship. Colon had a number of stagnant water lots and street pools of impure water, and the ground is very marshy all over Bocas, harboring mosquitos. Encountering a northern cold wave when two days from New Orleans, penetrating chilly weather and finding the weather still colder at St. Louis. At New Orleans I had aches and fever, and hot and cold sensations, requiring quinine five grains every four hours and a mercurial to suppress it, although I had taken a five grain capsule every two or three days while in Colon and Panama, intending but neglecting to take more and more often. The malarial symptoms vanished under a mercurial and vigorous quinization of thirty grains daily.

It is claimed by those who have lived on the Isthmus half a century, that while there may have been many deaths from that cause, there has never been a real epidemic there of yellow fever in the last fifty years. Tropical malaria is the worst scourge of the Isthmus, worse than yellow fever,* berri berri, neuralgias or dengue. The number of deaths from all causes is said by one observer to have been twelve hundred in five years, among the six thousand toilers of the canal belt,† but this does not include the large number who, feeling their health giving way, went to recover or die after a brief stay in the isthmus in a more congenial climate. Another account gives 42,000 in one year, 1888. But there are salubrious and delightful places in the canal district, comparatively free from malaria, like the Sabana, where the Con-

*Address to the Pan American Medical Congress, by Mr. Tracy Robinson.
† Ib.-Id.

gressists, first arriving, were delightfully entertained January 4, as guests of the government of Panama, at the villa of Senor Dr. Pablo Arosemena, vice president. The party was cordially chaperoned by Dr. Arosemena, Secretary of State, President Amador and wife, and other ladies, Major LaGarde, Drs. Silva, Echavaria, Tomassadi, Obario, Calvo, Corrafles, Casteazoro, Ross, Gorgas, Carter, President Icaza, of the Congress, and others of the Panama government and profession. The spread was elaborate and elegant, with many pleasing tropical features. Ancon Hill, amid the Sierras, where Dr. Carter's canal belt hospital is placed, is also salubriously located. The congress was also cordially received there and most hospitably and instructively entertained, after having returned from an enjoyable and profitable visit to Culebra cut, the highest point and to be the deepest excavation along the canal route. On a neighboring eminence in the vicinity is also located another U. S. government canal zone hospital, and in the vicinity are a number of residences for canal officers and workers. The Ancon hospital site as well as that of the Culebra hospital were selected by the French, and occupy plateaus not too far from the sea to get the benefit of the sea air and breezes. Ancon is beautifully surrounded by Royal Palms and located not far from the lake which is to be the source of the new water supply; it has railway and telephone connections with Panama city and important places within the canal area as likewise do the other hospitals. Water from Rio Grande lake, near Culebra, is to be conveyed to Panama and points along the canal and a sewage system equal to that of any city in the United States, according to Engineer Davis, superintending this work, is promised within three months.

The Sabana is located on a healthful and delightful plain to one side of a lime grove. On a beautiful field in another part, a mile or so away, are the residences of President Amador, fifty years a doctor of medicine before having been elected President of Panama, and Secretary of State Major LaGarde. Other villas and cabannas are here located also. Sabana signifies a large or very large plain accord-

ing to the accentuation on the first or second syllables of the word.

This section appears to be salubrious enough and otherwise sufficiently attractive and pleasing to make an ideal place for a general hospital, especially for chronic invalids and convalescents.

Taboga Island, famed for its freedom from malaria and other germ diseases and for its delicious pineapples and good aseptic water, has a sanitarium upon it located by the French company, now transferred to the government health department of the canal belt, would be a splendid location for a similar hospital. The congressists were taken there also by the Panama government, chaperoned by President Amador and his amiable, handsome, charming and agreeable wife, who served mangoes and pineapples to the party after the splendid luncheon given on the excursion boat's return to Panama.

There are other islands and many seaside places favorably and conveniently placed for canal zone hospitals and sanitaria about Panama and Colon. The Marine Hospital at Colon is located on the beach.

Dr. Paul Austerhut, in the Marine Hospital Service and Dr. R. H. Wilson, both at Bocas del Toros Island, gave me some valuable information about this island and its diseases. The city is to be raised throughout so as to do away with its marshy malarial character. Dr. Austerhuts' method of managing the prevalent hemoglobinuric malarial fever is to administer maximum doses of quinia in the very beginning repeated hypodermically and per rectum, if necessary, till the patient is sufficiently saturated with the anti-malarial salt to save the blood from further depredation by the malarial parasite. He learned this method in the southern United States.

The best doctors for the Panama region are medical men from the sections of the states of the south where malarial disease, pernicious in form, especially from southern and central Texas and the southern part of Oklahoma, Arkansas and the Indian Territory, prevails.

As illustrative of the vigilance of the "canal belt"

health authorities in regard to the suppression of malarial disease and of the paramount significance they attach to this "marsh miasm poison" as it used to be called, I insert a copy of a circular, number 13, issued by Colonel Gorgas, and placarded in every hotel room and public house and in other public places, dissenting at the same time from the prophylactic dose of quinia recommended as too minute, and the statement that the female mosquito must always bite some malarially infected human being before she can be infected.

War Department, Isthmian Canal Commission, Office of the Chief Sanitary Officer, Ancon, Isthmian Canal Zone, November 28, 1904.

Circular No. 13.

This circular is handed to each new arrival upon the Isthmus for the purpose of instruction as to how to avoid the disease most prevalent in Panama and the Canal Zone —malaria. Its cause is now well known and each one, with a little care, can do a great deal toward keeping free from this disease.

It has been proven that malaria is only given to man by the bite of a female mosquito of a certain species (*anopholes.*) This female mosquito must always bite some human being suffering from malaria before she can be infected. In biting she draws blood from the person suffering from malaria, and in the blood thus drawn, she takes in the malarial parasite. Within a few days, this parasite infects the mosquito herself, and when she next bites a well person she injects her spittal into the bitten place. In this spittal the malarial parasite is injected, and thus the healthy person contracts the disease.

Now, if every one would use a mosquito bar, so arranged that no mosquitoes could get into the bar at night, much protection would be secured from the disease; for, while it may be contracted during the day time, it is not so likely to be. Probably nine-tenths of the malarial cases contract the disease during sleep, because the malarial mosquito is a night biter and the person is quiet at this time.

Absolute protection from mosquito bites is impossible; but it is known that quinine is a deadly poison to the malarial parasite after it gets into the blood of a human being. If, therefore, every one would take three grains of quinine, once a day, any malarial parasite that has been introduced during the day would almost certainly be killed. The best time probably to take quinine is before going to bed at night.

W. C. GORGAS,
Colonel, Medical Corps, U. S. A., Chief Sanitary Officer.

Besides the many excellent precautions adopted by Drs. Gorgas and Carter, LaGarde and others of the medical staff of the Panama Canal Zone to prevent the spread of yellow fever and malarial contagion by screening infected patients from contact with mosquitos, a rigid system of general complete screening of all houses in the Isthmus of Panama, and screening of the cistern openings, should be enforced, including the dwelling places of the lowly and the lowest of the lowly as well as the highest, among the dwellers in Panama, Colon and all other places in the canal zone. I saw mosquito infested cess pools in Colon which ought not to be tolerated even in the outskirt streets in St. Louis, which is above the yellow fever zone.

The omnipresent filthy black buzzard that feeds on carrion and offal, and, resting from his scavenger labors, deposits his excreta on the roofs of houses that are water sheds for the cistern drinking water, should be exterminated, as well as the parasite malarial and yellow fever poison-bearing mosquitoes.

The common people, down to the lowest of the lowly, should be taught to fear and fortify themselves against the mosquito's bite and all the sources of the mosquito's sustenance in cisterns and stagnant pools of marshy water.

Pure distilled water and manufactured ice should supplant the now too universal use of liquors there. The Panamanians should know the value of boiled and sulphate of iron precipitated drinking water, cooled with manufactured ice, and in bottle at night time and free from exposure to mosquitoes.

It is a good thing to have the officers and hospital quarters in the high salubrious locations, but the whole canal zone should be made sanitary by drainage, free distribution of petroleum, aseptic food and water and air, for all who work on the great enterprise. The counsel and employment of wise physicians, skilled the unsanitary wounds of malaria and yellow fever to avert and heal, save an army of workmen for the public weal and millions of dollars and thousands of lives in the line of this enterprise's promotion.

Cleanliness and the mosquito and buzzard extermination, should be proclaimed throughout the whole canal reservation and Panama should do likewise with the whole republic.

I have said the most interesting discussion at the congress was on the propagation and prevention of yellow fever. It followed the reading of Dr. Carlos J. Finley's (chief sanitary officer for Cuba) paper, fluently and forcefully read by Dr. Martinez, of Havana. The following are the principal points on yellow fever:

"The Pan American Congress, at its third meeting, held in Havana, in February, 1901, listened to the first public proclamation of a scientific doctrine concerning the cause of yellow fever propagation, which, although not new in its conception, was being for the first time experimentally demonstrated in a manner which could leave no reasonable doubt as to its correctness and solidity. From the majority of the members present on that memorable occasion, an immediate and absolute acceptance of a doctrine decidedly subversive of all prevailing creeds regarding the etiology of the most dreaded of all American diseases, was not to be expected even in the face of such conclusive evidence.

Doubts were at first suggested as to the conclusiveness of the experiments; but so scientifically and carefully had all sources of error been excluded, that the doubters had to fall back upon the familiar resource of questioning the competence or impartiality of well-trained and unimpeachable experts upon whom had devolved the duty of confirming the diagnosis of yellow fever in the experimental cases that

were submitted to them by the U. S. Yellow Fever Commission in Havana (1900 and 1901). The congress heard at that meeting, a brilliant account of all the experiments which had been carried out by the commission and its conclusions, from the lips of the distinguished chairman, Major Walter Reed, U. S. Army, whose untimely death, the following year, we all mourn as a great loss to science, especially in a field of investigation for which he was so remarkably gifted.

Subsequent experiments on the same lines, gradually gained new adherents to the doctrine. Its confirmation by Dr. John Guiteras, in Havana, the ensuing summer, additional experiments by the first commission later in the same year those of Working Party No. 1 of the Marine Hospital Service, in Vera Cruz, in 1902, others by a Brazilian Commission, at Sao Paulo, and, finally, those of the French Commission from the Institut Pasteur, in 1903 at Rio de Janeiro, brought over every truly scientific mind to accept the conclusion that the mosquito now classified as *stegomyia fasciata* is indeed a ready transmitter of the yellow fever infection. Yet many still demurred at acknowledging the intervention of that insect as the only agency through which the disease could be propagated, to the exclusion of every other.

This point was the last entrenchment behind which the doubters had sought refuge. It had figured nevertheless as one of the fundamental tenets of the doctrine, as conceived by its founder, and the one which had led him to identify the particular kind of mosquito by which the disease is transmitted and to map out the methods by which the propagation of yellow fever might be surely prevented, namely, by keeping yellow fever patients from being bitten by that species of mosquito or by protecting all non-immunes against the bites of any *stegomyia* that might previously have bitten a yellow fever patient.

It has required no less than 36 months of uninterrupted immunity from that disease, in a locality that had never known a single summer of such immunity during the preceding hundred years—36 months without the occurrence of

a single case of yellow fever originated on the Island of Cuba, and the conviction that this immunity could only be attributed to a strict observance of the two aforesaid rules, to dispel the last doubts as to the fact that no other precaution is needed, and that provided those precautions be faithfully observed, yellow fever patients can be voluntarily admitted and treated in a former habitat of the scourge without any fear of its propagation.

To Colonel W. C. Gorgas, U. S. Army, who was Chief Sanitary Officer for the Island till May 20th, 1902, belongs the glory of having first driven the infection of yellow fever out of Havana, in the course of seven months, ending in September, 1901, through his assiduous observance of the same rules. This meant *ipso facto*, to drive the disease out of the Island, since no other locality, except Havana, held at the same time a sufficient proportion of non-immune inhabitants to foster the development of self-supporting centres of epidemic yellow fever, so long as the well regulated vigilance of the Marine Hospital Service could be relied upon to bar off the surreptitious introduction of yellow fever patients or of infected *stegomyias* into Cuban ports.

After eight months of immunity, in May, 1902, when the Republic was proclaimed in Cuba, many physicians still doubted, attributing the immunity to the winter and spring seasons, and prophesying a return of the usual epidemic as soon as the summer season should have fairly set in. But they were doomed to disappointment.

This paper it will be seen fastens the guilt of carrying the contagion of the fatal yellow scourge upon the *stegomyia fasciata* as the chief, if not the only, malefactor in the premises. It almost excludes all other sources, though bed bugs, flies, rodents and chiggers may require further watching for exculsion.

In further confirmation of the mosquito's guilt, while the ill-fated surgeon of the U. S. S. *Boston* was sitting talking with one of our party at Panama the death-dealing mosquito lit upon him but did not attack the other, who returned safely home to the United States.

The proof against the stegomyia is so strong as to prove

his guilt as the principal propagator of yellow fever, but we should not rest secure in the belief that we have found the only and exclusive criminal. We should not cease our microscopic research for participating criminals before and after the fact, among all other insects and other parasites, animalculae and rodents of yellow fever and malarial districts. The *chiquito chequ* or chigger that lives in the coarse luxuriant grass, and enters the skin, multiplying and infesting man and causing almost intolerable torment, might in this connection be brought under suspicion and microscopic inspection. With the low temperatures that destroy insect life, especially mosquitoes and flies, yellow fever disappears and malarial diseases diminish. In dry cool seasons, milder types and more ambulatory forms of both yellow fever and malarial diseases appear. Yellow fever north of the tropics is a summer time disease and malarial disease is there largely autumnal. Notwithstanding all we have lately learned respecting conditions and causes of yellow fever and malarial disease we have not yet reached the finality of knowledge therein. The reasoning of that Macaulay of modern medicine, Dr. Watson, as to the malaria and the winds that waft it, and the conclusion of Trousseau that alternation of heat and cold conditions developing chills and fever proven by the night time bathing in the Seine, fell far short of fact. Neither of these great medical observers and philosophers discovered the real and immediate cause. With all the facts thus far brought to light it ought to be plain that, the government of the United States having undertaken to make a great direct waterway between the Atlantic and Pacific oceans, should spare no expense, first of all to search out and suppress the causes of disease along the canal region. Its first duty is to save the health of the builders and make the canal zone healthful to all of the world who may wish to live there or pass through the projected waterway.

To free Panama of yellow fever as Cuba has been freed of the scourge and divest it of its deadly malaria, will be a greater and more triumphant glory for the United States than to build the Panama Canal and leave the canal belt still scourged with these two fatal depopulators of the

tropical earth; far more grandly praiseworthy than conquering armies enlisted for the public welfare. A healthful Panama Canal zone on this great Isthmus should, under right sanitary conditions, become a cosmopolitan abiding place, where Europe and Asia might meet and dwell together in healthful unity, prosperity and happiness. This would prove the crowning glory of the century to the nation that should accomplish it.

The greatest epoch in the life of Greece, or the grandest days of Rome when her legions ruled the world, or when the empire of Constantine embraced the Bosphorus, or the best days of Germany, or Spain, or Great Britain, though better ones are doubtless to come for this great nation, or the better days to come to a freer Russia, can not be justly compared to a sea level Panama Canal, finished and made sanitary so that all the people of the earth might pass through it, or any of the earth's people might dwell therein, or at its terminals, or along its borders in healthful security and safety from its death dealing miasms and microbes.* The first and most economical measure for efficient work in the canal zone and prompt completion of the work is an adequate, even lavish outlay for its perfect sanitation with the calcium light and electric light of the best modern medical research thrown thereon, and its sanitary problems worked out to a successful finish under this illumination with microscope, test tube, crucible, barometer, thermometer and all modern therapeutic and prophylactic resources. One of the greatest of all our country's glories is before it, in the coming decade, in the solving of the great sanitary problem of exterminating yellow fever and the other tropical diseases of the Panama Canal zone and nearer the American capital. The sanitation of the isthmus should go before the mechanical engineering of the canal, the doctor before and not alone after the digger, with the undertaker behind him. The cutting down of Culebra should be accomplished without the cutting down of myriads of men in their prime, as the French did, and when the canal shall have been completed, as it will be, because a nation that knows no such word as 'fail' is doing

* There are now 135,000 laborers buried in Monkey Hill Cemetery, near Colon.

the work, let it be a salt water sea level canal, washed from ocean to ocean by health-bearing, disease-dispelling sea water, untouched by the water of tainted Chagres River, if that be a possibility.

The question as to whether the mosquito and the stygomyia are the only germ-carriers should be the subject of government investigation. All other toxic sources should be excluded, if it be possible to exclude them by search and sight of science, and this research should be directed and conducted with no grudging hand, and the remedies of science should be unstintingly applied. Governmental parsimony in this regard and at this period of the canal work would be criminal and cruel to humanity, in its keeping. Especially should the aptitude for auto toxic fevers and neuroses be avoided by not overtaxing the canal workmen. No one in the canal belt should be either forcibly or voluntarily overworked. The eight hour system at least for all, overseers, engineers, draughtsmen, medical men, servants, laborers of every description, with adequate intervening rest, sleep and abstinence from alcoholic drinks as beverages, should be enforced as a matter of wise sanitation, true economy and pure justice to all concerned.

Eight hours of work or watch, eight hours of sleep and eight hours for meals and recreation, breaking work reliefs into four along the zone, with enforced temperance in all things between sleep and labor hours, would improve the working efficiency of the whole force, and paradoxically as it may appear to those who think the work should be rushed, whether the men are well or weary or sick, this plan would hasten the completion of the canal. Make haste slowly is the wisest health motto here.

The lesson of sanitary prophylaxis now being taught us by Japan should be learned and practiced at Panama. In general Oku's army, several hundred thousand strong, while nearly twenty-nine thousand officers and men were killed, "died on the field of honor," but forty of this vast army died of disease. Concerning this wonderful showing, a military companion in arms of other days, Captain W. R. Hodges, Secretary of the Loyal Legion, my companion of the

order, in a recent paper read before that distinguished body of ex-army officers, justly remarks: "The military department of our army, the cavalry, ordnance and infantry, is represented officially with both Japanese and Russian armies, but the medical and commissariat departments, having nothing to learn, are unrepresented. So far as I have observed, not a move has been made either in the army or in Congress to profit by the wonderful lesson taught."

This remarkable conservation of health, as Captain Hodges comments "did not happen to, but was the result of the application in the most thorough manner of scientific methods, methods which are not the exclusive property of Japan but known the world over," and this all medical men know. It happened in this way:

At about the outbreak of the war with Russia a Japanese officer was asked how they could hope to cope successfully with a nation having the enormous resources of Russia. He replied as follows: "Russia may be able to place 2,000,000 men in the field. We can furnish 500,000. You know in every war four men die of disease for every one who falls from bullets. That will be the position of Russia in this war. We propose to eliminate disease as a factor. Every man who dies in our army must fall on the field of battle. In this way we shall neutralize the superiority of Russian numbers and stand on a comparatively equal footing." They counted on the stupidity and conservatism of Russia the same as they would count on the stupidity and conservatism of this country were they to have a war with us. How well has the prediction been justified of the elimination of death by disease!

Compare the result on the Japanese side of the Russo-Japanese theatre of war with that of the Federal or Confederate armies during the civil war of 1861-65, or of the late Spano-American conflict; "during our great war, 150 out of every thousand three year men died of disease—249,458 altogether. During the war with Spain 1400 men died of disease for every hundred men killed in battle."

These figures are quoted by Captain Hodges from the records of the war department for the Federal army. A curious feature in the report of mortality from wounds in Gen-

eral Oku's army, notes Captain Hodges, is that precisely the same percentage, sixteen, appeared in the Union army during the civil war, of 1861-65. The quick recoveries in the Japanese armies are from bullet wounds.

The following record quoted from another source, but also included in Captain Hodges' paper, shows the methods of procedure of the Japanese surgeons and their high appreciation as worthy men of action in war by the field and line officers and men of Japan's army corps, divisions, brigades regiments and battalions.

At the meeting of the national society of military and naval surgeons at the World's Fair last October, Surgeon Louis L. Seaman, who had spent several months with the Japanese army in Manchuria, as a volunteer and not as a representative of our army, gave an insight into the methods whereby the Japanese have been enabled to nearly eliminate death from disease. He said: "The medical officer is omnipresent. You will find him in countless places where in an American or British army he has no place. He is as much at the front as in the rear. He is with the first detail of scouts with his microscope and chemicals, testing and labeling wells, so that the army soon to follow shall drink no contaminated water. When the scouts reach a town, he immediately institutes a thorough examination of its sanitary condition, and if contagion or infection is found he quarantines and places a guard around the dangerous district. Notices are posted so that the approaching column is warned and no soldiers are billeted where danger exists. Microscopic blood tests are made in all fever cases—and bacteriological experts, fully equipped, form part of the staff of every divisional headquarters. The medical officer also accompanies foraging parties, and with the commissariat officers, samples the various food, fruits and vegetables sold by the natives along the line of march, long before the arrival of the army. If the food is tainted or the fruit overripe, or the water requires boiling, notice is posted to that effect, and such is the respect and discipline of every soldier, from the commanding officer to the file in the ranks, that obedience to its order is absolute. The medical officer is also found in camp, lecturing

the men on sanitation and the hundred and one details of personal hygiene, how to cook, to eat, and where not to drink, to bathe and even to the direction of the paring and cleansing of the finger nails to prevent danger from bacteria. Long before the outbreak of hostilities he was with the advance agents of the army, testing provisions that were being collected for troops that were to follow, and as a consequence of these precautions he is not now found treating thousands of cases of intestinal diseases, diarrheas or dysenteries, contagion and fevers that follow improper subsistence and neglected sanitation, diseases that have brought more campaigns to disastrous terminations than the strategies of opposing generals or the bullets of their followers."

Let the United States government follow to the full and to the finish, the suggestions of its medical corps in the canal belt, let it increase the medical staff to one medical man as physician and sanitarian to every hundred or every fifty workmen, more if need be, and these of the highest grade; let the canal builders and designers and diggers be saved in health, that the work may show and the world may see a marvellous and glorious illustration of the adage "peace hath her victories no less renowned than war," and that the psychiatry of assured sanitary environment is potent in the conservation of health and life.

But let the work be rushed regardless of the sacrifices of health and lives shortened by overwork, built in blood and on dead men's bones, and the record will be infamous. The wrongs of wrecked humanity in its wake, will cry out reproachfully and damnably against us. Ruin of men who have the right to a fair chance to live, should not go with the rush of this great work. Give the medical and sanitary engineering departments free reign and freely of funds. Better governmental extravagance than parsimony here. Let there be spent millions for sanitary defense, but not a cent that will make needless corpses.

We hear much from the engineering side of this subject, but not enough from the sanitary side. At the end of the first six months since the American operations began, nearly as many men are at work in the zone as the French had

employed at the zenith of their operations, but the sanitary conditions are much changed, and they are changed for the better. Three hundred buildings have been repaired or rebuilt, sixty new houses are under construction at Culebra, large areas of jungle have been cleared away in the vicinity of Colon, a good sanitary precaution to let in the sun to the marshy earth beneath. Railroad tracks, stations and wharves have been built, four thousand cubic yards of excavation, to be soon increased to fifteen thousand daily, are reported by Chief Engineer Wallace, old machinery is being rapidly overhauled and repaired, and new and better machinery is being put in use, but we do not hear enough of the sanitary engineering, the most paramount engineering of the whole project. The sanitary commission, with a high grade medical man in the cabinet should be heard from in this work above the voice of the civil or mechanical engineer.

Sanitation, and the health and safety which follow it, should be first considered in this work. The microscope, the test-tube, the crucible and the window screen should go before the spade and steam dredge, plow or shovel. *Sanitas primus* should be the shibboleth, and every nation could pronounce and comprehend it.

Among the welcoming speeches on the opening day of the Congress at the Theatre Sarah Bernhardt, very appropriately, was that of the President of the Republic of Panama, Manuel Amador Guerrero, half a century a physician, and honorary president of the Congress, introduced by President Icaza, of the Congress, who referred with proper professional appreciation to the prospective valuable results of the deliberations of the Congress, especially when it should come to consider "those maladies which have filled the foreigners coming to the Isthmus with an exaggerated fear—yellow fever and malaria." Dr. Amador was followed by Chief Engineer John F. Wallace, Dr. W. C. Gorgas, Chief Sanitary Officer, Dr. Julio Icaza, Mr. Tracy Robinson and Dr. J. E. Calvo.

Hon. Tracy Robinson, Panama pioneer, after recounting the failures, vicissitudes and disappointments of the previous canal management, and severely arraigning the Panama Railroad Company for its illiberal, oppressive and unwise con-

duct, complimented the Congress, the medical profession, the Isthmian Canal Health Board and the government of the United States and puts, with the true enlightenment of an experienced observer, sanitation before all other considerations, for the canal zone. He spoke with the voice and wisdom of forty years' resident observation and practical touch with the sanitary troubles of the great undertaking.

The opening of this Fourth Pan-American Medical Congress is a great event. Its meaning and the hopes which shall spring from it will be unmeasurable.

No arithmacy can compete the harvest of beneficence that shall come of it. The honored disciples of Aesculapius whom I have the honor to address, members of the great and glorious guild that holds in sacred keeping the high and noble art of healing, men who by heredity of spirit are descended from the great Apollo, most nobly versatile of all the Olympian gods, need no eulogy of mine. But standing here at the meeting of the continents, where the world is soon to see the mighty oceans joined, I make bold to herald to the two Americas the joy which the meeting of this congress gives us. Panama has hitherto been poor and neglected. The humanities have passed her by. Art, science, learning in any wide sense, have been conspicuous only by their absence. Scholarship is only the echo of a name that has no meaning in our ears.

I believe that Panama under American guarantee of good government, will some day be an object lesson to the world. Not tomorrow, not next year. Time, the best friend and greatest healer of all, will surely be her benefactor. I have an affection for the Isthmus. If more than forty years could make me one, I would be an Istmeño. I join my sunburnt brothers to form a cordon of welcome, to extend the glad hand to this Congress, to bid the members of it feel that they are among friends. To ask them to accept as the genuine expression of the warm tropical heart, the offer of hospitality that is extended. More will be learned from and done by the corps of distinguished sanitarians already hard at work here. That which they have done and have planned to do, to free the cities of Colon and Panama, and the

canal zone, from the scourge of tropical malaria, excites the keenest interest and approval. They belong to the race of up-to-date "medicine men," who are the true missionaries, to and through whom the tropics especially, must look for salvation. "The ethical portent of the doctrine, "*mens sana in corpore sano*," of which these missionaries are the evangels,

* * * * *

shall not perhaps be fully apprehended before.

"The trained physician leads the van. More and more he shall be the pilot, the captain in the battle of scientific civilization. He shall be the enlightened pioneer and true leader of mankind. It was said recently by the president of a leading Western University, in a public address, that he believed the time is coming when all young men would receive a college or university education. The hope that all men and women of culture shall have the knowledge of the art of healing is not so extravagant. "Know thyself" would then cease to be an idle command. And this may be said of the sanitary department of the great canal. It is clearing the way for the unobstructed march of the grand army of workers that, directed by President, War Secretary and Commission, under the immediate personal command of a great captain of industry, perhaps the greatest, and all within the wondrous overlook and care of the supreme intelligence, shall hasten the happy day on which a splendid tide-water channel shall be opened from ocean to ocean, and great proud ships shall be passing freely to and fro,

"Veering through the parted Andes
While the Nations cheer."

Mr. John F. Wallace, chief engineer, called attention to the fact that the first real proposition to construct the canal emanated from America, and while the results of the French companies were failures, this work simply laid the foundation of its future construction. It would seem fair, then, that the Americans should have another trial, and it was the hope of all that it would be the last. It was a difficult matter when one passed over the line of the canal

today to realize the extent of the work done and the enormous amount of machinery purchased by the old and new French companies. It was only by a study of the situation on the Isthmus of what had been accomplished that one could realize how much the work that had been begun before should contribute to the present success. The former operations on the canal had pointed out what to do and what not to do. The original idea of Mr. De Lesseps was a sea level canal. De Lesseps' plans were changed for want of means to put them into execution, not because it was impracticable.

Mr. Wallace compared the Nicaragua route with an elevation of 190 feet above the sea level with the Panama route. It was proposed to create a canal with an elevation of the same height, and it was also proposed to create an artificial lake, and create the same conditions, as nearly as possible, as existed at Nicaragua. The construction of the canal included the sewerage proposition, which was the excavation by ditches of the sea level portions of the canal; excavation for a short distance where the material might be excavated and wasted immediately adjacent to the canal; a type of construction which was peculiar to Panama, and that was what might be called the Culebra problem. This problem not only involved the excavation of fifty million to one hundred million cubic yards of material, depending upon the character of the canal, but it consisted in the transportation and disposal of that material over a distance of ten to twelve or fifteen miles away. The Culebra problem was the controlling factor to be considered both as to time, cost and difficulty. The time in which the Culebra cut can be excavated was the determining factor as to the time required for the construction of the canal.

After referring to the labor problem, and the difficulties connected with it, Mr. Wallace spoke of the problem of sanitation and the care and health of the employees who were to be brought there for constructing the canal. This matter was in the hands of Dr. Gorgas, and he would like to say that the success of this work and the ability to bring

men there would largely be due to his efforts and the support he received.

Col. Gorgas' address was upon sanitary conditions in Cuba and Panama, and what is being done to render the canal zone healthy. He explained the sanitary conditions in Cuba, with which he was so creditably and successfully identified, and stated that for two centuries the United States had been scourged with yellow fever often imported from Havana. When the United States occupied Cuba, there was a perfectly cast-iron commercial quarantine against the West Indies, in all Gulf ports during every summer. Still worse was it if yellow fever broke out in the United States. To get rid of yellow fever in Havana meant that it would cease to menace the Southern States, so that the sanitation of the Republic of Cuba meant really the sanitation of Havana. For two years, therefore, Havana was cleaned industriously, for the reason that it was thought that filth was the cause of yellow fever. Conditions changed, however, when the decision was reached that the *stegomyia fasciata* was the cause of yellow fever. This theory was advocated by Dr. Carlos J. Finlay, of Havana, twenty years ago. The first practical effort to suppress yellow fever was made as inoculation tests and not as efforts to destroy the mosquito; but some fatal cases which occurred after inoculation stopped all enthusiasm in that direction, and then it was decided to attempt to destroy the mosquito. This met with unexpected and remarkable success. In less than a year Havana was entirely free from yellow fever, and since September, 1901, not a single case had occurred in that city.

"The United States came to Panama to build the canal and the work of the sanitary department was to preserve health while doing so. In all previous efforts the history of the canal had been darkened by great loss of life. Malaria and yellow fever were the canal's worst enemies. But the yellow fever problem here was really not so difficult as it was in Havana, and the result seems equally as promising. We understand yellow fever better now than we did at Havana and will eliminate it, but malaria is different. Malaria

in a big city is chiefly a disease of the suburbs; malaria along with yellow fever was eliminated from Havana by the destruction of the breeding-places of the mosquito, but on the Isthmus conditions are different. Twelve thousand people scattered over nearly fifty by seven miles, seventy per cent of whom have been found to have the malarial organism in the blood; probably a larger percentage would be found were the examinations extended over a greater period of time. Moreover, the parasite is the one which breeds the pernicious Chagres fever, the æstivo-autumnal parasite. The plan adopted along the canal is to eliminate the breeding-places by superficial drainage. Much headway has already been made. For instance, at Ancon, the hospital is almost entirely free from the malarial mosquito. Dispensaries are being established, and all canal people are encouraged to use quinine. These are the two methods employed for destroying the malarial mosquito. Four-fifths of the money appropriated for sanitary matters now goes for the care of the sick, for the commission has determined to take charge of all those sick within the zone. There is now under way a hospital of 100 beds at Taboga; at Ancon, under Major LaGarde, U. S. A., there will be hospital accommodations for about 500; at Miraflores there will be hospital accommodations for 100 chronic patients, including insane and lepers; at Colon, a hospital with 500 beds is expected. At Culebra, Gorgona, Bohio, small hospitals will be erected. At Ancon there is a good general laboratory in which are working Dr. Herrick and Dr. Kendall, both Johns Hopkins men."

Dr. Gorgas spoke with confidence of the ultimate successful solving of the sanitary problem for the canal zone.

Views were expressed on the mosquito propagation of yellow fever as follows:

Dr. Purnell, Acting Assistant Surgeon in the Marine Hospital Service at New Orleans, accepted the mosquito theory, not so absolutely, inasmuch as there were cases unexplained by this theory, and that measures of prevention besides the attack on the mosquito should be adopted. The great epidemic in Memphis, in 1879, occurred after a severe cold winter, but not until the 9th of July, and if the mos-

quitoes alone were the cause, the disease ought to have appeared in April. He had known of an outbreak in Jackson, Miss., among men working in buildings which ten years previously had been infected with the disease. Fomites had undoubtedly something to do with the spread of yellow fever.

Dr. H. R. Carter, of Panama, was positive that yellow fever was conveyed by the bite of a mosquito from sick to sick, and in this way only. He had epidemics stamped out by methods not necessarily directed against the mosquitoes alone, such as isolation and fumigation, but he knew that their efficacy had destroyed the mosquito incidentally.

Dr. Stern, of Jamaica and Panama, with Dr. Purnell, did not accept the mosquito as the only conveyor of yellow fever.

Dr. Cook, of Panama, expressed himself in a similar vein.

Dr. Charles Chassaignac, of New Orleans, La., considered the mosquito theory beyond refutation. The Havana experiments had furnished positive proof of this, and he did not think there was any other means of transmitting or conveying the disease.

Dr. C. H. Hughes, of St. Louis, Mo., spoke of his experience with the disease during his early practice. He was not convinced that the mosquito was the only means of propagation, and thought that flies and other culices than the mosquito and also rodents, might transmit the disease.

Dr. W. C. Gorgas at one time thought fomites was the only cause of transmission of the disease, but Major Reed soon convinced him to the contrary.

Dr. Thomas, of New Orleans, was not sure the mosquito was the only criminal.

Dr. Echevarria, of Costa Rica, spoke favoring the mosquito theory, and said that yellow fever had never been known to occur where the *stegomyia* could not be found.

Dr. Martinez, in closing the discussion of Dr. Finlay's paper, said that to explain isolated outbreaks, it was assumed that children preserved the organism in the blood, as they did malaria, and this offered a source of supply to the

mosquito. The study of the development of the parasite in the mosquito showed that an intermediate host was necessary just as it was in the tapeworm. The United States Army Commission had studied the question of fomites very thoroughly. In its reports, one instance was cited where the blankets, clothing and bedding of patients ill or dead from yellow fever had been stored in a room, and used by two sets of non-immune fresh arrivals in Cuba, and yet no single instance of infection from this clothing had occurred.

On this subject, Dr. Charles Chassaignac, of New Orleans, offered a resolution which was unanimously adopted, that, owing to the suffering and to the serious danger to health and life for which the mosquito is known to be chiefly if not solely, responsible, it is the imperative duty of all communities and governments to use all the means in their power for the destruction and gradual annihilation of the pestiferous insect question.

This closed a most interesting and profitable discussion to the canal zone people and to the U. S. government.

The medical practice regulations of the Republic of Panama would seem to require some modification in the interests of American physicians and residents of the canal zone, for while all physicians now residing in Panama are allowed to practice without restriction after coming, other medical men must stand a state board examination and pay two hundred dollars Columbian money, about eighty dollars gold. At the first sitting the candidate for practice also pays ten dollars Panamanian money to each examiner for each day the examination lasts. I was told by a Colon pharmacist, who was also a doctor and lamenting the falling off of his business, that the American government in the canal zone treats anybody applying free of charge, including venereal diseases and medicines free.

The newspapers of Panama and Colon show the usual newspaper enterprise as to news of the world. The *Star*, the *Herald* and the *Diario*, of Panama, and the *Independent*, of Colon, especially. The *Independent* gave Tracy Robinson's address in full, his account of the Panama Railroad being especially interesting. The *Diario* or *Journal* is an op-

position paper, and vigorously charges fraud in the late election.

The newspapers of this region contain too little medical information for the people for live dailies, though their advertising pages contain many quack advertisements, as our home papers do. Mexico, Peru, Guatemala, Porto Rico, Nicaragua, Cuba and other parts of Central and South America, and Spain, as well as North America, were represented at the Congress. Guatemala city was selected for the next place of meeting.

These considerations re-enforce the writer's conviction so often before expressed, of the necessity of a permanent and continuous sanitary American Government Bureau of Medical Men, with representation in the President's cabinet, to advise the president and congress, from time to time, of the sanitary condition and healthful remedial measures essential to the country's highest welfare. The Board might be made up of the chiefs of the army, navy and marine hospital medical service and other representatives, especially of chemistry, bacteriology, pathology, medicine, surgery, etc.

Panama would be a suitable place, and now an appropriate time for the founding of a national medical college and sanitary medical journal, both of which would soon become International and Cosmopolitan. All the world, in this Panama canal enterprise, is destined soon to be closely interested in the twin oceans here to be joined by the modern engineering marine surgery of "Uncle Sam," in this midway resting place for the world voyagers. Panama and Colon are hot and humid, Culebra, Ancon, and Empire, where the U. S. marines are stationed, are dryer, cooler and more sanitary.

The average Panamanian endeavors to impress upon you as a fact that yellow fever is not epidemic and certainly not very prevalent on the Isthmus, but during my brief residence of one week three deaths were reported, and a day or two after leaving, after a most pleasant interview with Captain Kossuth Niles, of the cruiser *Boston*, and a most cordial invitation to visit his splendid vessel, extended also to all of our party, a number of cases broke out on his ship resulting in the death of one of his subordinate officers, one

gunner, another the chief surgeon, Otto Kohlhase. Seven members of the crew in all have died. The death of the ship's paymaster was momentarily expected when I reached Bocas del Toro, and the ship has been ordered to northern waters, where yellow fever and malaria cease from troubling and mosquitos are not. Mrs. Kohlhase is a St. Louisian. Dr. Kohlhase went into the service from Webster, South Dakota. Yellow fever became epidemic rather suddenly on this good American cruiser. A large number of the present inhabitants of the Isthmus have had yellow fever in mild or graver form, some in light ambulatory form and of course are immune, and will tell you yellow fever is not more frequent or more to be dreaded than pneumonia, which we of the United States have always with us and do not dread much till we become old. In them familiarity breeds the usual contempt. It is said there are one or more cases daily through all the year round.

The banquet to the Congress at the Grand Central Hotel would have been a credit in menu and music, and in feast of reason and flow of soul of the speakers, to any similar affair in the United States. The food and vintage of the tropics mingled pleasantly with the intellectual repast around the festal board, and all went merry and pleasant as a marriage bell. Besides the vintages and speeches, the delicious achité was a feature.

The intellectual menu of the congressional sessions was served like this banquet, in courses. The Chicago, St. Louis, Southern United States and South American States coming first, while the Eastern States North American dishes followed. El Presidente Julio Icaza, El Secretario General Josie E. Calvo, La Comisión Ejecutiva queda constituída por tres señores Vocales incluyendo el Presidente, al Vice-Presidente, al Secretario y al Tesorero, nombrada por la Junta de Médicos, encargada de la recepción en Panamá de los señores Delegados al 4.º Congreso Médico Pan-Americano.

Most of the papers, except those of Drs. Gorgas, Finlay, Senn, Liciaga, Waite and Hughes, were read by title. The different sections were blended with those of general medicine and held in the Theatre, the City Hall and at the

Grand Central Hotel. The papers included the following for the 3d, 4th, 5th and 6th of January. If a supplemental section was held on the seventh the writer hereof did not learn of it, having departed on the morning of that day.

1. Paper on Hygiene, announced from New York.

2. Paper of Dr. Carlos Finley, to be read by Dr. Martinez, of Cuba.

3. Yellow Fever, by Dr. Liceago of Mexico.

4. Modern Treatment of Epilepsy, by Dr. W. P. Spratling.

5. Some Studies of Indol and its Effects on the Animal Organism, by Dr. Joseph McFarland of Philadelphia.

6. Disturbances of Metabolism and what it means to the Breast Fed Infant, by Dr. Louis Fisher of New York.

7. The Curability of Epilepsy, by Dr. C. H. Hughes of St. Louis, Mo.

8. Some Remarks on the History, Etiology and Pathology of Yellow Fever, by Dr. M. S. Algandona of Panama.

9. Anaemia or Uncinariasis in Puerto Rico, by Dr. A. Giol.

10. Dementia Praecox, by Dr. D. R. Brower of Chicago, Ill.

11. Report of Special line of work in the St. Louis Insane Asylum, by Dr. H. S. Atkins of St. Louis, Mo.

12. Puerperal Insanity, by Dr. C. C. Hersman of Pittsburg.

13. Paper by Dr. R. S. J. DeNiord of Buffalo, N. Y.

14. Is Insanity an Organic Brain Disease? By Dr. J. W. Wherry of Clarinda, Iowa.

15. Dementia Praecox, by Dr. Frank P. Norbury of Jacksonville, Ill.

16. A Symposium on the Treatment of Tuberculosis, by Drs. Satterthwaite of New York, Wainwright of New York, Wilcox of New York, Brower of Chicago, Wheeler of Chicago, Anders of Philadelphia, N. P. Barnes of Washington, D. C.

17. Complimental Relations of Glycosuria, Ethereal Sulphuric Acids with their Pairlings in Anto-Intoxication, Typhoid Fever and Cancer, by Dr. Austin.

18. The Effect of Severe Muscular Strain on the Kidney, by Dr. J. M. Cowdry.

19. Sacharine Extracts *vs.* Fluid Extracts, by Dr. C. Gilbert Wheeler of Chicago, Ill.

20. Paranoia as seen in Criminals, by Dr. J. W. Putnam of Buffalo.

21. Frequent Causes of Urinary Obstruction other than Prostatic, by G. Wiley Broome, M. D., of St. Louis, Mo.

22. On the Limitation of Local Anesthesia in Surgical Operations, by Willis McDonald of Albany, N. Y.

23. Obstruction of Bowels, by Dr. Dyer F. Talley of Birmingham, Ala.

24. Malaria: Methods of Prevention and Treatment, by Dr. J. Evan Thomas of Bocas del Toro, Panama.

25. Simple Clinical Observation, by Dr. Gustavo Escobar of Managua, Nicaragua.

26. Contribution to the Study of the Means of Assistance in the Cases of Placenta Previa, by Dr. Ramon Baez of Santo Domingo, Dominican Republic.

27. Alamedas en las Ciudades, en los Cementerios y en los Matadores, by Dr. Julian Baires of Tegucigalpa, Honduras.

28. Verdaderas Formas Atipicas del Paludismo, by Dr. L. M. Betances of Santo Domingo, Dominican Republic.

29. Distribution of Typhoid Fever in the United States, by Dr. Seneca Egbert.

30. Coxa Vera, by Nicholas Senn, Chicago.

31. Methods of the Mexican Government Against Plague in Mozaltan, by Dr. Leceago of Mexico.

32. Resumé of Sanitary and Hygienic Work in Havana, by Dr. W. C. Gorgas of Panama.

33. Experiments and Experience in Loin Surgery, by Dr. Frank of Chicago.

34. Some Gynecological Considerations, by Lucy Waite of Chicago.

35. Extraction of Cataract, by Dr. S. D. Risley of Philadelphia.

36. Surgical Physiology, by Dr. Geo. W. Crile of Cleveland.

37. Ophthalmology in Cuba, by Dr. Juan Santos Fernández of Havana.

38. Some Observations as to a Special Reflex Accident after Cataract Extraction, with History of four Cases Illustrating this Condition, by Dr. P. de Obarrio, Assistant Health Officer Isthmian Canal Commission at Panama.

39. Remarks on the Differential Diagnosis of Laryngeal Tuberculosis and other Chronic Affections of the Larynx, by Dr. E. L. Shurley of Detroit, Mich.

40. The Present Status of the Diagnosis and Treatment of Laryngeal Carcinoma, by Dr. Bryson Delavan of New York.

41. Class Compared with Eyes of Native Uncultured Class, by Dr. Albert B. Hale of Chicago, Ill.

42. The Extraction of Cataract: Choice of Operation Based upon Introocular Conditions, by Dr. S. D. Ridley of Philadelphia.

43. Angioma of the Septum by Dr. John O. McReynolds of Dallas, Texas.

44. Glioma of the Nose: Report of the Two Congenital Cases, by Dr. J. Payson Clark of Boston, Mass.

45. Some Observation on the Action of the Diaphragm in Speech and Song, by Dr. F. E. Miller of New York.

46. Acute Purulent Otitis Media, by Dr. Chevalier Jackson of Pittsburg, Pa.

47. Spontaneous Hemorrhage from the Tonsil, by Dr. Geo. E. Keiper of La Fayette, Ind.

48. The Mastoid Operation as it is done in Germany, France, England, America, by Dr. A. G. Hobbs of Atlanta, Ga.

49. Acoumetry: The Imperfection of the Older Methods Contrasted with the Phonographic Acoumeter, by Dr. W. S. Bryant of New York.

50. Cases Illustrative of what may be done by Intra-Aural Surgery, by Dr. N. H. Pierce of Chicago, Ill.

51. Atresia of the External Auditory Canal, by Dr. John O. McReynolds of Dallas, Texas.

52. The Advantages of Operative Treatment of the Diseases of the Middle Ear, by Dr. John S. Fulton of St. Paul, Minn.

53. Pseudokonsina, by Dr. Frank H. Koyle of Hornelsville, New York.

54. Tables of Opthalmometric Measurements of Eyes of Cultured Class Compared with Eyes of Native Uncultured Class, by Dr. Albert B. Hale of Chicago, Ill.

55. The Environment and Visual Requirements of Railway Engineers and Firemen, by Dr. Nelson Miles Black of Milwaukee, Wis.

56. Advancement of Eye Muscles *vs.* Tenotomies, by Dr. John F. Fulton of St. Paul, Minn.

57. Additional Notes on Pterigia, by Dr. John O. Mereynolds of Dallas, Texas.

58. Some of the Rarer Diseases of the Eye with Report of Cases, by Dr. Ellet O. Sisson, of Keokuk, Iowa.

59. Sympathetic Opthalmia, by Dr. John S. Mott of Kansas City.

60. The Over Zealous Therapy of Conjunctival and Corneal Inflammation, by Dr. M. D. Stevenson of Akron, Ohio.

61. Subject Unnamed, by Dr. Elmer G. Starr of Buffalo, New York.

62. Results Following Prolonged Reparative Treatment of the Old Cornea Opacities, by Dr. Louis J. Latterback of Philadelphia, Pa.

It would have been more profitable to the Congress if more attention had been given to the omnipresent severe and often fatal forms of malarial disease in the Central and South American States, and to the method of conquering and preventing the present prevalence of these pernicious maladies, that is if the Congress had been an exclusively malarial and yellow fever Congress. Under proper medical supervision and strenuous medical endeavor they may undoubtedly be restricted and mitigated so as to become no longer much of a menace to the health and commercial prosperity of the Isthmian state and vicinity. Under right and well-directed sanitary regulation they may also be so managed as to divert strangers from the rather excessive alarm which possesses them in regard to these diseases and yellow fever.

The United States marines stationed in the Empire

Barracks are under strict military sanitary discipline, with food, recreation, sleep, drink and air regulated, and a quinine ration is given them. They must go to bed early. They are in good health, and said they have had little sickness among them. A similar regulation and surveillance should be extended over all the canal zone.

I acknowledge cordial courtesies from Juan J. Mindez and other ciudadonos of Panama.

The Grand Central has a very satisfactory cuisine, and spread the elegant banquet to which I have referred in its dining room, but there is much room for improvement in the comfort of its rooming arrangement. Its rooms are provided for two persons with two single beds in a room. To tourists who do not travel in congenial pairs, this is objectionable, and to occupy one of these rooms with another person by the day *alimentos y habitation* is about $4 per day American money, ($8 Colombian); to occupy one of these rooms exclusively is $4 Colombian or Panamanian additional. The printed announcement of the hotel tariff reads as follows:

HOTEL CENTRAL.

Panama.

Tariffa.

Alimentos, por mes	$ 90 00
Alimento y habitacion, por mes	180 00
" " duo personas	300 00
Alimentos y habitacion por dia	8 00
Almuerzo	2 50
Cemida	2 50
Cama	2 50

Cada cuarto contiene two camas, pasajeros que dessen un quarto privado pagaran $4 adicionales.

Toda comida servida en los cuartos se cobrara extra.

All of which means the following as it is translated for the American guest:

Board per month, $90. Room and board per month, $300 00. Room and board per day, $8 00. Breakfast, $2 50. Dinner, $2 50. Bed, $2 50. Coffee, 50c.

Each room contains two beds, passengers who wish to

have a room private will pay $4 additional. All meals sent to rooms will be charged extra.

The rooms of this first-class hotel are placed around an open space and opening in on a balcony, ordinarily used for a dining room. One large unscreened doorway opens into each bedroom, a door also unscreened in this tropical country opens into a hallway; on this other unscreened rooms, with windows likewise without screens looking out on the street. Opening into this open space is the office with its seldom ceasing call gong for summoning servants and bell boys to the office, while to the side likewise close to this open space which acts as a sounding board, is a temporary barn-yard, where crowing cocks and cackling hens are kept for the impending slaughter and for the delectation of the guests, all together keeping the latter from sleeping too soundly and too long. Added to this is the half-hour striking town clock and the watchman's half-hour nightly screech on an instrument of vocal torment.

These are the sleep conditions of this modern first-class Panama hotel to which armamentaria may be added tallow or sperm candles for room lighting, and bright illuminating acetylene or other lamps that hang in the great open space, surrounded by bed rooms from which you may be screened by latticed doors if you wish to keep them shut on nights which are nearly always too oppressively hot to permit their closing with comfort, and on nights which may not always be safe to have them open. A modern American hotel with all modern conveniences for health and comfort is much needed in Panama city. A hotel that would give its guests quiet and privacy, and safety and comfort of nights, with window and door screens as well as of mosquito bars, and a *punka* if necessary, and distilled water as well as filtered water drawn from some better source than buzzard-excrement polluted cisterns.

We say this of this hostelry with the best of good will. The price would justify better provision for the comfort of this hotel's guests. The intention of the proprietors is probably good according to their intellectual light but their execution is bad.

The cemeteries and the inferno are filled with the body and soul sequællae of good intentions badly performed. The hotels of Panama must awaken to reconstruction and reform management, if they would cater acceptably to American and modern European travellers.

We grieve to have to say it so severely, but the wounds of a friend are faithful, and the counsel of a well-wisher should be kindly considered.

Let me emphasize and recapitulate, in conclusion, the Ancon Health Department staff are all competent and experienced men, entitled to supremely command the situation sanitarily without hindrance from the commission and without becoming subservient to every department,—commissary, engineering, transportation or any other. Medical supplies, medical methods and sanitary proceedures should be sustained and supplied unhampered by the government with a generous, enlightened hand. The medical and sanitary measures should receive no check or hindrance from any authoritative source of ignorant, egotistical martinetism and plainly prescribed by definite laws. The highest grade of medical and trained nurse service, adequately compensated and properly appreciated, should be encouraged by generous treatment of the Medical Staff of the canal belt.

The supreme chiefs of the medical staff and sanitary corps should have the entire care and unhampered control of everything connected with or properly related to the medical care of the sick, the prevention of sickness over the entire canal belt, bonded if necessary, and held to accountability to the government, but not hectored by any one clothed in a little brief authority to annoy and vex.

The sanitary and medical departments should determine upon the kind, quality and quantity of their needed supplies and equipment in buildings, conveyances and apparatuses as well as in the kind, quantity and qualifications of their subordinates in service, and should be supplied as promptly as practicable with all essentials and without unprofessional and incompetent questioning.

For a single member representing the commission to take under advisement an imperative requisition and super-

vise it and pass it along or hold it up at his pleasure, after it has been decided upon as a necessity by the only authority competent to know, as is being done and has repeatedly been done, is a regulation and devise of egotistical ignorance, financial and often murderous parsimony, which should be stopped at once as too infinitesimally small for a big government, or for big men on a history-making commission of a Big country. Requisitions should go no farther than the chief medical officer or the chief sanitary officer of the zone for approval and prompt execution.

The sanitary department of the canal zone should manage its entire sanitation, and its sanitation should be exclusively under medical management, with supreme authority in all medical and sanitary matters, if the rights of the medical profession of the United States there represented and the rights and welfare of the employes and interests of the American people are to be considered there. The sanitary department should be met by no petty antagonisms or small parsimonious economics either in medical men or resources. Better an open-handed liberality for proper houses, drains, screens, nurses, medical men and health-sustaining appliances and supplies, than a contracted parsimony at the expense of health and strength for the great work. A broad, exuberant humanitarianism should characterize this work. A liberal, primary and successful care for the health of the Isthmus should be the crowning glory of the government in the canal zone. The constitutional guarantee of life to all who come under the Aegis of our flag there, should be maintained and money should be unstintingly spent to secure life and happiness to every son of toil who works under our proudly boasted protecting flag.

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EDITORIAL.

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

DIGESTION WITH RELATION TO THE BRAIN has attracted the attention of a St. Louis paper. The *Star* discusses it as follows from the New York *Times*, but overlooks the more important aspect of the brain to digestion. This is a matter that works both ways.

"Barlow, in the *Medical Review*, recently had a dissertation upon the relation of digestion to mental activity, and his deductions are to the effect that, if the latter is effective the former must be practically perfect.

"He says that delicacies produce secretions of gastric juice as soon as they are perceived by the eye, even before taken into the stomach, and he therefore declares that food must not only be palatable, but served in an attractive manner—that is, with fine dishes and appropriate table decorations.

"In eating he reiterates the old advice that time must be

taken to chew the food thoroughly, as this serves a double purpose. First, through the act of mastication the coarser particles of food are broken up; second, more saliva is secreted and more thoroughly mixed with the food. The digestion of starch is thus materially aided and the pastries are made more accessible to the action of the gastric juice. He also impresses the fact that water should accompany each meal. It not only increases the appetite, but the enjoyment of the meal."

It is also universally admitted that a little rest after eating is a decided aid to digestion.

He might have added another salutary mental influence in promoting digestion, viz.: that of prolonged mastication, prolonging the gustatory mental satisfaction and corresponding secretion of the gastric juices. Half a century ago an eminent American physician wrote a very plausible book based on extensive clinical experience in mental disease to show that dyspepsia is largely a disease of the brain.

THE JAPANESE AND AMERICAN MANAGEMENT OF ARMY DISEASED AND WOUNDED COMPARED.—A writer in the *Outlook* contrasts that great series of hospitals, from Tokio to Sasebo, with their long wards filled to overflowing with wounded, suffering soldiers, the legitimate victims of war, their faces full of health and hope, despite their fearful wounds in the long, hard campaign of five or six months in Manchuria, their chief desire to know how soon they could rejoin their comrades, with the vivid picture of the poor, wan, emaciated and almost helpless faces that crowded the wards of our hospitals in Cuba and Porto Rico, in Tampa, Chattanooga, Camp Alger and Montauk Point, in 1898, and in the Philippines in 1899-1900—the innocent, unwounded and illegitimate victims of another conflict, which, in comparison with the one now waging, would be considered no more than a skirmish among outposts. Referring to preventable camp diseases he then says: "Let our men be killed legitimately, on the field, fighting for the stake at issue, not dropped by the wayside through preventable diseases as they were in the Spanish-American

war—fourteen hundred for every one hundred that died in action." "And so say we all of us."

It has been reserved for a pagan nation but lately emerged into the light of modern civilization, a patterning nation following European and British-American methods, to transcend them in the army sanitation, enlarging the poet's distich,

> "Wise physicians skilled our wounds to heal
> Are more than armies to the public weal,"

into the greater modern medical truth that the prevention of disease and grave wounds from microbic infection is wiser still, adding battalions, divisions and army corps to the effective fighting strength in the field.

The armies and government that, in the coming conflicts afield, best appreciate and employ advanced medical sanitation and appreciate and most exalt the medical staff will enhance chances of success. The rank of the medical staff in army and navy should be fostered and exalted in this government at least. The idea of a subaltern mess for medical men in the navy is an outrage to the profession and a wrong to the best interests of the service. And a secondary and humiliatingly subordinate place, submissive to a non-medical commission and the arbitrary dicta of one member thereof, even though his name be Grunsky, is an insult to sensitive American medical savants like the eminent medical staff at Panama and a shame to the nation.

THE MICROSCOPE AND JAPAN.—*Collier's Weekly* editorially says: "Japan laughed when foreign nations sent men to study their weapons and tactics and none to study their commissariat or their hospital and sanitary arrangements. They seem a most intelligent race, who see no reason for allowing men to die of want of water, food or care, when the object for which they are in Manchuria is to die in driving the Russians toward the north. Japan finds science related as closely to diet as to cannon. She calculates that 500,000 soldiers who are properly cared for equal 2,000,000 subjected to canned beef and typhoid germs. She realizes how great

a part in war is taken by the bacteria. What a contrast, what an inspiring catholicity is presented by the Japanese officer leading the world in using his microscope as a weapon and the same Japanese officer dying with cheerfulness and living with the spirit of religious devotion to a national ideal."

The world is coming to understand, appropriate and appreciate justly the value of the subsidiary medical science.

UNDER THE CAPTION, "AN OFFICIAL IMPIETY," the *Montreal Medical Journal* designates an unjustifiable psychic shock given the inmates of the maternal hospital of Montreal by an unannounced official visit to that institution, "partly by fraud and partly by force," violating the sanctity of the institution by opening every door and exposing every inmate, exposing sleeping nurses and suffering inmates to their profane gaze.

Some men "clothed with a little brief authority" do some very queer "antics," and detectives are sometimes very inconsiderate of the proprieties and some are as brutal as the human hogs who spit on stoves and registers, and the floors of street cars and the carpets and rugs of private homes.

THE QUICK AND SLOW LUNCHES, as portrayed in the *Medical Record*, is the theme of a late editorial by a metropolitan daily, the New York *Times*, as follows:

"There is a real novelty, in the information, supplied by an article in the *Medical Record*, that tachyphagia has its equally evil converse of "bradyphagia," which is eating too slowly and with exaggerated care in chewing the food It is, of course, much less common than the crime of gobbling and bolting, but certain over-leisured people do practice it, to their great injury—thank heaven! They are chiefly neurasthenics, it seems, who have developed a morbid fear on the subject, and overdo the act of eating slowly to their detriment, in consequence of the chronic inanition and temporary dysphagia that may follow. The author cites two cases of his own illustrating this condition, one patient

taking half an hour to drink a glass of milk, and the other requiring twenty minutes to consume half a plate of soup. The treatment consists in suitable service, and, if necessary, in the administration of sedative drugs to allay the psychic excitement during the time of eating. It is well to learn this. Hitherto, when one of us has emptied his plate before somebody else at the table has made more than a good beginning, he has always felt a sense of guilt and reluctantly credited his slower companion with an obnoxious superiority of virtue or intelligence, but now it will be possible to charge the dilatory friend or relative—the joy will be particularly great in the case of a relative—with bradyphagia, and to prophesy for him an agonizing end if he does not reform. Thus will many a lecture be revenged in kind and many old scores be balanced."

Let the medical philanthropist cast his admonitory bread upon the medical waters, and it will return to him after many days in alarmed if not rescued secular souls.

GRAFT IN PUBLIC INSTITUTIONS.—The journal of the American Medical Association of October 22nd, makes the following forceful and live comments upon the evils of graft in government of public eleemosynary institutions. This editorial will strike home to many an honest reader of the Alienist and Neurologist:

"Occasionally it happens that a physician of excellent professional standing is appointed to a public position, such as the superintendency of a state institution, and that thereafter the newspapers begin to teem with stories of mismanagement, of revolts, and of general turmoil in the institution. And then it is insinuated that doctors are not business men. The man on the inside knows better. The sweeping statement can be made that the majority of our public eleemosynary institutions are the subject of more or less "graft." This "grafting," except on the pettiest scale, is difficult when a shrewd man is at the helm. Therefore, the "grafters" must have a superintendent who is at least complaisant.

In two different instances, each in a separate state,

medical men possessing administrative ability to a marked degree, have had trouble all through their administrations. At the beginning the old "grafters" had been found and decapitated. These joined forces with others who wished to have a part of the spoils, and a regular plan was formed to foment turmoil in the institutions. Subordinate employes have been incited to drink and to disorder, assistant physicians have been told false and damaging stories regarding their chiefs, the legislature has been influenced to curtail necessary appropriations, and everything possible done to keep the superintendent in hot water in order to make a showing that he is a poor administrator. This process is extremely harrassing, and few can stand it. So it comes that the higher class of medical men rarely seek these positions where they could do so great service to medicine and to the commonwealth.

Indeed, nowadays one may almost conclude that administrative peace in an institution, whose management is in the hands of those appointed by partisan politicians, means that the "grafters" are allowed free hand, either for a share of the plunder or because of a convenient lack of vision that is assumed as the price of peace and of continued tenure of office. The superintendent is safe, and is a "good fellow," if he neglects to see that his wards are getting renovated butter, when the state is paying the price of good butter; that the coal bill is increased by the inclusion of quantities of slate; that the beef bill is swelled by the steward sharing in "short weighing" of cattle, and that the foundation of a heavy new building is being made out of loose, unshaped stone, held together only by poor mortar.

As a rule, it is a sign that a superintendent of good repute is manfully doing his duty if discharged employes and small political fry bring against him all manner of charges, and keep it up persistently month after month. At least, one such battle is now in progress, but the superintendent, fortunately, has at his back the organized profession of his state. He should win.

And here a suggestion is permissible. In every such case the medical profession has a chief interest not yet ac-

knowledged by the politicians. If there is doubt as to the true state of affairs, the state association or the county society should appoint a committee of members of tried integrity to investigate the institution's affairs minutely and report publicly; we repeat, report publicly. In this way the medical profession can do what it ought to do—discountenance institutional "grafting." In this way, too, it can demonstrate to the public and to the politicians that it has a real interest in institutions for the care of the sick, the infirm and the insane.

The editor of this journal went, in early professional life, through a state hospital graft mill, and the painful impress of his experience with practical political graft methods, revealed to his young and verdant mind, imbued with the belief that merit and excellent endeavor were the proper qualification and procedure in state medical official service, and non-complaisance to practical political iniquity abides with him sorrowfully to this day like a malodorous reminiscence.

INSANITY AND CRIMINAL RESPONSIBILITY.—The Delaware Court of General Sessions decided that in Delaware insanity may be either permanent or temporary, but when permanent insanity (*Jour. A. M. A.* Nov. 5, 1904) is once established by the evidence, it is presumed to continue until the contrary is proven satisfactorily; but, if the insanity be of a temporary character, no such presumption arises. To exempt a person from responsibility for crime, the insanity must be of such a character as either to deprive him of the capacity to distinguish between right and wrong in respect to the particular act committed, or to deprive him of sufficient will power to choose whether he would do the act or refrain from it. So long as a person has capacity to distinguish between right and wrong in the particular act, and has will power to do it or not to do it, he will be held criminally responsible, even though the mind is subject to hallucinations, melancholy, exhilaration, or is otherwise affected from the use of cocain, intoxicants, or any other cause. In considering the defense of insanity,

the jury must direct their attention to the time of the alleged assault particularly, for, while much testimony had been admitted as to the mental condition of the accused before and after that time, it was admitted only with the view to throw light on that precise time and event. If he was sane at the time of the alleged assault, he was responsible, it mattered not what may have been his condition at any other time or place. Every person is presumed to be sane until the contrary is proved to the satisfaction of the jury. Insanity being a matter of defense, the burden of showing it is on the defendant. It must be proved as a fact to the satisfaction of the jury. If the proof does not arise out of the evidence offered by the state, the defendant must so establish it by distinct evidence. Evidence tending to show the absence of motive may be considered in determining the question of insanity of the accused, if any such evidence there be.

LEGAL STATUS OF SUICIDE ACCESSORIES.—J. G. Kiernan has called attention to the forensic aspects of double suicide from the standpoint of the accessory (in (*Alienist and Neurologist*, 1904.) The Kentucky Court of Appeals had recently under consideration in Commonwealth vs. Hicks, the status of an accessory before the fact in suicide. Section 1128, of the Kentucky Statutes of 1903, provides: "In all felonies, the accessories before the fact shall be liable to the same punishment as the principal, and may be prosecuted jointly with the principal, or severally, though the principal be not taken or tried, unless otherwise provided in this chapter." The court holds that it can not be said that an accessory before the fact in self-murder is not liable to punishment under the terms of the statute, because, his principal being of necessity dead, he can not be punished by any earthly sentence for his crime. Suicide at the common law is murder, (*Jour. A. M. A.*, Nov. 5, 1904) and the Kentucky statute fixes the punishment of wilful murder at death or confinement in the penitentiary for life, in the discretion of the jury. The case stands, in principle, as if one was accessory before

the fact for the murder by his principal of a third person, and, after the commission of the crime, the principal should immediately kill himself. In this case, it would be impossible to punish the principal, but it is not believed that under any sound reasoning the accessory would thereby go scot free. On the contrary, the very object of the statute is to make the punishment of the accessory entirely independent of the conviction or punishment of the principal. Wherefore, the court concludes that under the law as it now stands in Kentucky, an accessory before the fact in a case of suicide is subject to the punishment for the crime of willful murder. In this case the accused smilingly said to one Sears: "I am on my way to purchase morphin for Chris Haggard. I reckon he is going to kill himself." In the presence of his sister, Lucy Hicks, Haggard, while playing on a guitar, and seemingly in the best of spirits, appointed the day of his death and refused to extend the time to accommodate the engagements of a friend beyond one day—from Friday until Saturday. At the appointed time he was found by a physician dying from opium poison. No one seemed to have regarded the matter otherwise than in the light of a joke, and the motive, if there was one, was not disclosed. An analysis of the evidence, and the enforcement of the provisions of the code on the subject of confessions, warranted the trial judge in giving a peremptory instruction to find the accused not guilty. Suicide, according to the common law, is not a felony. The accessory to a suicide cannot be indicted simply as such at common law, but must be indicted as principal. The Kentucky decision is therefore along the lines laid down by the Illinois Supreme Court in the case of Burnett vs. The People (Illinois Reports 192.)

EXTERNAL INJURY ABSENCE DOES NOT LEGALLY DEMONSTRATE FRIGHT ETIOLOGY.—The Appellate Court of the First District of Illinois, in the case of Baudler vs. People's Gaslight and Coke Company, decided that in reversing a finding of Judge Chytraus that the absence of external injury did not demonstrate the influence of fright.

The plaintiff was blown up by a gas explosion, receiving no visible injuries. Immediately after he had a heart murmur, his physical health became impaired and he lost his mental balance. He became suspicious of everyone, feared his wife and daughter would poison him, and was irritable, wandering from home and always complaining of smelling gas. He was taken to a hospital where he remained a short time. He went to Europe saying he would stay there all his life, but came back within six weeks. He is no longer trustworthy or steady. His memory is defective as to recent events and in gaps as to past. The evidence, according to Presiding Justice Ball, only showed that the plaintiff had received (*Medical News*, Nov. 26, 1904) no external physical injury. He was struck by the exploding gas only. The force of such an explosion depends upon the strength of the explosion and the proximity of the party to the point of the explosion. That one may be seriously injured or even killed by such an accident without apparent external injury, is a common observation and knowledge. That gunners are sometimes disabled by the atmospheric concussion resulting from the discharge of heavy artillery, we must believe from personal observation and from the unvarying statements of writers upon the subject. One may be internally injured without external indications, and mind and body may be impaired by internal lesion or weakness, as well as by external violence.

A PSYCHIC SHOCK VISION FOUNDS A GREAT STATE UNIVERSITY.—The *Baltimore American* prints a statement from Rev. F. Ward Denys, ex-chaplain of the American church in Florence, Italy, and now rector of St. Mary's Protestant Episcopal church in that city, in which he says:

"One morning in 1884, he, Mr. Denys, was called to the hotel De la Paix, in Florence, Italy, by a message stating that Senator Stanford's son had just died and that Mr. and Mrs. Stanford would like to see him. Senator Stanford said to Mr. Denys: "Just after my son died I sank into a chair and for a time became unconscious; while I

was in this state, my son, who seemed to be standing just beside me, said: 'Father, I want you to build a university for the benefit of poor young men, so that they can have the same advantages the rich have;' after which he left me. Now, tell me what you think of that and if you think I ought to do it."

This question was addressed to Mr. Denys.

Mr. Denys replied: "It seems to me more important what you think about it, that is, are you in sympathy with the idea and is it in your power to carry it out?"

"Yes," said Mr. Stanford. "I do think it would be a good thing and we have no one to leave our money to now."

Visions have founded great enterprises before and great religious sects and inspired great causes and marched great armies to victory in the world's history, but visions evolved as the sequels of the psychic shock of grief have ordinarily not been so potent as this vision of the founder of the great Leland Stanford university.

DENTAL GRAFTING.—"ST. LOUIS MO., March 22, 1905. DR. C. H. HUGHES, 3857 Olive St. *Dear Doctor:*—There's a money proposition at the bottom of this letter. It means money for you and money for us. We want to do the dental work of your patients. Headaches, neuralgia and many troubles of the eye and ear, as you well know, are aggravated by decaying and diseased teeth.

"We have had TWENTY-FIVE YEARS' actual, practical, successful experience in remedying these evils. We are fully equipped with every practical and modern appliance for the proper care of the teeth. We believe we can do the work just as good and often a great deal better than others of less experience. Our prices are always just and reasonable. We aim to please everybody. We would use especial care in satisfying your patients perfectly.

"On every person sent us by the enclosed cards, we will mail you a check of 25 per cent of the amount of their bill. This will be done promptly. But, of course, we want it to be entirely confidential with yourself. Many of the

most prominent physicians in the city are sending us patients, and all seem to be pleased perfectly with the way we treat both patients and themselves.

"Just fill in the name of the patient, sign your own name and address and send them to us and we will give the care of your patients our especial attention.

Very truly yours,

* * * * * *

"[Name and address of dentist.] [Trades Union stamp.]

Dear Sir---

This will introduce you to my patient

_____

Kindly give your best attention and lowest prices, and this favor will be greatly appreciated by

Yours truly,

* _____,"

* Here the physician signs if he wishes to join in the hold-up and betrayal of his patient's confidence.

The foregoing interesting proposition shows the commercialistic trend of odontalgic psychology with which we do not care to become practically familiar. Twenty-five per cent taken as commission is twenty-five per cent taken from the patient for betrayal of his trust and confidence, and the dentist that will make an arrangement like this is apt to add the commission amount to his charge. Besides, an impecunious or venal doctor under such an arrangement would be tempted to advise dental work and tooth extraction when not imperatively necessary and not at all therapeutically demanded, or not needed for any reason.

The present generation is getting rid of hair and teeth and some organs surgically removed, rapidly enough, without a pecuniary inducement to doctors to urge their taking out. A monied consideration has in some instances cost women needless unsexing and emasculation without real cause. The present generation is becoming sexless and bald and toothless rapidly enough without the incentive of professional graft to hasten the promotion of these abnormal

conditions. There ought to be no place in the reputable ranks of either the dental, medical or surgical professions for pecuniary promoters.

THE TUBERCULOSIS ALARM.—It is well that the public is becoming alarmed to the dangers of the spread of tuberculosis to the rational extent of stopping it by legislation and penalty, the promiscuous spitting in improper places and careless, indifferent or ignorant disregard of the welfare of the well on the part of advanced consumptives, and by expectorating hogs who masquerade as gentlemen in public, but Marshall P. Wilder is unwarrantably scared, as set forth in the following screech in the New York *Herald* of late date:

"While traveling across the continent recently I was brought face to face with an imposition upon the public good nature.

"I refer to the sufferer from tuberculosis.

"These poor people, often in the last stages of the disease, starting too late in quest of health, which they hope to find in Colorado, Arizona or California, lie in their berths for days, sometimes seven or eight in case of delay, during that time a constant menace to the other travelers, and afterwards exposing those who innocently occupy the same berth on the return trip.

"There should be some provision on the overland trains for such cases, a separate compartment or car, where the invalids could receive attention and other passengers be assured of immunity from the contagion.

"States are continually passing laws in an endeavor to check the spread of tuberculosis. Why should there not be a national law passed compelling railroads to provide proper transportation for consumptives and insure the safety of passengers?"

Now tuberculosis is not readily communicable like smallpox, scarletina or measles, through the exhalations of the patient, but through his sputum, usually dried, expectoration on floors, pocket handkerchiefs, registers, sidewalks and streets.

Proper hospital cars for the comfort of consumptives are all right, but the needless scare is all wrong. The tuberculous should not be regarded and treated as lepers. One need not make way for him as he passes and decent hygienic precautions lest they be contaminated by the touch of his body, nor the breath of his nostrils, because neither are noxious. The fatal tubercle lives in the spittle, tissues and body excretions and, after expectoration and expulsion from the body, may be wafted by the wind or drifted by water or milk to lodging places favorable for its destructive work.

The dust danger, with dried tubercle bacilli in it, is more dangerous than the consumptive himself, a thousand times. There is also an aspect of the consumptive contamination question seldom, if ever mentioned, even in medical journals, and that is in the aptitude of the nerve center exhausted, the brain-fagged neurasthenic and psychasthenic to acquire it. The brain strain of the over-strenuous life in the populous cities, the worry-worn and overworked, the brain-fagged and sedentarily exhausted indoor workers furnish fertile soil for this destructive bacillus, whose sanitary enemy is an open air-fed, tranquil brain-sustained and well-nourished body organism.

THE NEXT MEETING OF THE AMERICAN ANTI-TUBERCULOSIS LEAGUE will be held in Atlanta, Georgia, from April 17th to 19th, 1905, in the Hall of Representatives of the Georgia State capitol. Governor J. M. Terrell and other distinguished men will deliver addresses.

The opening session is intended to be a broad educational one and the heads of the largest educational institutions of the United States will be invited to be present. Reduced rates will be had on all the roads. Hotel rates will also be made special for visitors.

Papers have been promised for this meeting of unusual interest by Doctors J. Riviere and Guilliam Livet, of Paris, the latter giving a new treatment for consumption which has been tested in his clinic for the past two years. A lady's reception committee will tender a reception to visi-

tors and see that their wives are cared for. A large committee of local physicians will look after the comforts of the visitors.

Every member of the medical profession is interested in the prevention of tuberculosis and should help in the work.

Dr. George Brown is the president. The medical profession is moving effectively in the right direction by enlisting public effort and enlightening public opinion. Tuberculosis will soon be less a scourge than variola under the present concerted movement for its destruction.

DR. OSLER'S SPEECH.—This remarkable speech of Dr. Osler which would "look into the seeds of time, and say what will grow and what will not fructify," "stands not within the prospect of belief." "Oftentimes the instruments of darkness" of knowledge "to win us harm, tell us truths to betray in deepest consequence and darken counsel." Our good and worthy friend speaks as a brain-weary psychasthenic might to whom "all the uses of this world" are "weary, stale, and unprofitable." For so they seem to the cerebrasthenic, who are liable at such a time to be brain-weary and to gloomily gauge their mental strength and others. There is a decade or two we hope, yet, of good, vigorous, prosperous work in Osler, though "the sun be on the back" of his fifth and he approaches emergence into the sixth decade of his brilliant professional career. We look with confidence for a more sthenopsychic utterance from the new Regius Professor of Oxford, after a restful brain-refreshing voyage across the sea and the psychic neurone diversion and recuperation of a new and more exhilarating mental environment. Not for years hence, we hope, will our lost Osler reconciledly "wrap the drapery of his couch about him and lie down to pleasant dreams" of life work well done and chloroformization. May he so live in his new field that old age, the anaesthetizer of normal cerebropsychic function, shall long delay his coming.

The wearied and "unwilling brain feigns often what it would not." In our psycho-clinical observation a renewed

and reinvigorated brain, reintegrated in its psychic neurone centers, oftimes changes from pessimistic to optimistic vision, transforming depressing into brighter views of men and things, as in recovered melancholia, hypochondria and depressing neuroadynamia.

The facts of history both in the medical and other professions are rather against than for Dr. Osler's forty-sixty theory of human life capability, yet if one expects to do anything greatly worth the doing in this world he had best be about it before he is forty and well on his way at sixty.

THE ST. LOUIS MEDICAL SOCIETY'S AND MEDICAL LIBRARY'S new permanent home is a source of pleasure and congratulation to us. To own a congenial, comfortable home is usually a source of pleasure and satisfaction to societies, as well as individuals. A common financial interest and obligation, too, tends to cement mutual interest. It is sweet for brethren to dwell together in unity and under their own roof. 3525 Pine street is the number.

METHOD MADNESS.—A reasoning maniac, taken out to exercise in the working squad of an asylum, pushed and pulled his wheelbarrow upside down, explaining confidentially to a visitor that if he turned the barrow right side up he would have to carry bricks like the other lunatics.

Major H., an inmate of another lunatic asylum, at the beginning of the Civil War, when the management, for lack of funds, were about to send the inmates to their several homes, explained that since the whole country had gone crazy the management concluded it was unfair to keep men like him any longer in the institution.

"SUCCESS" AND OVERSTRAIN.—If the haemostasic, icterode and ecchymosed cadaveric faces of the three apparently successful gentlemen, who appear on the outside front page of the April *Success* are to be taken as typical of success, the wise young man should learn of a medical adviser and avoid the means that lead to such faces, pathognomonic of vaso-motor paralysis and other morbid evidences of overstrenuous life.

THE STUDENTS OF THE CHICAGO UNIVERSITY may not equal those of some of the eastern colleges in hazing cruelty, but they are ahead on unctious irreverance concerning the doxology as the following witnesseth:

"Praise John from whom oil blessings flow;
Praise him oil ye creatures here below;
Praise him oil ye heavenly host;
Praise William some, but John the most."

The average big university boy of to-day with his savage yell, murderous football, cruel hazing propensity and silly song is a psychological paradox to the milder mannered students of former years who studied under the old delusion that the aim and purport of the university was to educate toward civilization and eradicate the savage from our natures.

PHYSICIANS ARE MUCH IN EVIDENCE in France politically just now. One-third of the members of the Chamber of Deputies and one-half of the Senate belong to the medical profession.—*Detroit Med. Rev.*

They should be more in evidence in public life in this country for the good of the profession and people.

DR. KENNETH W. MILLICAN, who so ably edited the New York *Medical Journal* during Dr. Frank P. Foster's illness, has assumed editorial control of the St. Louis *Medical Review*, which he is conducting with the same signal ability as was manifest in his editorial management of the New York *Medical Journal.*

THE MEDICAL MIRROR comes to us showing evidences of prosperity, professional and financial and, with the name of a new editor, Dr. Oscar F. Baerens, a St. Louis medical man of merit.

CORRESPONDENCE.

Dr. L. Sajous' reply to the Boston *Medical and Surgical Journal's* criticism:

PHILADELPHIA, Sept. 28, 1904.

MR. EDITOR: In its issue of the 15th inst., your *Journal* published a review of the first volume of my work, "The Internal Secretions and the Principles of Medicine." Your reviewer doubtless believes that he is justified in referring, as he does, to the conclusions advanced therein. I would like to inquire, however, whether he has read the book at all. If he has not, as suggested by the fact that all his quotations are from the preface, I beg that this fact be made known through your columns. If he has read it with due care, I must insist on his publishing the scientific reasons he has deemed such as to render my views worthy of the scornful treatment they have received at his hands. In other words, I believe he should unequivocally demonstrate that the following fundamental conclusions, all of which he quotes, are untenable: (1) That "the secretion of the adrenals reaches the pulmonary alveoli;" (2) that it "holds in combination the various constituents of hemoglobin and endows both the latter and the plasma with their affinity for oxygen:" (3) that "contraction of the heart-walls is in great part due to oxygen-laden adrenal secretion;" (4) that "the adrenals are directly connected with the anterior pituitary body;" (5) that the latter is "the most important organ of the body as governing center of the adrenals and, therefore, of all oxidation processes;" (6) that "the posterior pituitary is the chief functional center of the nervous system;" (7) that the spleen and pancreas "unite in the formation of trypsin;" (8) that a por-

tion of this ferment passes into the splenic vein as an internal secretion and plays a leading part in immunizing processes." If he can show that these conclusions are utterly groundless, he need go no further, since the remaining ones will then fall of their own accord.

As your reviewer's comments are sweeping, it is incumbent upon him to controvert all these conclusions in order to justify his position. If his reasons are adequate, I will acknowledge my error publicly. If, on the other hand, they are not sound, I will combat them with the same respect for scientific accuracy that I require of him.

Again, as we are dealing with organs the functions of which are totally unknown, even a plausible working proposition, on the order of Ehrlich's side-chain theory, is of great value. Now, the subject matter of "Internal Secretions," etc., has been worked out on a much higher plane; *confirmed* experimentally, and clinical data were alone used as factors; and each deduction submitted was the result of a process of reasoning in which preconceived interpretations, *i. e.*, theories, played no part. The quantity of material used (though the first volume is but an outline of my views) was evidently not lacking; the *Wiener klinische Rundschau*, for instance, recognizes that "an enormous number of experiments and innumerable observations and reports are grouped." And yet, I have asked no one to accept my deductions otherwise than as working propositions. May I also ask your reviewer to prove that they are not even entitled to that position.

He will doubtless conclude that a considerable labor is being imposed upon him. He must not overlook the fact, however, that he has incurred considerable responsibility through his closing paragraph, viz.: "This book has been reviewed in terms of praise by some of our leading periodicals. The publication of such works and their favorable review in representative journals will tend to discredit American medicine in the eyes of the scientific world." As the originator of this patriotic thought, he obviously becomes its sponsor—a post which involves the duty of proving that he is not himself gratuitously fouling his own nest.

He is now given an opportunity to furnish this proof and, at the same time, to show that the eighty and odd periodicals which he directly and indirectly chides for their "terms of praise" (and to which I am so greatly indebted for many valuable and courteous criticisms) intrust their books for review to men who are his inferiors in knowledge and judgment.

Your reviewer is not asked to reveal his identity if he concludes that a cursory perusal of my work has misled him. If he maintains his position, however, it seems only fair that he should defend it openly.

Respectfully yours,

C. E. DE M. SAJOUS, M. D.

While the editor of the *Journal* expresses regret that the *Journal's* review has appeared to him unfair, he awaits with interest the appearance of the second volume and begs to assure Dr. Sajous that his entire work will then receive a careful and impartial review. This placebo is certainly not very satisfying to the author, as the above correspondence shows.

Dr. Sajous has given the profession a work remarkable for the range and accuracy of its observations and the plausible character of its conclusions.

ADDITIONAL EDITORIAL.

DR. BARR'S MANUAL OF MENTAL DEFECTIVES is an able and timely book, as are likewise Deaver's Surgical Anatomy of the Head and Neck, and Church and Peterson's revised edition.

DR. CHADDOCK'S TRANSLATION OF KRAFT EBING is well done, and timely for the American reader, who has not had the pleasure of familiarizing himself with this observant and eminent alienist clinician in the original.

SELECTIONS.

CLINICAL NEUROLOGY.

THE NASAL TREATMENT OF ASTHMA. — Alexander Francis (*Journal of the Royal Army Corps*, London, November, 1904) has from his experience drawn the following conclusions: (1) That asthma is due to reflex spasm of the bronchial tubes. (2) That the irritation may originate in the nose, as may be inferred from (*a*) the intimate association between hay fever and asthma; (*b*) the very common record of excessive sneezing at some time in the previous history of an asthmatic patient; (*c*) the not infrequent alternation between asthma and sneezing. (3) That asthma is not directly due to any mechanical obstruction of the nasal passages and is not commonly caused by any gross nasal lesions. (4) That some part of the nasal apparatus has a controlling influence on the respiratory center; or there is in the nose, as it were, an agency through which the afferent impulses must pass.—*Med. Age.*

CONSERVATISM AMONG THE SPECIALTIES.—In reviewing the surgical literature of the past two years one can not fail to note the element of conservatism which prevails in nearly all the departments and specialties. In diseases of the ear and throat several of the once popular operations are now less often advocated. Operations for the correction of uterine displacements are reserved for selected cases and are not employed indiscriminately as heretofore, and in the removal of the uterus and adnexa an attempt is being made to preserve all organs and tissues not actually diseased. Even the much maligned pessary is now recognized as a useful instrument and is being employed with considerable success. The

same degree of conservatism is noticeable in many other branches of medicine, and the results attained have amply justified the means employed. No doubt enthusiasm and the example of the ultra progressive surgeon have carried us in the past to extremes, yet this has not proven an unmixed evil, as it has enabled the careful observer to correctly estimate the comparative advantages of the various methods.—*New England Med. Journal.*

A NEW REFLEX: PARADOXIC FLEXOR REFLEX.—Dr. Gordon described and demonstrated a new reflex which had the same diagnostic value as exaggerated knee-jerks and Babinski's sign. He found it always present in association with increased patellar tendon reflex. He examined thirty cases of various organic diseases of brain and cord, in which an involvement of the motor tract was diagnosed from the classical symptoms. In these cases the Babinski's toe phenomenon was present, or only slightly marked, or entirely absent. Curiously enough in the majority of his cases Dr. Gordon found a sort of antagonism between the paradoxic flexor and reflex and Babinski's sign; as they showed a tendency to replace each other. The value of this new reflex is particularly appreciated in those obscure cases in which Babinski's is either absent or very slightly marked, and a diagnosis of an organic disease is in doubt. The author cited a case of trauma to the back, observed at the Jefferson Hospital, in which this reflex was present some time before Babinski's made its appearance, but the knee-jerk was markedly exaggerated. He also observed the reflex on the non-paralyzed side in hemiplegia, in which, as is known, there is almost always found an exaggerated knee-jerk, and in which the non-decussating homolateral tract is supposed to be involved.

The paradoxic flexor reflex is, therefore, a sign pointing to an involvement of the motor tract. For the purpose of control Dr. Gordon examined 200 normal individuals, also individuals with organic diseases of other portions of the cerebro-spinal system (not of the motor tract,) also cases of paralysis agitans with increased knee-jerk, and in all the

paradoxic reflex was absent. The reflex is elicited in the following manner: The patient is sitting with his feet (not legs) on a stool. The examiner, who is always on the outer side of the patient, places his thenar and hypothenar on the inner side of the tibia, and with the fingers exercises deep pressure on the calf muscles (the pressure must be deep in order to be transmitted to the flexor muscles;) the great toe, or all the toes, then extend. It requires some practice to elicit this reflex, but it is easily and distinctly produced.

Dr. Pickett thought this reflex exceedingly interesting, but that it bore a marked relation to Oppenheim's reflex, brought out by stroking firmly along the inner border of the tibia.

Dr. McCarthy stated that Dr. Gordon's reflex impressed him as a new method of bringing out Oppenheim's reflex. He thought Dr. Gordon's method of eliciting the reflex was an improvement over Oppenheim's method.

Dr. Mills did not think the reflex was to be considered the same as Oppenheim's reflex. He thought that all of these reflexes—Oppenheim's, Babinski's and Gordon's—are significant of the fact that the nerves that supply the musculature of the toes will produce a reverse movement, and various means of producing the same movement may be obtained.

Dr. Spiller stated that he also had been thinking of the resemblance to Oppenheim's reflex. He suggested that it would be well to determine in what proportion of cases the extension of the toes, as obtained by Oppenheim's method, was associated with extension of the toes as obtained by Gordon's method.

Dr. Dercum thought this reflex different from a skin reflex, as it was produced by deep pressure of the muscles. It does not resemble Oppenheim's reflex, but is something different and entirely new. He thought that if we have here another reflex that will help to differentiate between functional and organic disease it will be very valuable.

Dr. McCarthy stated that Oppenheim's reflex is not a skin reflex, in as much as Oppenheim takes the blunt end

of a percussion hammer and presses deeply in the muscle.

Dr. Gordon, in closing the discussion in regard to this reflex, stated that in making deep pressure, as he did in bringing out his reflex, he irritated the gastrocnemius and deep flexors, and instead of getting flexion he obtained extension. He did not think it had anything to do with Oppenheim's reflex. Neither did he think it had anything to do with Babinski's reflex, which was obtained by irritating the skin of the sole of the foot. By pressing upon the flexors he got extension, and he thought this was certainly a paradoxical reflex. He had examined thirty cases, in a number of which the Babinski sign was absent, while his own reflex was present. There is a certain practical value in this reflex, because when Babinski's sign is absent there is a doubt whether the disease is organic or functional, and in these cases he thought his reflex would aid in the diagnosis. He had always found it present in cases with exaggerated knee-jerks, and never found it in cases of tabes, or in normal individuals. In hysteria it was absent. In paralysis agitans it was absent. He stated that he had made a study of this reflex for some months, thinking it a modification of Babinski's or other reflexes, but upon careful study he found it different, as it has relation only to stimulation of the flexor muscles; the tibialis posticus and peronei have a function different from flexion or extension of the toes.—*Proceedings Philadelphia Neurological Society, Oct. 24th, 1904.*

ALCOHOLISM IN SCANDINAVIA.—Our colleague, Dr. Legrain, confirms our views in his report of his impressions on the question of alcoholism, published in the *Archives de Neurologie*, November, 1904. He considers the system of government monopoly of drinking houses in Sweden and Norway and says that this system is not proof against alcoholism in these countries. The preventive measure, he says, of selling not less than a quart bottle of any alcoholic drink, has proven a failure. The subject purchasing a bottle of liquor is not allowed to drink it in the shop. The consequence is that either the alcohol is consumed at the home of the individual and the whole family becomes intoxicated or else the indi-

vidual intoxicates himself on the street far more than he would under ordinary circumstances. It is a common thing, therefore, to find on the streets individuals intoxicated to insensibility. Besides, there are many so-called eating houses in which food is presumably sold, but the main feature of which is a cupboard well stocked with alcoholic drinks, to which every "guest" has free access. If the "guest" is caught in the act by an officer of the law, the proprietor declares that his guest was "stealing." The proprietor cannot be prosecuted because every citizen has the privilege of having his private supply of drinkables stolen. The monopoly in Russia has produced similar effects, Dr. Legrain says instead of drinking within the enclosure of four walls, the people are found drinking and drunk on the streets. Commenting on these conditions, Dr. Toulose also says that the desired reform can be attained only through the reform of the individual himself.—*Ed. Jour. Ment. Path.*

A HYGIENIC LESSON FROM JAPAN.—In her war with China her soldiers had died in thousands from disease. In her fight with Korea the mortality had been almost as great as ours was in the Civil War. Her intense and real mood made her take such information seriously. She had seen 45 per cent of her sailors laid up in the Korean War from beri-beri alone. She studied that topic so thoroughly that not one case of beri-beri has been seen in the Japanese navy this year. In private life the same spirit of accomplishment is everywhere. Students are said to read with the help of a cage full of glow-worms when they can afford no better light. Effort, frugality, obedience, and devotion are everywhere. We Americans watch, with less curiosity than unconcern, the attempt now being made to improve the medical department in our army.—*Collier's Weekly.*

CONSUMPTION RAVAGE AT NATIONAL CAPITAL.—The press bureau at Washington says considerable astonishment has been caused among Washington residents by statistics recently compiled by the Department of Labor, show-

ing that with the exception of Denver and Los Angeles, both of which are health resorts, the capital city has the greatest percentage of deaths from consumption of any city in the United States.

As a result the Associated Charities has appointed a special committee to investigate the subject and raise money to protect the city from the spread of the dread disease.

Charles F. Weller, secretary of this committee, said today:

"One of every seven persons you see on the streets of Washington is going to die of consumption according to the statistics. This is not the worst of it. Practically every person you meet has consumption in some form. There is hardly one family that is rid of it; the disease pervades every block in the city, and it is as contagious as any known disease."

Arrangements have been made for a series of free lectures all over the city. Proper literature is being prepared for general distribution, teaching the people how to protect themselves, and a free dispensary has been established. Particular effort is being made to arouse public sentiment, and Congress is to be asked to pass legislation on the matter.

THE GRASS CURE.—The story of the young man in Brooklyn who cured himself of a chronic indigestion, which had resisted all the skill of the doctors, by a diet of cold water and quarts of fresh grass gathered in Prospect Park, brings memories of Nebuchadnezzar, and of the pitiable plight of Bully Bottom when he called so lustily for a bottle of hay. One satirist recommends the young Brooklynite to turn his appetite to that other asinine delicacy, thistles, arguing that the proverbial virtue of making two blades of grass grow where one had been is nothing to the utility of clearing our fields of the emblematical flower of Scotland.

These, brothers, are cruel jests. Knowing how little aliment is to be derived from the most nutritious salad, we do not recommend to anyone to go to grass, much less to thistles; but we are convinced that the anecdote has deep value to all chronic sufferers. We once knew a gentlewoman with a case of consumption that had left her only a part of

one lung. Her physician had long given her up, and so, when she confessed to a desire for peanuts, they not unwisely told her that she could have all she wanted. She ate them with as great avidity as the young man in Brooklyn displays for grass. She lived to a ripe and beautiful age, full of good works and the joy of living; her only cross being that whenever she called in a doctor for an ache or a pain he would insist on sounding the remaining quarter of her lungs to have personal knowledge of so rare a thing as a cured case of advanced consumption.

Many morals are to be drawn from both instances. One is that in the practice of medicine the ratio of the unknown to the known is very large, and that the natural desires of the patient may be wiser than all the schools. Another is that one cure does not prove the general value of a remedy. Christian science, osteopathy and patent medicines may have worked marvels without proving their value as panaceas.

UROLOGICAL AND CHEMICAL CHANGES IN DEMENTIA PRECOX.—Drs. Antonio D'Ormea and Ferdinando Maggiotto (Manicomia Provinciale di Ferrara) from urological researches as to the phosphates, sulphates, chlorides, urea and uric acid found a marked difference between the amount of these ingredients eliminated in the normal subject and in those suffering from dementia precox. The total amount of urine excreted during the twenty-four hours is one-fifth less than normal and the specific gravity is decreased, showing a decreased amount of the solids. The amount of nitrogenous compounds is greatly diminished. The amount of urea eliminated is about one-half as compared with the normal and the amount of uric acid eliminated is about one-third of the normal. The inorganic elements are also decreased to more than one-half the normal; especially noted in the amount of phosphoric acid. The decreased amount of sulphuric acid is slightly less, but quite marked. The amount of chlorides is increased. The organic catabolism in dementia precox is markedly decreased during torpor, passive catatonia or excitation.

CLINICAL PSYCHIATRY.

PARANOIA.—President R. Percy Smith, (*Journal of Mental Science*, Oct. 1904,) in his address before the last annual meeting of the British Medico-Psychological Association, which is a most able review of the whole subject, traces the development of paranoia and contrasts its position in the psychiatric classifications of the various nations. He particularly emphasizes the conservative position of the English school on this subject, and shows most interestingly that even in the country of its origin there is no common agreement as to the connotation of paranoia. Smith's conclusions are as follows:

1. The term "paranoia" is useful if it is limited to cases of chronic delusional insanity in which there are organized and systematized delusions, whether of persecution or exaltation, and whether these run separately, concurrently, or by transformation from persecution to exaltation, and whether the disorder originates in childhood and youth (*originaire paranoia*) or later in life (*tardive paranoia*), and whether associated with heredity or not.

2. In all these cases the importance of the affected element of mind must not be ignored, and it is erroneous to use the term "paranoia" as implying primary intellectual disorder to the exclusion of, or prior to, disorder of "affect."

3. Allowing that there are acute cases in which delusions appear to be organized and systematized, and yet in which recovery seems to take place, many of these cases are merely the initial phase of chronic delusional insanity with a remission of symptoms.

4. If the incubus of the idea of primary intellectual disorder be got rid of, there is no difficulty of recognizing that some cases of paranoia may begin with an acute functional mental disorder of the nature of melancholia or mania, (as is indeed, recognized even by those who take the primary intellectual view,) or even may follow a delirious or confusional state.

5. With this exception, acute confusional insanity (*acute Verwirrtheit*) and acute delirious states (acute delirum, col-

lapse-delirium, *Erschopfungs-delirium*) should be regarded etiologically and clinically, and from the point of view of diagnosis and prognosis, as entirely apart from paranoia or chronic delusional insanity.

6. Mercier's term "fixed delusion" should be used for states secondary to acute forms of insanity, where the persisting delusions are not organized or progressively systematized.

7. With regard to terminal dementia in paranoia, it is trying to prove too much to say, as some authors do, that dementia does not ever supervene in this condition; and I think that Kraepelin's action in removing a large group of cases in which terminal weak-mindedness occurs from the domain of paranoia to that of dementia precox is an open question. There seems to me a possibility that dementia precox, with its hebephrenic, catatonic, and paranoid forms, may become the new universal disease (*Universalkrankheit*) into which large numbers of cases may be thrown and which will give rise at no distant date to as much discussion as has attended paranoia.

THE PERILS OF THE PSYCHIATRIST.—Few people realize that the physician who handles the insane is always exposed to danger of losing his life at the hands of this or that patient under his care. Every physician handling the insane is familiar with the common fact that patients suffering from delirium of persecution readily include their physician among their imaginary enemies, the chief physician of a given service or hospital who treats them generally being the preferred victim. We have, in our own country, had quite a number of such victims. The latest victim abroad is Dr. Vallon, of Ste. Anne, Paris. We give in this issue a detailed account of the circumstances under which Dr. Vallon nearly lost his life at the hands of an insane patient. Considering the ever present danger of this kind to physicians in charge of hospitals for the insane, the subject should be looked into by all concerned. Practically speaking, it is the attendant who is responsible for the patients' concealing instruments with which bodily harm can be inflicted. Attendants who have not

had sufficiently convincing experience regarding the wisdom of *never* trusting an insane person, are apt to become lax in the supervision of the patients entrusted to their care. The results of the least opportunity for insane patients to carry off and conceal about their persons, knives, hammers and other instruments, hardly need be depicted here. The case of Dr. Vallon is typical of them all. It seems practical to us that the histories of cases like that of Dr. Vallon be collected either in a separate volume or appended to the text books of attendants and that the attendants be required to have a knowledge of such cases. A vivid picture of dramatic incidents of this kind is bound to produce some impression on the attendants' minds and to make them feel more deeply the responsibility they assume when undertaking to care for the insane. After all, the mere fact that physicians make the study of the insane a life work is no reason why the danger attending this work should not be minimized by all concerned.—*Editorial Jour. Ment. Path.*

NEUROPATHOLOGY.

ALCOHOL.—*Progressive Medicine*, December 1st, 1904, epitomizes the literature on this subject during the past year. The injurious effects of even small doses have been shown by Prof. Kraepelin, of Heidelberg. In a perfectly healthy individual so small a dose as an ounce of ethylic spirits (two and a half ouncess of whiskey) produces an appreciable effect upon sight, hearing, taste, smell and temperature as well as cardiac, muscular and mental capacity. In al cases of inebriety there are marked changes in the capillary and vascular system of the brain. The walls of the vessels show fibrinous deposits and sclerosis, while the nerve cells and dendrites are altered and retracted. The kidney, liver and heart show fibrous and fatty deposits.

The records of the large assurance companies of Great Britain show that abstainers constitute by far the better risks, the advantage in their favor being from 25 to 45 per cent. If the death rate among non-abstainers be stated as 100, that of abstainers is 72.8.

The current belief that alcohol was a necessity in tropical countries is contradicted by Major Fribig's experience in the Dutch East Indies. The soldiers there who drew their daily wine equivalent in money showed a notable increase in resistance to disease and fatigue.

QUINQUAUD'S SIGN OF ALCOHOLISM.—The sign first discovered by Quinquaud was not published to the world till seven years after his death. Since then Maridort and Fürbringer have both directed attention to it. The sign is elicited by making the patient place the tip of his fingers, well spread out, perpendicularly against those of the examiner, when, if the patient is of alcoholic habits, the examiner feels a number of slight shocks, as if the phalanges of the patient were rapidly pressed against each other and against the palm of the examiner. The sensation experienced by the examiners is said to be similar to that of crepitus, such as is felt in arthritis deformans, but it has also certain indescribable peculiarities of its own. This crepitus can be heard by the stethoscope and sounds like friction, though in autopsies on patients who have exhibited it no undue dryness or roughness of the articular ends of the bones has been found. Nor has it any relationship with alcoholic tremor, for whereas Fürbringer found marked tremor in only 7 per cent of drinkers, he found Quinquaud's sign present in nearly 92 per cent. The pathology of the condition that produces this creaking is very obscure, and after discussing it Fürbringer concludes that it must be a neurosis, but this result is arrived at more by excluding organic causes than by any positive evidence of nervous derangement.—*Abstract from Medical Press and Circular.*

SOME ADVANCES IN MODERN MEDICINE AND THE BENEFITS OF ORGANIZED EFFORT.—* * * Esculapians are the only men who give their greatest talents to decrease their business, and the most depraved doctor of today could but feel the lashings of conscience if he did not follow the laws of prophylaxis, even though he knows it will diminish his revenue and force the wolf to his door. We should be

bound together with hooks of steel. All our strength is in our union, and all our danger in our discord.

Our battle cry against disease should be "onward." * * * By discussion we learn, for in the multitude of counsel there is wisdom. Science is the classification of facts with logical deductions therefrom, and the knowledge we have is not from the observations of one man, but the accumulations of truths from the beginning—every man adding his quota to the common stock. It is like a brook from some distant hillside. When it starts on its journey to the sea it is so weak that the smallest leaf of the forest will strand in its current; the track of a wild beast will divert it from its course; the very pebbles in its bottom will make it hesitate, but it ever flows onward until it is joined by another and another, when the mighty river is formed. * * * So of our individual efforts, added to the work of each other, will form a mighty force which may trace its origin to this Society, and we may be the nucleus of great things.

Medical science has been advancing hand in hand with other sciences, and in the fullness of time, long expected, long delayed, she has at last poured upon man from the horn of Amalthea blessings too numerous to be enumerated —blessings which have made the past century memorable, and which have followed each other with a rapidity so bewildering that we know not what next to expect. * * *

"The great white plague," so much to be dreaded, and which carries one-seventh of the world's dead to the graveyard, is being attacked with a fierceness and persistency which augurs well. Through the good work of the physicians, laymen begin to realize the necessity of waging war against this deadly enemy which the consumptive is continuously incubating in his lungs, and as continuously scattering broadcast over the land. Through the influence of our noble profession laws are being enacted for the control of these unfortunate patients, who up to this time have been allowed to live side by side with their fellow beings, unconsciously disseminating the dreaded poison. This grand old Commonwealth of Virginia, slow to adopt new ideas, has

already instituted the "tent treatment" for the tuberculous. * * *

The discovery of the nature and life history of tetanus bacillus is of comparatively recent date. We know now that the toxin of its bacillus is carried to the central nervous system through the axis cylinders of the motor nerves, and if treatment is instituted early enough by cutting the nerve trunk before the poison reaches the cord we can stop the ravages of the disease. It is said that even bruising the nerve trunk severely will stop the disease in its course. Surgery has invaded the skull and spinal canal, and among the many delicate operations has taken out the Gasserian ganglion with success. Aspiration of the spinal canal is constantly being practiced for diagnosis and cure of diseases. Intraspinal injections are now used with considerable success in the treatment of melancholia, sexual weakness and spinal neurasthenia.

Talma's operation is enabling us now to fight ascites with some chance for success, and the same principle is being used in hydro-thorax. Prostatectomy has robbed the old man of one of his heaviest burdens. Decortication of the kidney is now done to remove the pressure from the parenchyma, and wonderful results are claimed for this operation. Antiseptic washings and plugging of the nose and ears in fractures of the base of the skull, are giving us results little dreamed of ten years ago. Jonesca's operation is said to cure exophthalmos. The mosquito has been found to be the chief intermediate host in transmitting malaria, yellow fever and filaria. Removing the cervical sympathetic is claimed to cure glaucoma. Red-light baths are said to give the best results in small pox. Medication by means of fluorescent substances is now almost in our reach. Quinine and other substances when bathed in X-ray or Finsen light, have the power to absorb the rays, and when taken into the body will give it out to the tissues.

The physician with the microscope, X-ray and chemical test can often stay the hand of death for a time, and will feel the gratification of having fought a good fight.

* * * Our hearts should be with one another, andall

against evil only. Let peace be our banner. To the call of the watchers on the towers of progress there has been the one answer since: "The people sit in darkness and in the shadow of death." By constant worship at the shrine of the Goddess of Health we may yet attain the Promethean gift, and man's life be extended to its natural limit, so when the Destroyer comes he will be ready and ripe for the sickle. * * *

Death is a physiological process, and if it were extended to its physiological limit we would be ready and willing when called, but until that end is reached we must know that some of our years have been cut off. We can see the signs of a great awakening before us now, for the spirit of science is brooding on the waters.

> We are beaten back in many a fray,
> But yet new strength we borrow;
> For where the vanguard rests today,
> The rear will rest tomorrow.

—Abstracted by J. S. DeJarnette, M. D., Staunton, Va. President's address before the Augusta County (Va.) Medical Society, November 9, 1904.

INSANITY ON THE INCREASE.—The annual report of the Superintendent of the Connecticut Hospital for the Insane shows there were 2,259 patients in the institution for the year ending September 30, 1904.

"It is unwise," says the Superintendent, H. S. Noble, "to attempt longer to blind our eyes to the fact that all recent statistics bear witness to a large increase in insanity. It is a fact easily verified by a glance at the statistics of the State that the foreign element of our Commonwealth shows a much larger proportion of insanity than prevails among the native-born. Although the native insane have increased to some extent, they have not done so in any such proportion as is apparent among the foreign elements.

"In 1900 the foreign-born population of the State comprised 26 per cent of the entire number. From 1898 to 1902, four years, 38 per cent of the admissions to the hospital were of foreign birth and parentage. In other words, the 26

per cent of foreign population furnished 38 per cent of insane during those four years."

NEUROPHYSIOLOGY.

THE REFLEX IMPRESSION VIA THE DURA ON THE VAGUS AS ONE OF THE REGULATORS OF CEREBRAL CIRCULATION.—Dr. loganson: It is well known that an increased blood afflux to the brain increases the intracranial pressure and that this is immediately followed by slowing of the cardiac beats. Temporary weak cerebral circulation, on the contrary, is followed by decreased intracranial pressure and more frequent cardiac beats. There is no satisfactory explanation of these facts. According to Franck, the increased cranial pressure itself acts as an irritant on the pneumogastric nerves and inhibitory phenomena are results thereof. The author does not accept this explanation because it cannot reasonably be admitted that the nucleus of the pneumogastric nerve is, under the conditions considered, compressed to the exclusion of all other nuclei similarly situated. His own explanation is that the regulation of the cerebral circulation depends on a special reflex enacted, by way of the cerebral dura mater, on the vagus nerves. The dura mater is supplied by filaments from the *rami recurrentes Arnoldi*, the first, second and third branches of the trigeminus and *meningeus vagi*. The inner surface of the dura mater is in close contact with the brain and irritation quickly causes reaction by pain, etc. A temporary increase in size of the brain presses the dura mater against the inner surface of the skull and on the nerve endings of the dura mater. This irritation brings about the reflex action through the *rami recurrentes trigemini* and the *memingei vagi*, on the vagus nerves. All the ramifications of the trigeminus are intimately connected with inhibitory tracts of the vagus, and a reflex act of the vagus can easily be provoked through the trigeminus. The author then concludes that his hypothesis of the reflex here considered is highly justifiable. He says that his hypothesis is supported by the conditions of the

pulse in meningitis, the numerous cerebral apoplexies during the course of general paralysis—when the duramater reflex is considerably impaired by pathological conditions and that many other facts support his view.—*Abstracted from Vestnik Dushevnikh Boleznei, No. 6, by Journal Mental Pathology.*

A CLINICAL STUDY OF THE OPTIC THALAMUS.—Benaky (*Archives de Neurologie*) reports a case in which there were constant movements of a menacing nature, accompanied by a spoken threat of striking. Accompanying these was a forced mocking smile, the effect of which was accentuated by a ptosis (right eye) and external squint.

Other symptoms present, in addition to the spasmodic movements in the right arm, besides those above noted, were paralysis of the lower extremities, inability to stand erect, augmented reflexes, intellectual torpor.

Autopsy revealed a glio-sarcoma of the parietal lobe which invaded the frontal lobe and had involved by a downward prolongation the *posterior part of the optic thalamus*, the *internal* capsule, nucleus lenticularis and external capsule.

Attention is especially directed to the spasmodic menacing movement accompanied by the appropriate word and the forced, almost mocking smile—phenomena which belong to the domain of mimicry.

Benaky reviews the case of Nothnagel, wherein, with preservation of voluntary contraction of the facial muscles, there was inability to laugh. In this case, as in Gowers' case, there was destruction of the thalamus. On the other hand, Yimoucopoulo reported a case where, along with facial paresis, there were spasmodic movements and continual forced laughter.

In this case the autopsy showed a small cyst in the posterior portion of the thalamus. He thinks irritative lesions in this region may cause forced movements of the facial mimic muscles; destructive lesions, on the other hand, paralysis of the mimic movements of these muscles.

This pathologic gaiety was explained by Oppenheim and Eisenlohr as a consequence of an irritative lesion of the

thalamus. Benaky presents his case as one due to iritative lesion.—*D. I. W., in Lancet-Clinic.*

NEUROTHERAPY.

CARBOHYDRATE METABOLISM.—Frederick A. Rhodes (*American Medicine*, Dec. 10, 1904) says that from his work he finds, like Arnheim and Rosenbaum, that all the organs contain enzymes, which may be extracted and cause the destruction of grape sugar. The pancreas shows the action more positively than any other organ.

The variable results are due to many conditions working together for a decided action. In unfavorable conditions the results may be negative, although the enzymes are present in abundance.

The extract which has been found to give the best results is the one made by using glycerin and alcohol.

The glycerin-alcohol extract of all organs used shows by experiment the presence of pronounced diastatic enzymes as well as the glycolytic.

Clinically results are good by the administration of the glycerin-alcohol extracts, pancreas, spleen and muscle. The best results were by hypodermic injections of combined pancreas and muscle.

The peculiar action at times in the different experiments makes it quite possible that there is more than one enzyme concerned in the sugar destruction, and at times other enzymes interfere with the glycolitic action.

THE BEHAVIOR OF NATIVE JAPANESE CATTLE IN REGARD TO TUBERCULOSIS (PERLSUCHT.)—S. Kitasato (*American Medicine*, Jan. 7, 1905) says that human tuberculosis is as frequent in Japan as in the civilized countries of Europe and America. Primary intestinal tuberculosis is relatively common in adults and children, although cow's milk plays no role at all in the feeding of children.

There are large districts in Japan where in spite of the existence of human tuberculosis the cattle remain absolutely

free from the disease. In these regions it is not customary to consume either meat or milk from bovines.

This is very important proof for the fact that under ordinary circumstances human tuberculosis is not infectious for bovines, as the opportunities for infection certainly cannot be lacking.

Among Japanese in general very little cow's milk is used, and especially is it employed but little for the dietary of children.

Under natural conditions the native animals show but very little susceptibility for perlsucht. If large doses of perlsucht bacilli are inoculated into them either intravenously or intraperitoneally, they become tuberculous to a certain degree; they do not seem to be at all susceptible to subcutaneous infection.

The imported and mixed race animals are very susceptible to perlsucht.

Human tuberculosis is not infectious for native and mixed race animals.

POTASSIUM IODIDE IN ARTERIOSCLEROSIS.—Miller and Lanada (*Deutsche med. Wochenschrift*, No. 48) in their experiments on the normal showed that potassium iodide reduces the viscosity of the blood. With the reduction of the friction the rapidity of the blood stream is increased, especially in the capillaries, where good results in arteriosclerosis of the brain are evidenced by the administration of this drug. During the administration of potassium iodide acid foods and drinks should be prohibited, as also should beer; it is advisable to give alkalies in conjunction with it.—*Med. Age.*

SPINAL ANALGESIA.—Silbermark (*Wien. klin. Wochenschr.*, Nov. 17, 1904; *Journ. Am. Med. Ass.*, Dec. 24. 1904), describes the experience of Mosetig-Moorhof's clinic in Vienna with spinal analgesia in 232 cases. It was found efficient for all operations in the groin, on the genital and urinary organs, and on the legs, and may be used without hesitation on all subjects over sixteen years of age. It is no more dangerous than inhalation anæsthesia, while it does not

38, 1899, contained a report of three cases of exophthalmic goitre, in the practice of Dr. Burghart, that improved under treatment, two of them decidedly. Dr. Burghart did not confine himself to the use of injections, but administered a dried alcoholic extract of the blood.

Later, a Darmstadt chemical house prepared a serum from the blood of thyreoidectomized sheep, which, administered to patients who had exophthalmic goitre, produced a good effect; it was given both *per os* and subcutaneously.

A patient of Schultes (*Munch. Med. Woch.*, No. 20, 1902) in whom the symptoms of exophthalmic goitre had been in evidence for four years, with pronounced psychic disturbance at times, is said to have been completely cured in two months by the use of gradually increasing doses of the serum (from the blood of thyreoidectomized sheep.)

In 1901, Mobius (*Munch. Med. Woch.*, Jan. 27, 1903) proposed the preparation of a serum from the blood of sheep from which the thyreoid gland had been removed, to be used in the treatment of exophthalmic goitre. He first injected 1 gramme of serum subcutaneously, but subsequently found that better results could be obtained by giving it internally. In his patients, all of whom had been treated for years with various remedies, the circumference of the neck was reduced, the goitre became smaller, and the patients slept better and were less agitated. It is not presumed that a cure can be established by this mode of treatment, but there seems to be sufficient ground to hope for beneficial results.

Messrs. Parke, Davis & Co. have prepared a dried product of the blood of thyreoidectomized animals, called "thyreoidectin," which appears to produce the effects observed by Lantz, Möbius, *et al.* In most of the cases in which it was tested the patients experienced much relief from restlessness, tremor, insomnia and the usual train of nervous symptoms so generally observed. A gradual reduction of the pulse-rate and in the size of the gland was also noted.

EVOLUTION OF PSYCHIATRY.—In an interesting paper with this title, read by Dr. William Francis Drewry, of Petersburg, Va., at the fourth annual meeting of the Tri-

change the parts as infiltration anæsthesia does. It will be found a valuable substitute for general narcosis for debilitated and elderly subjects. But no drug so toxic as cocaine should be used. From 1 to 2 c.c. of a 3 per cent. solution of beta-eucaine in distilled water were injected into the dural sac after from 3 to 5 c.c. of the cerebro-spinal fluid had been allowed to escape. The analgesia lasted from twenty-five minutes to one hour and forty minutes. It was so complete in 170 cases that there was no sensation except that of pressure, during the incision and traction on the soft parts and nerves. No by-effects were noted in 79.5 per cent of the subjects. When the operation was undertaken in silence and without asking the subject if he felt nauseated, etc., it proceeded without disturbances, or if any occurred, they were slight and transient. The toxic symptoms indicated bulbar irritation, and in five cases there were dyspnœa, dilation of the pupils, cold sweat and small pulse, with tremor of the muscles in two cases. A few drops of chloroform soon dispelled these symptoms. They occurred exclusively in persons under sixteen years of age or in hard drinkers. The recovery was so rapid that the operation did not have to be interrupted. The article concludes with the statement that the greater the experience with spinal analgesia the more unconditional becomes the appreciation of it.

THE TREATMENT OF EXOPHTHALMIC GOITRE WITH THE BLOOD OF THYREOIDECTOMIZED GOATS.—In 1894, Lantz treated two exopthalmic goitre patients with milk from thyreoidectomized goats. The results were so favorable that the treatment was applied to four other patients, all of whom as a consequence showed marked improvement and gain in weight.

In 1894, Drs. Ballet and Enriquez took the blood of thyreoidectomized dogs that had lived long enough to experience the blood changes which loss of thyreoid function is sure to entail, and injected that blood into patients suffering from exophthalmic goitre. The results were so encouraging that other practitioners soon adopted the method, or a modification of it. The *Deutsche Medicinische Wochenschrift, No.*

State Medical Society of the Carolinas and Virginia, it is stated that the first movement on this continent toward establishing an asylum by public authority was made by the colony of Virginia in 1769. By the end of the eighteenth century there had been built in this country four public asylums for the insane, one each in Pennsylvania, Virginia, New York, and Maryland. To-day there are about one hundred and sixty public and many private institutions for this class of unfortunates. About 1840 marked the beginning of a new epoch in the care of the insane. In 1844 the Association of Medical Superintendents of American Institutions for the Insane was organized, and since that time State hospitals have sprung up in all parts of the United States. The colony system, initiated in Gheel, Belgium, has also taken firm root here. Dr. J. W. Babcock of South Carolina was the first to advocate separate provision for the insane who were suffering from tuberculosis. Recently, this plan has been adopted in several State hospitals, notably at the Manhattan State Hospital, New York, and in Indiana. Many of the States have established separate institutions or made special provision for the criminal insane. Among such States are New York, Michigan, Massachusetts, Illinois, North Carolina, Iowa, Maine, and Ohio. Separate institutions have also been established in different parts of the country for sane or insane epileptics, or for both classes. Dr. Drewry calls attention to one conspicuous blot in the administration of State Hospitals, namely, that the practical politician has seized the opportunity to come in for the "loaves and fishes." On more than one occasion the *Medical Record* has referred to this matter editorially and deplored the fact that such should indeed be the case. One would think that the spirit of greed might at least be held in restraint in dealing with those unfortunate beings whose reason has been overthrown. If, however, selfish considerations continue to prove stronger than humanity, the only remedy would appear to be so to influence public opinion that the people at large would insist that all public charitable institutions, and especially State Hospitals, should be administered solely in the interests of their inmates, irrespective of political influence.—*Medical Record.*

REVIEWS, BOOK NOTICES, REPRINTS, ETC.

TWO CASES OF FAMILIAL HEREDO-SPINAL ATROPHY (Friedreichs type) with one autopsy and one case of so-called abortive form of Friedreichs Disease. Anatomopathological and Clinical Study. By Professor G. Mingazzini, Royal University of Rome, Italy, and Dr. G. Perusini, Rome.

This is an advanced and beautifully illustrated study of heredo-spinal atrophy by two eminent Italian investigators in neuropathology well and favorably known to our readers. The cases, illustrations and comments embellish the pages of that valuable technical neurological periodical, the *Journal of Mental Pathology*, so ably and enthusiastically conducted by Louise G. Robinovitch, B. es L., M. D.

STUDIES IN THE PSYCHOLOGY OF SEX—SEXUAL SELECTION IN MAN. I, TOUCH; II, SMELL; III, HEARING; IV, VISION. By Havelock Ellis. Extra cloth, $2, net. Sold only by subscription to physicians, lawyers and scientists. F. A. Davis Company, publishers, 1914-16 Cherry Street, Philadelphia.

These studies in the psychology of sex cover a hitherto incompletely explored field of normal and morbid psychophysiology. No mature and clinically observant physician should be without this book, or without the other contributions of this acute and broad observer of co-related subjects.

The distinguished author has encountered, through legal persecution, some of the trials and obstructions visited scientific discoveries in the past, through ignorant ecclesiastical persecution, but a just estimate of the author's productions

has of late obtained among jurists and "with mouths of wisest censure."

The book is not fitted for the erotopath or should not be placed in the hands of the libidinous or extremely young, while there are pages in this book which the doctor of medicine should read with disgust, in the same spirit in which he often goes to the dead house and examines putrid disease. There are also many pages not revolting but historically and physiologically and clinically especially instructive and all true to nature, either normal or morbid.

Some of the detail histories of sexual experiences might have been omitted from this book without impairing its force, yet they are records of sexual depravity, a lack of higher psychic inhibition such as reveals the paresis and regeneration and degradation of the psychic neurones presiding over these inhibitions, not as familiar as they should be, to physicians and jurists.

Sexually wrong living and genesiac perversion is more common than dipsomania, pyromania and nymphomania and the morbid automatisms of epilepsia. The erotopathic insanoid states, though disgusting to look upon, should be better understood by medical men, mental hygienists and moral reformers. This book well illumines the filthy abhorrent way of morbid unrestrained sexuality and bestiality, and a proper understanding of erotosexual morbid mentality it discusses, would help to save many through wise and early medical counsel and treatment from sexual degradation and destruction. Doctors should all read this book.

SAUNDERS' AMERICAN YEAR-BOOK FOR 1905.—The American Year-Book of Medicine and Surgery for 1905 is a yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery, drawn from journals, monographs and text-books of the leading American and foreign authors and investigators. Arranged with critical editorial comments by eminent American specialists, under the editorial charge of George M. Gould, A. M., M. D.

This 1905 issue fully maintains its long ago established

pre-eminent position. Here the practitioner has, at a moderate price, the cream of the past year's medical literature in readily digestible form. The text, as usual, contains a number of illustrations and nine insert plates of much value and excellence.

In two volumes. Volume I, including general medicine; volume II, general surgery. Two octavos of about 700 pages each, fully illustrated. Philadelphia and London: W. B. Saunders & Co., 1905. Per volume, cloth, $3 net; half morocco, $3.75 net.

Nervous and mental diseases are judiciously presented by that discerning and able neurologist, Dr. Archibald Church, of Chicago, and occupy 58 pages of the volume on medicine. The insane monolog, by Darcanne, and the neuroses of the status lymphaticus, by Ohlmacher, are two of the most suggestive of selections in this department, the former being a wide field for further observation on psychiatry, the latter similarly suggestive on neurology.

CONSERVATIVE GYNECOLOGY AND ELECTRO-THERAPEUTICS. A Practical Treatise on the Diseases of Women and their Treatment by Electricity. By G. Betton Massey, M. D., Attending Surgeon to the American Oncologic Hospital, Philadelphia; Fellow and Ex-President of the American Electro-Therapeutic Association; Member of the Sociétiè FranSaise d'Electro-Thérapie, American Medical Association, etc. Fourth edition, revised, rewritten and greatly enlarged. Illustrated with twelve original, full-page chromo-lithographic plates; twelve full-page half-tone plates of photographs from nature, and 157 half-tone and photo-engravings in the text. Pages XVI-468. Royal octavo. Extra cloth, beveled edges. Price, $4, net. F. A. Davis Company, publishers, 1914-16 Cherry Street, Philadelphia.

It is refreshing in this day of destructive gynecology, often needlessly reckless in its surgical aspects, to see a book pleading like the one before us for conservatism and muliebritic salvation. Since the fatal days of Baker Brown with his limitless cliterodectomies and the soon following

craze for Battey's normal oopherectomies, pleas have multiplied in behalf of woman's rescue from needless untimely surgery upon non-organically diseased organs, especially from such surgery for relief of cerebral nervous states, and just pleas are now being made for the rescue of the deflected but not diseased *septum nasi* and for the salvation of the non-inflamed or otherwise diseased appendix vermiformis from the novitiate whose manual temerity or dexterity with the knife exceeds his diagnostic and therapeutic skill.

Any book that really saves suffering woman from the needless remedy of the knife and especially from premature surgical unsexing ought to be welcomed by every humane physician and surgeon, and this good book by a good author and electro-therapeutist is one of them.

SAUNDERS' QUESTION COMPEND FOR REVIEW OF NERVOUS DISEASES AND INSANITY. Fourth edition, thoroughly revised. Essentials of Nervous Diseases and Insanity: Their Symptoms and Treatment, by John C. Shaw, M. D., late Clinical Professor of Diseases of the Mind and Nervous System, Long Island College Hospital Medical School, by Smith Ely Jelliffe, Ph. G., M. D., Clinical Assistant, Columbia University, Department of Neurology; Visiting Neurologist, City Hospital, New York. 12mo. volume of 196 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1904.

Of the progress made in every branch of medicine during the last few years, none has been more prominent than that considering diseases of the nervous system and of the mind. Dr. Smith Ely Jelliffe has recast the work, bringing the order of arrangement in accord with the present knowledge of these important subjects. A commendable and serviceable change is the grouping of the subjects so as to bring out the natural relations of affiliated nervous disorders.

This small pocket volume contains much in little space, and all in accord with the teachings of the great masters in psychiatry and neurology. We cordially commend it as a useful epitome of the essentials.

ELECTRO-DIAGNOSIS: SCHEME FOR THE DIFFERENTIAL TESTING OF NERVES AND MUSCLES. For use in Diagnosis. By J. Montgomery Mosher, A. M., M. D. Illustrated. Price, One Dollar.

ELECTRO-DIAGNOSIS CHARTS. For Recording the Results of Electric Examinations. In Pads of One Hundred Charts, Fifty Cents. Brandow Printing Company, The Fort Orange Press, Albany, N. Y.

This book and tables have been prepared for the purpose of facilitating electro-diagnosis. They are the result of repeated examinations made at the Albany hospital which the author claims have shown the great advantages of precise anatomical localization over the time-honored charts of von Ziemssen. The author believes the use of this method in teaching the action of nerves and muscles is far less common than its advantages deserve.

The book is appropriately dedicated to Dr. Henry Hun, Professor of Diseases of the Nervous System in the Albany Medical College, as a token of affectionate regard.

IN THE NINETY-FIRST ANNUAL REPORT of the trustees of the Massachusetts General Hospital, including the McLean Hospital and Convalescent Home, we notice that the Zander apparatus for mechanico-therapeutics has been installed, excellent illustrations of which are presented in above report.

LAWS GOVERNING THE CHEMICAL COMPOSITION OF URINE. An approximately complete analysis of thirty "normal" urines. A Theory of Protein Metabolism, by Otto Folin, from the laboratory of the McLean Hospital for the Insane at Waverly, Mass. Reprinted from the *American Journal of Physiology*, and good manual.

THE NEW AGE, an illustrated monthly, published by the Supreme Council of the 33d Degree A and A Scottish Rite S. J., U. S. A., at Nashville, Tenn., Washington, D. C., and New York City.

Is replete with interesting reading matter for all people

of literary taste, but especially valuable for its historic records of masonic literature, notably an ancient poem on the Constitution of Freemasonry and masonic history, by Albert Pike, Posthumous.

PAIN IN THE BACK. A Clinical Lecture. By F. W. Langdon, M. D., Cincinnati, Lecturer on Nervous and Mental Diseases in the Clinical and Pathological School of the Cincinnati Hospital; Visiting Neurologist to the Hospital.

This lecture exhibits excellent neurological diagnostic differentiations and shows the value of neurology as studied by a widely observant clinician in the understanding of nervous and general morbid states where spinal pain appears as a symptom.

PARETIC DEMENTIA AND DEPRESSING DELUSIONS, by James G. Kiernan, M. D., Chicago.

A valuable contribution to an interesting clinical feature not well understood, of many cases of paretic dementia. We cordially commend this instructive paper by this well known and eminent alienist and neurologist.

Prosthetic surgery, with Report of a Case, Illustrative. Flavel B. Tiffany, A. M., M. D., Kansas City, Mo., Professor of Ophthalmology and Otology in the University Medical College.

Ninth Biennial Report of the Trustees and Medical Superintendent of the Northern Indiana Hospital, at Longcliffe, near Logansport, for the period ending October 31, 1904, to the Governor.

Treatment of Aphasia by Training. By Charles K. Mills, M. D., Professor of Neurology in the University of Pennsylvania; Neurologist to the Philadelphia Hospital, Philadelphia.

Convulsive Tic. Read in the Section on Nervous and Mental Diseases of the American Medical Association, at

the Fifty-fifth Annual Session, June, 1904. Hugh T. Patrick, M. D., Chicago.

Cleveland State Hospital. 50th Annual Report of the Board of Trustees and Officers to the Governor of the State of Ohio, for the fiscal year ending Nov. 15th, 1904.

Remarks on the History of the Mastoid and Radical Operation on the Middle Ear, with Demonstrations of Anatomical Specimens. By D. Emil Amberg, Detroit.

Hydrocyanate of Iron (Tilden's) in the Treatment of Epilepsy and all Neurotic Conditions. What it is and what the profession says about it.

Tent Treatment for Tuberculous Insane. By A. E. Macdonald, LL. B., M. D., Medical Superintendent, Manhattan State Hospital, East.

Evolution of Psychiatry, or Progress in the Care and Treatment of the Insane. By William Francis Drewry, M. D., Petersburg, Va.

Eighth Biennial Report of the Eastern Indiana Hospital for the Insane, for the period ending October 31, 1904, to the Governor.

The History of Pediatrics and Its Relation to Other Sciences and Arts. By A. Jacobi, M. D., LL. D., of New York City.

Feeble Minded and Epileptic. By J. C. Carson, M. D., Superintendent Syracuse State Institution for Feeble Minded Children.

Inaugural Address of the President of the New York County Medical Association. By Francis J. Quinlan, M. D., L.L. D.

The Relation of Diseases of the Stomach to Affections of the Mouth, Nose and Throat. By Robert Levy, M. D., Denver.

The Foundations and Aims of Modern Pediatrics. By Dr. Theodore Von Escherich, of Vienna, Austria.

Subdivisions of the Concrete Concept Area of the Human Cerebrum. By Charles K. Mills, M. D., of Philadelphia.

The Dividing Line Between the Neuroses and the Psychoses. By Richard Dewey, M. D., Wauwatosa, Wis.

Acute Asthma. An Expression of the Gouty Diathesis. By J. Leffingwell Hatch, B. S. C., M. D., F. R. M. S.

Nomenclature of the Various Affections of the Mastoid. By Emil Amberg, M. D., Detroit, Mich.

The Insane. By T. E. McGarr, Secretary New York State Commission in Lunacy.

The Prognosis of Laryngeal Tuberculosis. By Robert Levy, M. D., Denver, Col.

Middle Ear Disease in Tuberculosis. By Robert Levy, M. D., Denver, Col.

A Proctological Clinic. By John L. Jelks, M. D., Memphis.

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THE
ALIENIST AND NEUROLOGIST.

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OUTLINES OF PSYCHIATRY IN CLINICAL LECTURES.*

BY DR. C. WERNICKE,

Professor in Breslau.†

LECTURE THIRTY-FIVE.

Akinetic phases in hyperkinetic motility psychoses. Cyclic and complete motility psychoses. Significance of the paranoiac stage. Digression as to intrapsychical akinesis. Theoretical considerations for the comprehension of the motility psychoses.

IT might be very important to us in the two disease types of hyperkinetic and akinetic motility psychosis restricted as much as possible, to gain the firm standpoint, from which it would seem possible to penetrate the province of the cases predominating by far as to number, which attain their special stamp by specific motor symptoms, but in some way are more complicated than the cases previously considered.

These are chiefly differences in course, which are here

*Concluded from *Alienist and Neurologist*, Vol. xxvi, No. 2.

†English by Dr. W. Alfred McCorn, late Supt. Elizabeth General Hospital, Elizabeth N. J.

to be considered, and combinations between the two opposite states of hyperkinesis and akinesis. We find such combinations represented by two cardinal groups. The one consists that either at the beginning or at some time during the course of a hyperkinetic motility psychosis occurs for hours or a few days at most. In such cases it is evidently a matter of an exaggeration of the disease process, so that instead of symptoms of irritation, those of defect occur. In the disease type of agitated confusion, such an exaggeration of the hyperkinetic to akinetic symptoms may be observed at times. In two cases of the sort, an akinetic-parakinetic stage of one and two day's duration formed the acute onset of a confused mania. The second type of this combination consists in the mutual excitement of the two opposite states of hyperkinesis and akinesis, while any single phase of the above described form produces the hyperkinetic and akinetic motility psychosis. The difference from the preceding type consists in the more protracted course of each phase. We see that it is a matter of the counterpart of the circular psychosis, which in pure cases shows just such an alternation of mania and melancholia. In fact, as in the circular psychosis, a frequent change from akinetic to hyperkinetic phases sometimes occurs, if not with the regularity as in the circular psychosis. These cases seem to be especially characterized by their unfavorable prognosis.

Still much more often it results only in a single rotation of the sort, and I would therefore dispense with the name circular and speak of the special form of *cyclic motility psychosis*. I have seen cases of the sort almost solely in young girls and women and their etiology seems to be largely menstrual and puerperal. The hyperkinetic stage always occurs first, between it and the akinetic or, in the latter, a distinct stage of exhaustion stupor is often inserted, the final termination is either recovery, death or profound dementia. To the hyperkinetic stage a maniacal, to the akinetic a melancholic state is often added, *i. e.*, at one time intrapsychical hyperfunction, at another intrapsychical afunction. The patients are usually completely dis-

orientated, the motor perplexity is especially very pronounced. In these cases the substitution of one disease type by the other may be spoken of. But more probable the akinetic symptom is always the expression of increased intensity. In such cases cyclic motility psychosis occurs that the akinetic phase appears earlier in certain parts of the motility than in others, especially is it observed that the motor loquacity has passed into mutism, while the motor impulse strictly continues a few days to then pass into immobility. In the unfavorable cases, the hyperkinetic stage is usually of an anxious hypochondriacal content with corresponding phonemes.*

When we have just seen that such opposite states as motor hyperkinesis and akinesis may be combined, we will not think it strange if we quite often meet with cases whose cardinal sign is a mixture of akinetic, hyperkinetic and parakinetic symptoms. These cases of mixed or, if you like, *complete motility psychosis*, do not then present special phases which belong only to one category, but in rapid alternation the hyperkinetic is at one time dominant, then the akinesis or parakinesis, consists from the first of simultaneous akinetic, hyperkinetic or parakinetic symptoms in different muscular regions. Certain recurrent cases of hours' or days' duration, attended by intense affect and total disorientation and followed by a stage of exhaustion and amnesia, deserve to be especially mentioned here. Such cases occur sporadically as so called transitory psychoses; cases, in which they recur at short intervals, I have always found of unfavorable course. The ready assumption that epilepsy is concerned, has not been proven. The fact that in such cases of complete motility psychosis the possibility of communication with patients is retained, discloses an insight into the difference which exists with respect to disorientation. The sensorium is only temporarily clouded or perfectly clear. It may be established that in certain cases the motility is almost exclusively affected and these seem characterized by rapid

*Instances of cyclic motility psychosis are cases 6, 15 and 21 of the "Krankenvorstellungen." Heft 1.

development of explanatory delusions without therefore being of unfavorable course. It is these patients from whom after recovery the best information of the purely motor character of their symptoms is obtained.

It is not permitted to maintain an exclusively parakinetic form of motility psychoses according to the experience of the clinic. Where in a disease type the changed form of movements dominate for a long time, or during the whole illness, as *e. g.*, we have seen in a case,* it is shown that phases of akinesis and hyperkinesis are differentiated, so that the parakinesis, if conspicuous, does not exist independently. The concept of parakinesis is evidently a mere makeshift, as we could subordinate the paraesthesia of peripheral nerves in part to hyperaesthesia, without forfeiting an essential part of symptomatology.

As we have seen it is the nature of the akinetic symptoms, that the decision in how far other identification disorders are intermingled is often impossible, and at other times after the termination of the akinetic stage. So then we must take account of the possibility that the above purely empirical disease type of akinetic motility psychosis is too broad, and still contains cases in which the motor symptom complex is grafted on another just as essential and covered by it. How justified this conception is, we see in a part of the cases of complete motility psychosis. These may be known from the first by the picture of phantastic delirium of menace with marked disorientation in all three parts of consciousness, besides the motor symptoms periodically changing, and always seem to be of unfavorable course. Very similarly the phantastic delirium of menace in the paranoiac stage of an akinetic motility psychosis is sometimes merely the expression of a disorientation, which was previously concealed by the akinetic stage. These cases are largely of unfavorable prognosis. Another time the phantastic delirium of menace in well retained allopsychical orientation is to be observed in the same paroniac stage and combined with hypochondriacal sensations largely of intestinal sort. These cases are

*See case 15, Heft 1, of the "Krankenvorstellungen."

largely of unfavorable course, so that we are in a measure justified in regarding the phantastic delirium of menace in motility psychoses as an unfavorable prognostic symptom.

To gain a comprehension of other more complicated cases of motility psychosis, it would be to speak of all those symptoms together, which depend on identification disorders of the psychomotor tract Zm, as we have done before in analogous cases. But it has proven necessary to become clear primarily how the intrapsychical akinesis is differentiated from the psychomotor. A digression as to the *intrapsychical akinesis* is therefore unavoidable.

Affective melancholia presented an example that the symptoms derived from a hypothetical scheme, and these alone constitute a disease type which is very often to be met with in reality. It is not so simple with respect to that morbid condition, which as to the severer grade of disorder of the intrapsychical function results in an objectively conspicuous akinesis, *i. e.*, an absence of psychical movements. The independent significance of such a state, for which I would employ with all reserve the name *depressive melancholia*, has become more and more questionable year by year. I will briefly cite the signs of this condition derived from our scheme. The patients of the kind cease to speak of their own volition or to do anything; they present then the symptoms of initiative mutism and initiative akinesis. The expressive movements are correspondingly few, the face little animated, while the reactive movements are implicated, but proportionately better retained. The reactive movements are so far impaired; this happens according to the difficulty of intrapsychical function, but never according to the differences in the muscle groups to be innervated. With the complete failure of association the affect ceases, which is joined to the feeling of subjective insufficiency and, in place of the supraquantivalent idea a lack of thought occurs, perhaps a complete arrest of thought at times. An affect of anxiety is conceivable as soon as we remember that the failure of association represents in a certain sense a menace to the body. Whereas, the specific motor symp-

toms of flexibility, pseudoflexibility, muscular rigidity and negativism are wanting.

Patients, who correspond to the picture described, are not rare. The affective melancholia may occasionally show similarities, and I believe to have observed in former years transitions to a condition in others, in which the picture of depressive melancholia represents the severer grades of the disease, cases which always showed a very much longer course than the great majority of cases of affective melancholia. A peculiarly retained speech reaction seemed to me characteristic of these cases, an evident inhibition of answers, which were given in a feeble voice or after many efforts and often at the moment I turned to leave the patient. The same hesitancy, the same inhibition and retardation, apparently the overcoming of a sort of inhibition, may be extended in such cases to all the other reactive movements. It is now probable to me that these transitions from affective and depressive melancholia actually occur sometimes, while I can no longer advocate the significance of depressive melancholia as an independent disease. The thorough examination of the cases during the last few years has always revealed a plus of symptoms, which are to be found when they are sought for. Without my having been able to arrive at a final judgment, I will briefly state my experiences.

I have a number of statements, in part from the patients themselves, in part from their relatives, according to which at the onset of motility psychoses a condition existed for hours, more rarely for a day, which corresponded in most to the above described cessations of ideation. Sometimes a definite position was maintained, which in itself was in no way abnormal or constrained. The patients' information, which they gave later, was evidence of a state of complete arrest of thought, as it normally occurs for a moment in the state of so-called discomposure. A patient of the kind was found in this state on her admission and remained immovable, with clothes tucked up in a foot bath ordered for her. The motor character of this disorder became plainly evident later, for she had mutism for a long

time and could not show the tongue, while all other reactive movements were promptly executed. A second series of cases are not only temporary conditions, like those just described, but correspond to a special disease type of longer duration, always lasting more than a year, for which perhaps the name *pseudomelancholia* would be appropriate. This pseudomelancholia usually forms the first stage of a compound psychosis, which in general is to be judged unfavorably prognostically, but the possibility of a favorable termination is always present. This disease type has previously* been spoken of. The cases belonging here usually present certain signs of affective melancholia, so that they may become boundary cases between it and the above theoretically constructed disease type. But they either soon or in the further course present a further sign, which is entirely foreign to melancholia, in that delirium of relativity is associated. The cessation of the melancholia, which may last over a year, then usually indicates the appearance of a further ascending stage of the persecutory delirium and soon of the grandiose delirium.

The most important is the third case, for which alone the setting up of a special disease type of depressive melancholia would be practically justified. I have especially observed cases, which in this direction presented a pure type of intrapsychical akinesis, but later, sometimes after six months, simulated cases of progressive paralysis. The paretic symptoms, particularly of the projection apparatus, here first appeared when the presumed depressive melancholia improved and a favorable turn was hoped for. By far more often cases of depressive melancholia are met with, in which from the first, either by implication of the projection system, or by real defects, the paretic character is manifest. The intermingling of a mild degree of somnolence seems to render prominent among these cases a special group which, to judge by the result of specific therapy, belong to the luetic brain diseases. Of Heubner's cases† a few might belong here.

*See *Alienist and Neurologist*, Vol. xxi, P. 306.

†Huebner. Die luetische Erkrankung der Gehirnarterien.

As we see it is a matter in these cases as in pseudo-melancholia of a definite, usually initial phase of a compound psychosis (see below.) It is different with a combination of intrapsychical afunction of higher grade with hypochondriacal symptoms, which permits the interpretation that the first and thus resulting akinesis only represents the psychologically induced sequence of a severe physical feeling of illness. These cases, in large part curable, present during the whole disease the same combination of symptoms; they form then a uniform, if also mixed disease type. It is controlled, contrary to the previously* mentioned hypochondriacal melancholia, throughout by the psychosensory identification disorders of the body, only that they exercise according to their nature a special influence on the motility. The affect is psychosensory, then consists of a hypochondriacal feeling of misery and attendant anxiety. At times of remission or the favorable effect of a remedy like opium, they feel too ill to think or speak or to be able to do anything. The akinetic reaction is then psychologically motived and not reflexly conditioned, as in the previously† mentioned cases. The pathological sensations may be located differently, they are mostly intestinal.

I must give special consideration to the frequent cases of acquired dementia, which possess their cardinal sign in the intrapsychical akinesis. Here it is extremely essential to differentiate from depressive melancholia. It may be claimed the intrapsychical akinesis of acquired dementia is the same as in depressive melancholia, *i. e.*, in it the objectively perceptible defect in movements depend on intrapsychical afunction and so forms the index for those symptoms, which are only subjectively felt in affective melancholia: the defective ability to decide, the coldness of the psychical feelings and the blunting of the interests. Therefore, motives for volitional movements are wanting, the patients sit or lie about apathetic, and do not present a trace of an autopsychical affect. Whereas, the very conspicuous sluggishness of thought often has the character-

*See *Alienist and Neurologist*, Vol. xxiv.

†See *Alienist and Neurologist*, Vol. xxiii. p. 413.

istic that required performances produce manifestations of dejection and simultaneously a paucity of facts, judgments, often of ideas may be demonstrated. That the latter "defect symptoms," as pronounced as they may be, do not of themselves cause an intrapsychical akinesis, will be evident from my remarks at the beginning of our clinical studies*

As characteristics of intrapsychical akinesis, we have to consider the following, according to all these experiences.

1. The disorder is always uniform and general, corresponding to our assumption of a diffuse blunting of excitability affecting the whole association organ. Distinction between different muscle groups are never manifested. The speech reactions are especially impeded and retarded in exactly the same way as all the others. A complete failure of the speech reaction does not occur, or only in accordance as complicated physical functions are required.

2. The initiative movements are in general more intensely affected than the reactive movements. This is es pecially true of speech, which may entirely cease for no external cause: initiative mutism, while simple questions are always responded to, if sometimes very softly and feebly and with very slight lip movements, but slowly and sometimes at the last moment. With respect to the expressive movements, they are few, but still not absent, and when it is a matter of affects, like the hypochondriacal feeling of misery above mentioned, these occasionally appear by expressive movements. Belonging here in part is the attribute to look at the questioner in vocal conversation. In intrapsychical akinesis this special form of reaction is never lost.

3. That the intrapsychical akinesis is not accompanied by the above described symptoms of specific motor sort, has been sufficiently demonstrated.

Before I pass to the description of the psychomotor akinesis in particular, I might mention a symptom which is occasionally encountered in cases of complete motility psychosis or in those of compound motility psychosis; it is the so-called *imperative speaking*. The patients affected

*See *Alienist and Neurologist*, Vol. xx, p. 548.

generally utter either single words, which often have no connection, a definite series of words, as *e. g.*, that of numbers, or sometimes whole sentences, with evident effort and all the signs of anxiety in attacks lasting for a few minutes or hours, in a tolerably loud, elevated voice, so that the impression arises as in the mechanical, expressionless recitation of a schoolboy. The content, if it is connected, may be derived from the present situation. A patient of the latter sort generally uttered aloud the punctuation which in his opinion belonged to the sentences enunciated by him, somewhat in the following manner: "If I speak, comma, it strains me, period. I cannot do otherwise, semicolon." These patients state that what they say, is said before or dictated and they must repeat it. The compulsion which thus actually occurs, is unmistakably manifested in the mechanical method of repeating, in the evident effort employed and which often results in an irradiation to other muscular areas, as well as finally in the more involuntary or anxiously perplexed facial expression of the patients. On longer duration of this condition it is very proper that the patient finally bathed in perspiration, sinks back completely exhausted and needs longer rest to recover from theeffort. According to the patients' own statement there can be no doubt that they, subject to the compulsion, repeat the voices heard.

As in these cases, the patients state and also show by their conduct that they are subject to a compulsion, so that another time it may be directly established by observation that the will to speak meets with a certain resistance. It is seen in patients who succeed in breaking through a psychomotor mutism, an irradiation of the volutional impulse which far exceeds the intentionally innervated muscular area. The patient, *e. g.*, closes the jaws convulsively, opens the eyes wide, wrinkles the forehead, dilates the nostrils makes the neck muscles tense, throws back the head, elevates the shoulders, presses the arms to the body, and now the words are uttered in a forcible manner.

In pseudospontaneous speaking, which *e. g.*, is the basis of the psychomotor loquacity, the feeling of compulsion is neither subjectively nor objectively noticeable. It is the

same difference as between autochthonic ideas and imperative conceptions.

A few further facts are to be cited here, which serve to more fully explain the nature of the akinetic symptoms. As above intimated, it sometimes occurs that the general immobility, instead of being combined with muscular tension, takes the form of flaccid paralysis. I have seen this for instance in attacks of several hours' duration in the acute stage of a very severe complete motility psychosis, terminating in confusion within six months. In these attacks, which had the most similarity to *states of syncopy*, the patient acted perfectly lifeless, her limbs fell when raised perfectly flaccid and only obeying the laws of gravity, the pain sensations and reflexes seemed to be completely effaced to traces in the sensitive conjunctiva, the pulse was accelerated and scarcely to be felt, respiration was imperceptible. No cyanosis, but unchanged palor of the face. Artificial respiration was employed repeatedly for hours until the repeated attacks had shown the harmlessness of the condition. Suddenly, after a certain duration of this condition, the patient could get up and then began to dance about with theatrical gestures and to sing songs of a pious nature; perhaps she then was in a half-enraptured, ecstatic state. I have seen similar states, with apparent arrest of respiration for several minutes quickly pass into status hysteroepilepticus between two attacks, in which the complete unsteadiness of the head, exactly like a flaccid paralysis, was conspicuous. In these states it must not be mistaken that it is more than a paralysis of the will. Further, an absence of the will seems to exist temporarily in those cases, where the patients for instance suddenly let themselves fall to the ground from a sitting posture, or cannot walk at times and then let their legs hang as lifeless, as if they were carried. Both were to be observed in these patients at a somewhat later stage, who had passed through conditions similar to syncopy. I will not neglect here touching upon the so-called hysterical palsies. They have a close relationship with the conditions described, if their peculiarity will in no way be contested.

The so-called *hypochondriacal palsies* afford the proof that the elimination of the will may be manifested in localized muscle areas. These palsies are of the greatest rarety and seem to occur almost exclusively in severe hypochondriacal psychosis. Of course it is never a matter of palsies of individual muscle and nerve areas, but that of whole limbs, or parts of limbs at least. They should not be classed with Charcot's psychical palsies, which I regard as the result of suggestion, so that naturally they might take any form. If these are disregarded, hypochondriacal paraplegia might occur the most often,* at least with gradual transitions to hysterical paraplegia. In my own experience I can report a hypochondriacal hemiplegia, which was on the right side and complicated by motor aphasia. It occurred in a hypochondriacal insane patient, who soon stubbornly refused food and died after several months without the death being due to any complication. The brain section was carefully made and showed a negative condition. The paralysis on the right side in this case presented the peculiarities, which at first glance differentiated it from an organic hemiplegia, being most conspicuously shown by the awkward, stiff gait, the affected leg being dragged like a heavy weight. Simulation might have been thought of, if the severe course of the mental disease had not excluded every doubt. Unfortunately I do not accurately recall the condition of the arm, still I know that arm and shoulder seemed fixed intentionally, and that a very unusual picture resulted, which therefore resembled simulated palsies. However, Charcot's psychical paralysis is usually flaccid. It may be interjected that the occurrence of a hypochondriacal paralysis affords the evidence of the possibility of a psychical paralysis in Charcot's sense, this possibility cannot be contested; still between the hypochondriacal and the psychical palsies, which latter may occur in the sane, the one fundamental difference will exist, that the latter depend on elimination of the will in consequence of normal, yet not evident motive, the former on the same anomaly of the will in consequence of

*An example is case 23, Heft 3, of the "Krankenvorstellungen."

pathological motive. If this is adhered to, the treatment of the psychical palsies will be the same as that of simulation.

Related to the so-called hypochondriacal palsies are cases of fixed contracture, which sometimes in rare instances may be the residue of the same symptom during the acute period of the disease after its termination, while all other derangements of motility have disappeared. According to the little experience I have had, the terminals of the extremities seem to be affected preferably, so the contracture was once confined to both hands, another time to one hand and talipes equinus of both feet, and in the first case combined with a moderate degree of dementia, in the second with a high degree. According to the special mode of origin of these contractures, it could not be decided whether a real paralysis was combined; at any rate a spontaneous ability of the muscles affected was excluded. Of course they were not cases of progressive paralysis. I do not hesitate to perceive in these cases analogies to that* of motor and partial sensory aphasia, which defects had remained after a severe motility psychosis, and they are to be explained by summation of individual defects of the psychomotor tract Zm.

With respect to the significance of the akinetic symptoms, that of pseudoflexibilitas is to be especially considered, in which usually a perfectly clear and alert consciousness is present. An independent volition of the patient to do differently than is required by the passive movement, does not seem to be present here, and so it might be tried to trace the moderate general akinesis of these cases to an absence of volition, *i. e.*, to intrapsychical influences, also the maintenance of imparted positions permits this interpretation. But it must be conspicuous that the observation may almost always be made that the positions are maintained for a longer time when one is present and occupied with the patients, than when they are left to themselves. As already intimated, we must perceive in this condition an effect of suggestion of the manipulations performed by the examiner, *i. e.*, an involuntary influence from the volitional

*See *Alienist and Neurologist*, Vol. xx, p. 142.

processes present. Cases of negativism, with fully retained sensorium, display the opposite. We observed, *e. g.*, the following condition: a patient, who is perfectly conscious, sits in bed with the eyes open and evidently notices what occurs on the ward, is requested to raise the right arm. As he does not do it, it is attempted to perform this movement passively and resistance is encountered, which increases in proportion to the strength employed. If the patient becomes indignant, it is attempted to explain this condition psychologically by the intentional resistance. Nevertheless, by the patient's whole conduct otherwise, it may be unquestionably shown that he does not lack the intention to perform the command, and that he shows no tendency to oppose other requests of the physician. The fact is then to be considered that the patient's exertion of strength is often very significant in his resistance and is out of proportion to other volitional manifestations, so that the idea is gained that volition is present, but cannot be manifested owing to inner resistance and a contrary action results, in which the patient usually has the feeling that he is subjected to constraint. In like manner, in attempting to separate the patient's lips or the jaws, the opposite result is seen that the lips are more tightly closed, the masseters and temporal muscles become prominent, while it may soon appear that the patient really intended to open the mouth, at one time with no effort, again with great. Sometimes the information is obtained on inquiry as to the motives for this conduct, that voices forbid them to perform the movements. But they are the same voices which have subsequently prevented making the movement spontaneously: "They do not let me speak; now they pull and haul me," are characteristic assertions. I need not emphasize that these inhibitory and commanding voices do not explain the patient's peculiar conduct; in our way of thinking they are merely the expression of physical perplexity united to a definite situation. I have already called attention to the irradiation of the volitional impulse in these cases.

Doubtless the most remarkable and specific is

the third form of reaction of patients to passive movements, waxy flexibility. This manifestation, met with exclusively under psychotic conditions, may not at once awaken the suspicion that a pathological change in volitional action may be its basis: it must evidently be regarded as the specific cortical reflex to passive movements; which only appear pure under certain pathological conditions. But these conditions are those of well-marked immobility, for then only is it observed; in other words, it only occurs when the influence of the will cannot be manifested in passive movement; hence the motionless continuance in imparted positions joined to this disorder. If we have once gained this standpoint, pseudoflexibilitas as well as negavitism seems to us modifications of flexibilitas cerea, which occurs in retained possibility of some volitional influence. The attempt at passive movement is perceived in the cortex. At one time it cites the idea of the movement to be performed and facilitates the corresponding volitional action; another time the thought of the impracticability of the movement arises, *i. e.*, to the idea of the movement to be performed, is also associated the inhibitory thought of a required expenditure of strength, which often seems very great in the subjective estimation; the effect of the will is thus inverted to its opposite. From such an overestimation of the necessary expenditure of strength then shows the irradiation of the volitional impulse to wide muscular areas, to be observed under certain conditions (see above.)

A part of the muscle contractions which appear in patients otherwise motionless, as soon as it is attempted to change their position, has perhaps the same significance of a modified cortical reflex as negativism. But the permanent muscle contractions and those independent of passive movements are so very often combined with states of unconsciousness or marked stupor, that it would be compulsory to relate them to some volitional action. I confine myself to the intimation that there are clinical as well as experimental data enough to prove the influence of central projection fields of motility on the origin of tonic spasms and contractures.

In the literature of our science the term abulia is often used to designate states of immobility of different degree. We are now able to demonstrate the inaptness of this term; it would only be justified for the initiative akinesis of melancholia and dementia, if also an unnecessary term. It is a matter, not of a pathological derangement of the will, not of the impossibility of the occurrence of objective ideas, but of an identification disorder between objective ideas and the central projection fields of motility. Hence the possibility that localized contractions and palsies remain after the termination of the acute psychoses, hence also the possibility of a hypochondriacal hemiplegia with motor aphasia. To assume a unilateral condition of the will would be nonsense; whereas, a defect of function or an actual interruption of the tracts at the disposal of the will for the innervation of the motor centers of one hemisphere, is conceivable and not without analogies. Only thus is explained the occurrence of the affect of motor perplexity, the numerous and peculiarly colored explanatory delusions and many other symptoms. Under certain conditions it may be directly observed that certain objective ideas are produced by the motor condition, that *e. g.*, a patient who is made to kneel, raises the head and eyes and folds the hands in prayer. Or a position accidentally imparted reminds him of the situation of a fencer or acrobat and he at once executes those movements, which help to complete the picture. That pseudospontaneous movements as primary manifestation often produce the affect habitually combined with them, *e. g.*, that of cheerfulness or attack, has already been mentioned. It is to be equally emphasized that all the movements of the hyperkinetic motility psychoses occur without the action of the will, and are to be regarded as primary sources of attendant trains of thought and affects. Still more is this true of strictly localized pseudospontaneous movements rhythmically repeated, which occur in the akinetic motility psychoses and may precede the paralysis with contracture of the muscle areas affected.

From the considerations presented, it is as good as

proven that in the motility psychosis, that great complex of ideas which represents the ego, the consciousness of the personality in our sense of the motor mechanism of the body, which it has been accustomed to control, is in a certain measure gotten rid of, that is the motor processes, which nevertheless occur, or opposed to the arrest of this mechanism as witnessed and is first affected by it. That for this condition only, a dissolution of associations which may be the basis of the hypothetically postulated process of sejunction, is evident. An especial light must now fall on this group of movements by this connection of things, which are almost exclusively under the control of the personality, namely the speech expressions. They are the most readily damaged and afford the finest reagent for the motor character of a psychosis. And we find that confirmed in fact by the experiences of the clinic. Where recent cases are met with, which offer great difficulties to inquiries and the examination thus made hard, do not neglect moving the patient's limbs and putting them in certain positions; it will then often be surprising to find the symptom of pseudoflexibilitas and the maintenance of positions very pronounced. And the experience that on decline of a motilitypsychosis a sort of reflex stupidity, *i. e.*, an absence of answers to the physician's questions, while all the other reactions are prompt, our reactive mutism forms the last motor symptoms, I have experienced so often that I must consider it regular. That it is the reactive mutism and that this appears toward the physician, is at once comprehensible, if I recall the distinction of a "super" and a "subconsciousness" favored by a colleague. We will find it equally natural, that under these circumstances the speech mechanism fails, especially for those questions, which have this symptom for content. A comprehensible outbreak of affect is often the only answer, which may be obtained by continued urging.*

*In a Jewish merchant of 26, this impediment of speech existed entirely alone. He consulted me in the peculiar manner that he handed me a note of the following words: Almost always when I will speak with deliberation, I am unable to utter a sound in spite of the greatest effort. Involuntarily I speak very fluently, also in reading and singing. This condition has existed since going to school and became ever more manifest, so that at times I believed I would be dumb.

I now refer to the representation I gave of the consciousness of the body at the beginning of these clinical discussions. The musculature might have a prominent place, indeed we might presume a vague consciousness of the state of our muscles, which constantly regulate postures and gait as always accompanying the awake state, so that we might ascribe to the curve of psychophysical movement the attribute of being raised above the general consciousness of the body in a certain moderate degree of excitement. If we remember this, we will also be able to admit that the patient's movements, like those of the normal person presume a process of excitement, which is consummated in the consciousness of the body. The abnormal movements, with which we have been occupied, would thus be the most simply explained by the assumption of an affection of the consciousness of the body. We could then so modify the definition of the will, which should be remembered, that the motor projection fields belong to the consciousness of the body. The idea of the necessary expenditure of strength for the execution of a definite movement belongs to the consciousness of the body. A pathological change in the construction of the motor ideas of the whole body built on each other, is perceived under certain conditions and have the effect of increasing the expenditure of strength for any simple movement in the subjective estimation to an abnormally high degree, so that the movements will cease entirely and immobility result. That the patients take normal positions and postures as soon as they are made to stand or walk, is explained just as simply by derangement of the consciousness of the body of the sort that relations between trunk and extremities are felt to be changed in certain portions of the spinal column, or the normally compensating innervation of symmetrically coöperating muscle areas in their position to each other, *i. e.*, in their proper association. The patient who remained motionless and tried to avoid locomotion, then finds, if forced, a motor mechanism in disorder. That this process cannot be placed on a par with hallucinations is evident, for here the pathological and abnormally intense irritation is the cardinal af-

fair, while in our case a defect in the established association suffices for explanation. The maintenance of certain pathological positions may, in our way of thinking, infer the subjective sensation of a change of equilibrium between impulsive, collateral and antagonistic* innervation of definite muscle areas, which in the normal position cöoperate. The mechanically repeated movements, distinguished by their uniformity, are comparable to the autochthonic thoughts in the domain of the personality and therefore uniform, because everything in this domain of consciousness is localised.

The rhythmical repetition in such cases may depend on a local pathological irritation existing with respect to certain uniform movements, and that it must increase to a certain degree to produce the movements by which a sort of discharge is effected, so that the impulse to the movement is relieved until the same process recurs. It is very similar with the verbigerator; here, a local irritation which leads to the rhythmical repetition, must adhere to certain images of speech movement. Imperative talking, *i. e.*, the imperative repetition of hallucinated words, is an instance that the starting point of these pathological, irritative processes in the motor areas must exist in the central sense areas, if the existing pathological irritation encroaches on the consciousness of the body; for the primary hallucination of hearing is to be regarded as a process of irritation, which not only awakens the acoustic clang image, but also the related organic feeling, and the presence of a worn path, which has always served for repetition, with the intensity of the primary irritation, explains the irradiation to the motor speech area. In these cases this part of the consciousness of the body, namely the motor speech area, seems inaccessible to the patient's will, or more so than normally. An analogue to this reaction of the motor area in the consciousness of the body to irritation, which radiates from the central sense regions, is to be found in the following case.

*This representation is based on Duchenne's theory. The more recent works of Hering, Jr., have proven that the assumption of an antagonistic muscle coordination is not tenable.

Such a patient sits in bed holding the right hand in a position as though he had something in it, while nothing is to be seen. The thumb in particular is pressed against the first two fingers and the ends of the fingers pressed together. It is the same patient who is troubled with voices. I now request him to raise the left arm, which he does readily; I then desire this of the right arm, but without success. The same experiment repeated has the same result. I now try to put the right arm in another position and encounter a pliable resistance, then evident signs of unwillingness on the part of the patient. A careful examination of the fingers shows that the patient has a bit of cloth from his blanket between his fingers. After it was taken from him he makes all movements required of him with the right hand, just as he did before with the left. While in such examples an abnormally strong influence of intercortical functions is manifested, other observations, according to which isolated words are sometimes uttered by the same category of patients, indicate that the influence of these functions—which are always normally manifested in speaking—may meet with the same difficulties as the effect of the will on the speech movements; otherwise, it would not be possible that it was suddenly spoken paraphasically for no reason. This instance is likewise capable of generalization. Consider, *e. g.*, that in walking and standing, our movements must be constantly regulated by centripetal stimula, hence the influence of intercortical paths must be admitted in the motor ideas requisite for standing and walking; the same inhibition, which is to blame for the patient's immobility, passes to these intercortical paths, then seem very well suited to produce the paraphasia in the matter of speech, as a parastasia and parabadia (*sit venia verbo*) under consideration here.

LECTURE THIRTY-SIX.

Simple or fundamental forms of the acute psychoses. Mixed and compound psychoses. Examples.

You will recall how urgently I have always emphasized that our clinical knowledge of the psychoses is very in-

complete. You must also keep in mind that the cases presented represent the majority of certain more frequent disease types, but they do not constitute in their aggregate the majority of the chief types, or in other words, that the more complicated and therefore less familiar cases predominate in number. The principle that has governed me in this selection is not unknown; it is really comprehensible and conditioned by the purpose of instruction. Simple cases, composed of few elementary symptoms and those most fully understood, have been presented. They form the foundation of a theory of disease, which must be continually resorted to for the understanding of the more complicated cases. In this sense we might designate the disease types previously considered the fundamental forms of the psychoses. It is not my purpose to try and describe only the cases beyond the simpler relations, the points of view by which cases predominating in practice will have to be estimated; still I cannot avoid a few brief remarks. It is comprehensible that we will not attempt to cleverly force them into some scheme, even if it has stood the test like ours. Still our scheme does so much in these complicated cases that it aids us in analyzing the symptoms occurring.

I first remind that we have found many transitional cases between the two familiar fundamental forms of acute psychoses. They belong to the simplest examples of those more complicated *mixed psychoses*, as we will call them. The boundary cases of psychoses with apprehension and affective melancholia, which I have briefly outlined,* are familiar. Owing to their especial frequency, they deserve to be emphasized. More rare in the case of psychoses with delirious apprehension very recently mentioned,† a quite pure case of acute autopsychosis of the content of anxious micromania, in which the course and implication of the projection system are essentially derived from delirium tremens. The disease type of agitated melancholia, which I have already designated‡ a psychosis with apprehension, is per-

*See *Alienist and Neurologist*, vol. xxiv, p. 65.
†See *Alienist and Neurologist*, vol. xxiv, p. 63.
‡See *Alienist and Neurologist* vol. xxiv, p. 64,

haps capable of a uniform explanation, if it is assumed that the frequent occurrence of concepts of anxiety cause the loquacity and flight of ideas. At any rate, the coincidence of these two maniacal symptoms with a psychosis with apprehension, is very remarkable. Agitated melancholia also corresponds to one of the more frequent disease types. The examples cited represent mixed forms, which wholly or largely have autopsychical disorientation, so that they always remain in the larger group of autopsychoses.

As a transitional case between autopsychoses and somatopsychoses, we have become acquainted with the example of hypochondriacal melancholia.* The supraquantivalent idea, which belongs to affective melancholia, has here a content derived from the consciousness of the body, whose origin from a hysterical sensation is not usually to be mistaken. Predominating by far is the somatopsychical element in the form of depressive melancholia, which we have traced from a severe hypochondriacal mental disease. In both cases a causative condition of one of the other series of symptoms may be assumed, still in the opposite direction, so that the hypochondriacal element in hypochondriacal melancholia is the consequence, while in the depressive the cause of the autopsychosis. A similar mutual condition we have met with as a rule in the hypochondriacal mental diseases, and find it based on the fact that the symptom of anxiety, which is rarely absent, may result in the corresponding anxious ideas of autopsychical sort, which lead to autopsychical disorientation in the form of micromania. Thus we understand that the somatopsychoses only rarely occur pure and largely correspond to the definition of autosomatopsychoses then really belong to the mixed psychoses. It will be found that in my representation of the somatopsychoses I have always considered this point. Of another combination, which is observed no less frequently, I have expressly disregarded. It consists of that form of disorientation quite often acute, which we will term delirium of hypochondriacal persecution. An inner connection between the somatopsychical and this time

*See *Alienist and Neurologist*, vol. xxiv, p. 205.

allopsychical symptoms exists, due in part to simple explanatory delirium, in part to the elementary symptom of somatopsychical relativity, which we have classified under the new formation of associations. In the acute psychoses, the latter connection is largely evident, and often in cases which lack the autopsychical disorientation through micromania, either at first, or entirely. We will include such cases among the acute allosomatopsychoses and find here a well characterized mixed form between allopsychoses and somatopsychoses. In other cases on the same basis, while the anxiety soon attains a very high degree, a disorientation in all three domains of consciousness is developed, of the characteristic content of phantastical, hypochondriacal delirium of menace, an often very acute disease type of total sensory psychoses, usually accompanied by numerous hallucinations, fear of contact and blind defense. Autopsychically it does not here result usually in micromanic ideas only, but in contrasting grandiose delirium, and the disorientation often has the tendency to gravitate in the latter direction, while the micromanic delusions, clad in phonemes, are energetically defended, and the affect of perplexity prevails in this respect. The aimless motor impulse described in a previous lecture is peculiar to all these cases. Owing to the disorientation, the most diverse acts of perplexity may occur, of which running about blindly, breaking windows, assaults on those about and self-mutilations of the most diverse sort, according to the location of the hypochondriacal sensations; finally, the energetic refusal of food will have to be expressly mentioned. This disease type is essentially differentiated on the motor side, in that we can only include those cases in which the real motor symptoms are entirely absent. The disease type of the acute total sensory psychoses, with the content of phantastical hypochondriacal delirium of menace, occurs quite often in very brief attacks, lasting only a few hours or days, either on a toxic or degenerative basis. Of intoxications, it is especially chronic, alcoholism of degenerative states, the hysterical and epileptic constitution, which furnish a large part of these attacks of the so-called *transitory psychoses*. Prior

head injuries create a predisposition. An especial inner etiological relation for the states of this sort of longer duration is unknown to me. I need not state that life is always greatly endangered. If it is retained, a more or less severe state of exhaustion with memory defect generally follows, which may precede the convalescence. A paranoiac stage is not observed. With respect to the course of the acute phantastic hypochondriacal delirium of menace to the development of the stage of acma, this may be reached in a few hours in cases of transitory psychosis; in other cases it develops within a few weeks from an initial hypochondriacal stage, in which delirium of relativity and hallucinations of all the senses occur, as well as explanatory delusions of the most diverse kind. But these cases of largely sensory stamp and evident ascending course generally develop motor symptoms on longer duration of the stage of acma, and of changeable hyperkinetic, parakinetic and akinetic sort, and in this stage cause profound exhaustion and death. I have had such cases repeatedly, chiefly in those with strong hereditary taint; they deserve the name of *acute progressive sensory psychosis*. In a case of the kind affecting a kyphoscoliotic laborer with hereditary taint and not an inebriate, 40 years old, this course was completed within two months, during which the patient lost 24 pounds in weight in spite of sufficient food during the last week. Besides, the majority of cases of transitory psychosis are generally accompanied by specific motor symptoms.

The type of acute phantastical hypochondriacal delirium of menace, above outlined, belongs to the most affective states we know, on somewhat longer existence, often after a few days, generally damage the general condition to a degree such as occurs only in the severest physical diseases. Shrunken features, general muscular tremor, hoarse, rasping voice, dry, scaly coating on the lips, tongue and teeth, quite often and as a sequence, the signs of incipient blood deterioration or severe trophic disorders announce the impending exitus. The disorders of nutrition may find a pathological anatomical basis, as *e. g.*, inflammatory foci in the anterior horns of the spinal cord, in mul-

tiple gangrene of the skin.* It is these cases chiefly which are described by authors as so-called acute delirium. But we will not be able to admit a special disease of the sort, but perceive only the readily comprehensible consequences of an especially acute disease type rapidly leading to the consumption of strength. Besides, fortunately these very severe cases are rare, and a part of these rare cases present besides, symptoms of the projection system, so that they may be claimed to be cases of so-called galoping paresis. We would be wrong if we thought the total sensory psychoses could always have the characteristic content of the phantastical hypochondriacal delirium of menace. That is not the case at all, but it is largely the mixed cases of only moderate affect and individually very different content of the delusions, whereby a certain partiality of disorientation generally prevails. For instance, the somatopsychical disorientation may be confined to the delusions of pregnancy, which autopsychically may be confined to the accompanying idea of sin and allopsychically to a certain period of time and definite relations, so that the present situation is not correctly recognized, phonemes and explanatory delusions then form the necessary elements of the disease type.† At other times partial disorders of orientation are found isolated, at least not mingled in point of time with essential motor symptoms, which very often give the explanatory delusions the definite content of a mysterious influence. A few examples of the sort, characterized besides by relatively rapid favorable course, are found under the designation of mixed sensomotor acute psychoses in the demonstrations from my clinic.‡

Mixed forms between motility psychoses and more or less diffuse sensory psychoses have become known in part by my description given above. I recall the facts advanced in the discussion of confused mania, that the hyperkinetic motility psychosis may appear with allopsychical disorientation, cases for which I have expressly reserved a special

*Autopsy cited from Cohnheim.

†See case 9, of the "Krankenvorstellungen." Heft 3.

‡See case 28, Heft 1, and case 2, Heft 2, of the "Krankenvorstellungen."

position. They occur on the same menstrual foundation, and with the same tendency to periodical recurrence as the hyperkinetic motility psychoses, and deserve the name hyperkinetic allopsychoses. Less frequently we meet with the combination of hyperkinetic motility psychosis, or of agitated confusion with severe hypochondriacal symptoms, still I have had a few cases of the kind, in which a hypochondriacal stage lasting only a few days with tendency to severe self-mutilation, in part replace the hyperkinetic symptoms, in part seem grafted on them. The hypochondriacal symptoms in these cases represent a brief stage of acma. The relation of the motility symptoms to the consciousness of the body, is thus again illustrated. At another time the acute hyperkinetic motility psychoses is attended from the first by total disorientation, as shown by the diverting conduct at the time of the state of excitement, and the later information of the patients. An example of the kind we have recently seen.* That the more or less pronounced type of a hyperkinetic motility psychosis may later be added to the symptoms of a total sensory psychosis, and that the grave course of certain cases of acute progressive psychosis may be thus grounded, I have already stated. It is to be called to mind at this time that a hyperkinetic motility psychosis does not usually have this progressive course, but a complete motility psychosis.

In the akinetic motility psychosis we should from the first give up considering only the pure cases, the fact that it is usually a matter of mixed cases is sufficiently well known. Still, I will expressly emphasize that a definite combination, and that with hypochondriacal symptoms, is always the rule; another evidence that the motility psychosis must be included among the somatopsychoses in the broader sense. Whereas, in a large number of cases, the fact that all allopsychical orientation is retained, has been established with sufficient certainty. One was completely orientated somatopsychically, but complicated with phantastical micromania and the type of affective melancholia. Ir-

*See case 20, Heft 3, of the "Krankenvorstellungen."

respective of the latter, it is a matter of cases of unfavorable course, while other cases with total disorientation sensorially recovery completed, if a few times after years. It does not seem requisite to compare the partiality of these cases with the circumscription of the direct focal symptoms in the brain diseases. That of the cases of akinetic motility psychosis, accompanied by total sensory disorientation, which with phantastical delirium of menace demand a special interpretation, and in general are to be judged unfavorably prognostically, I have sufficiently emphasized.

The cyclic motility psychosis has afforded us an opportunity of becoming familiar with the mixed forms of mania and melancholia with the two opposite phases of this disease. Such combinations and cases of mixed psychosis resulting thus we find not so rarely irrespective of the motility psychoses, and we will find it comprehensible that a disorientation of any sort, so far as it is not an effect of mania or melancholia, is very often attended by a diffuse exaggeration or blunting of the excitability of the association tracts. Very often it is a matter of still unknown cases varying greatly. Whereas, certain combinations of known sort are occasionally met with. I have previously mentioned certain cases of maniacal allopsychosis and might complete that previously stated, that in cases of hyperkinetic motility psychosis the orientation in the world then seems to be damaged, if the patients are simultaneously maniacal or a pronounced pure maniacal picture has formed the initial stage of the disease.

A practically important combination of allopsychical symptoms with mania deserve special mention. The disease type of *irascible mania*, which occurs quite often as an independent disease, consists essentially of a combination of mania with anxious ideas and corresponding phonemes, without therefore essential allopsychical disorientation needing to occur. Still delirium of allopsychical relativity and hypermetamorphosis are usually present. Anxiety is also complained of, and fear of contact and terror are sometimes observed. An especially typical case of the kind occurred at periods of exactly four weeks and

lasted 14 days, without a menstrual etiology being possible, for it was the matter of a young man of 18, who was strikingly backward physically and with a strong hereditary taint. As in this case, irascible mania generally seems to terminate favorably. The quite frequent irascible mania of paretics is usually a mere phase of the disease.

A further combination, if not of mania, but of consequitive asthenic confusion with allopsychical disorientation I have spoken of with confused mania, and also shown that the same combination is to be observed in primary asthenic confusion. It might be left undecided whether a causative connection between the demonstrable association weakness and the allopsychical disorientation exists. The occurrence of asthenic autoallopsychosis in young girls is to be mentioned in this connection would be suited at least to support this assumption.

Much less known than the combination of maniacal states with other psychoses is the intermingling of affective melancholia with these, and I must be satisfied to have mentioned them merely. I refer to the simultaneous occurrence of melancholia previously mentioned with akinetic motility psychosis, or with the akinetic phase of a cyclic motility psychosis.

We differentiate *compound psychoses* from the mixed, with which we have just been occupied. They are characterized by the fact that the disease occurs in independent, different stages or phases. Next, a general remark as to the significance of the independence of individuality of these phases. In most acute psychoses we must admit an initial stage, which, as we have seen, has its special stamp from the peculiar affect of perplexity. The perplexity may be increased to anxiety and despair, or the anxiety is to be regarded a special, somatopsychical form of perplexity. We cannot regard this initial stage an independent manifestation, for the prevailing affect is merely the reaction to the same elementary symptoms, which lead to disorientation and condition the peculiarity of a definite simple psychosis. As is remembered, this initial stage has been the first cause that the course of every psychosis is represented as occurring in

stages; that the first of these stages should accordingly be a melancholic one, as the older authors thought. If the acute psychosis has exceeded its acma and a special paranoiac stage has developed before the actual recovery, we will not be able to perceive in an independent stage in the sense above postulated. For us this stage is nothing else than the more or less pure picture of disorientation after decline of the acute symptoms, which led to disorientation. Where instead of the paranoiac, or following it a demented stage occurs, the same reflection is equally true, because it also represents a sequella like the paranoiac stage. Also the final termination in incurability, *i. e.*, either chronic mental disorder or dementia may not be the real stage in this sense.

It is seen that in this way we are able to exclude the most of the known psychoses, either simple or mixed, from the concept of compound psychoses. Only in one respect will we be in doubt, namely: whether the sequence of opposite states, like mania and melancholia, is to be interpreted in the sense of independent stages. The conception is easy that the increased excitability, which is the basis of one stage, prepares for or conditions blunting of excitability in the other stage, just as we see in the peripheral nervous system, these two stages follow each other. Meynert has actually advocated such a causal connection and explained it by vasomotor influences. The like consideration could be extended to the consecutive phases of hyperkinesis and akinesis. Still I should make use of this consideration only so far that I recognize the mania preceding the convalescence from melancholia, and also the opposite condition as such a sequela. In each case we will have to keep in mind circular mental disease and the cyclic motility psychosis as special cases of composite psychoses. If we take this standpoint, it is seen, as Ziehen has correctly shown, that the composite psychosis is met with far more rarely than cases of simple or mixed psychosis.

The cases of *composite motility psychoses* will excite our special interest, because it is evidently these which caused Kahlbaum to formulate his disease type of katatonia. We understand by composite motility psychosis in general

all those acute psychoses which occur in different stages, if one of these represents the type of a motility psychosis. The most common event is the frequently mentioned transition of a psychosis with apprehension into a motility psychosis, and we then speak of a composite motility psychosis, when the first stage of the psychosis with apprehension is of longer duration, months at least, so that it cannot be interpreted simply as initial stage. Very often the psychosis with apprehension is developed to akinetic parakinetic motility psychosis,* and then often of the special color that signs of the affect of anxiety are either always intermingled, or at least occasionally break through the akinesis. The further course of these cases seems to be largely unfavorable. More rare, and then in especially severe and affective cases, the development to hyper-parakinetic motility psychosis occurs. The first stage has the content of phantastic micromania and delirium of menace, and shows the improvement in apparent fluctuations common to psychoses with apprehension. The motor symptoms are more uniform than in the hyperkinetic motility psychoses; parakinesis prevails, and they serve in great part to express the anxiety, as *e. g.*, rhythmical crying, etc. Instead of the direct transition of the psychosis with apprehension into a motility psychosis, an exaggeration of the psychosis to total sensory psychosis with the content of phantastic delirium of menace is often observed, and then the further exaggeration to the type of a motility psychosis, a course which like the disease type previously mentioned corresponds to an acute progressive psychosis. Instead of a total sensory psychosis that modification is frequent, in which the consciousness of the world is concerned by terrifying hallucinations, without the orientation being directly affected. In all these cases the motility psychosis appears as the apex of an ascending and somewhat extensive disease curve.

If we must recognize in the psychosis with apprehension and its intensification to the motility psychosis, the most frequent type of acute progressive psychoses, other

*An example is case 21, Heft 2, and case 18, Heft 3, of the "Krankenvorstellung."

forms frequently occur in which the apex represents a motility psychosis, but the onset of the disease is formed by some other psychosis. This is very often true of the acute hallucinosis approximating the psychosis with apprehension, of which we have already become acquainted with a special progressive form, which, as I add incidentally, may lead to complete motility psychosis. The special form of circumscribed psychosis, with apprehension from supraquantivalent idea, may take the same progressive course. An especially instructive case of the mind occurred in a night watchman of 41, who was admitted in December, 1895, and presented the supraquantivalent idea that a young lady of the better class was in love with him, and showed it by her conduct toward him (delirium of autopsychical relativity). The detention lead to the explanatory idea that a rival will supplant him. After two months I could present the patient in an entirely changed condition, for he believed he was generally persecuted, his body destroyed by poison, fancied he was seriously ill and weak, believed he is a count and had been stolen in childhood by robbers, became threatening and violent. At times hyperkinetic and parakinetic symptoms were added in this stage. Here then an entirely circumscribed affection had taken the progressive course to the occurrence of motility symptoms. The first thoroughly pure stage of circumscribed autopsychosis with apprehension was conspicuous by the fact that it was attended by numerous, peculiar phonemes, peculiar in so far that they consisted exclusively of terms of endearment on the part of this young lady, so that the patient had coined the technical expression "heart talks." Sexual abstinence was doubtless an etiological factor, for the man had lived apart from his wife for two years, and for a year had not sufficient sleep, yet alcoholic excess did not exist. The illness of a servant girl of 30 began in the form of an acute allopsychosis, with allopsychical disorientation of several months' duration, who then gradually became motionless, and for about eighteen months presented the picture of an akinetic motility psychosis. The patient now appeared to be convalescent without defect, after

gradual cessation of the akinesis with final disappearance of the mutism. The case of a tailoress of 30 occurred in three separate stages, who appeared melancholic for nine months, then with rapid increase in the symptoms was disorientated as to the world and the body for three months, and finally presented the symptom complex of the akinetic motility psychosis. I could present her about six months after the beginning of this later stage completely demented, with contractures of both hands, a fixed position of the trunk and head, which resembled Meynert's celebrated optic thalmus case, walking and standing in the talipes equinus position or on the external edges of the feet. The rapid transition of the first into the second stage was characterized by the appearance of incoherent delusions of persecution and grandeur.

The gradual transformation of one disease type into the other, and the evident progression which occurs in the increase of the extent of the symptoms, is the cause that the differentiation of special stages in the cases described seems somewhat artificial; it is actually opposed only by those observers who see the patients only rarely and at long intervals.

The state of affairs is entirely different in a number of other cases. Sometime ago I could show a patient who presented the picture of an akinetic motility psychosis with marked stupor, and is said to have become acutely ill. Certain data in the anamnesis led to the suspicion that it was a matter of a paretic disease, and, in fact I could demonstrate the same patient not long after, free from the motility symptoms in the condition of that phantastical grandiose delirium, which we have become acquainted with as the specific paretic form of expansive autopsychosis. Here one condition had replaced the other. Mania also quite often forms a stage of the composite motility psychosis, either at once or after an intermediate stage of apparent dementia, usually not perfectly pure, but with an admixture of hypermetamorphosis or sensory agitated confusion. In this combination the maniacal stage seems to be of favorable import and to lead to recovery, either di-

rectly or after a further stage of exhaustive stupor. Mania, in a case where it was the third stage after one of agitated motor confusion and a second of residuary hallucinosis had preceded, was of the same favorable significance. A florid phthisis existed as a complicating factor, which prevented an essential increase in weight. In the patient, a straw hat sewer of 32, etiologically besides hereditary taint, overwork, worry and trouble, a hemorrhage from an external injury and finally an attack of influenza could be demonstrated. I might briefly mention the combination of a pure motor complete motility psychosis, with severe hypochondriacal psychosis of the kind that the latter developed after the motility psychosis had completely terminated, and the definite expectation of recovery had occurred. In one case a single attack of a cyclic motility psychosis, of puerperal etiology, another apparently unfavorable stage of independent delusion formation on the basis of sensory symptoms followed. A case must excite special interest in which a stage of mania of sixteen days duration, followed by an apparently lucid interval of two days, preceded an akinetic motility psychosis, which when fully developed never attained the degree, that the patient became untidy, continued four months and was followed by a paranoiac stage and finally by dementia. The maniacal picture of the first stage had a mixture of only intimated motility disorders at times of the greatest excitement, in that the patient sometimes remained in positions of adoration and presented a certain fixity of expression. The patient, twenty years old, had hereditary taint and an insane brother.

The mixed type of irascible mania may occur as a stage of a composite psychosis. In a case of hereditary degenerative etiology in a boy of 15, a second stage of hyperkinetic motility psychosis preceded, followed by a second stage of severe exhaustion stupor; the patient, who had repeatedly had brief attacks of psychosis, became perfectly well. In attacks of irascible mania, lasting only a few hours and recurring at irregular intervals of one to four days, which were in part apparently normal, but in part largely

replaced by states of anxiety with terrifying hallucinations, the second stage of a composite psychosis lasting six months, whose first stage was a psychosis with apprehension of about a month's duration. The residual condition was an intense confusion in content with autopsychical and allopsychical disorientation in the way of previous hallucinations and moderate irritability. The patient of 52 presented no prospect of recovery and was transferred to a custodial asylum.

THE FEEBLE-MINDED CHILD: PSYCHICAL AND PHYSIOLOGICAL PROBLEMS.*

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OF the many problems that tend to intensify the complexity of the social elements of the day, none is more perplexing than that one of the irresponsibility of the mental and moral defective. In the past its very existence if not scornfully rejected was accepted either as a singular exception, or it was confounded with certain forms of insanity. Its correction has been attempted mainly through moral suasion or by a discipline equally impotent. The recognition of such defect as a hopeless condition, not a curable disease, has been slowly evolved during a century of observation and practical dealing with the evil, by the comparatively few who have labored for its amelioration, and the protection of a helpess class. Meanwhile the inevitable result of such ignorance and consequent lack of safe-guarding, has been a pernicious growth tending to a fearful increase permeating all ranks of society. Its presence in the family, in the schools and in the courts, has become self-evident, so that today charity organizations, students of sociology, jurists, educators, and even parents find themselves confronted with an unsolved enigma, nor is it strange that in their perplexity they should turn to those who have worked out its solution in an atmosphere of perpetual, irresponsible childhood. To gain this knowledge

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one must come divested of all prejudice or preconceived ideas, for the reasoning and logic of the schools is but foolishness here, where the subject to be studied is mentally, morally and physically so askew, with no conception of honesty or truth, that it finds no parallel in any previous philosophizing and therefore cannot be judged by ordinary standards. One finds in fact a race as distinct as those which the imagination of some novelists have evolved from the interior of the earth, or from the planet Mars.

Picture, for example, a dwarf of twenty-eight years with the full-formed head and wrinkled visage of a man of seventy, and the undeveloped mind of the child of five, "pleased with a rattle, tickled with a straw," and as unable to care for himself as any infant.

Again, a youth of eighteen, of prepossessing appearance and agreeable personality, who will first so ingratiate himself with those about him, as to be trusted in many ways, and then suddenly withdrawing under some pretext, will in an inconceivably short space of time, dexterously pick locks, steal and bury valuables, and return with no intimation of any unusual occurrence. Yet later when accused and confronted with evidence, will acknowledge the act with perfect *sang froid*, accept discipline with coolness and without resentment, and immediately proceed to work the next party with whom he comes in contact.

Another is a girl, beautiful, refined in appearance and manner, possessed of independent means and reared in luxury, who cannot be trusted alone on the street. Thrice rescued from dives, she was finally placed in a training school. There her influence over her associates being of course most pernicious, she was necessarily under close supervision; in spite of which, she managed time and again, under the very eye of her attendant, to communicate with workmen on the place. While resenting surveillance, once when the opportunity offered for the escape which she continually threatened, she simply declined it.

A young fellow of cheerful, lovable disposition, clean and healthy, with no vices, a general favorite with comrades and teachers, accomplished in school the ordinary

primary and intermediate courses, together with some musical and manual training. Entering the United States Marine Service—where he found that discipline and guardianship suited to his peculiar needs—he maintained so good a record as to be repeatedly detailed for duty at social functions, and finally as a petty officer was placed in charge of a recruiting office. Here, he in five years managed to save some hundreds of dollars and according to all preconceived ideas he was fairly launched, even more one might say, safely established in life. But no. With the close of his term of service, he had reached his limit of independent responsibility; had grown tired, and after an honorable discharge, seeking no other employment, he gave himself up to the squandering of his money and started on the downward path, at the pace that kills.

A lad of fifteen was indicted for the murder of his little play-fellow, a child of five, who when last seen together he was carrying tenderly on his shoulder across a muddy pathway. Later, when search was made for the child, the boy who was found at his home stoutly denied all knowledge of him, until with the contradictions usual to his class, one admission after another in obedience to suggestion finally led to confession. He told how they were playing "wild-west show" (his parents had traveled with Cody) and described how he had held a potato knife as the little one ran down the hill toward him: "It stuck him and he just stretched." Then how in sudden terror he had dragged the body to a stream, and then ran home to get supper. All this he recounted without a tremor in his voice, yet I had seen him cry over the torn dress of a paper doll, and grow pale and shudder, with "oh, I couldn't, I couldn't," in telling the story of a pet squirrel that had escaped and that his sister had wanted him to kill. The boy was a victim of both heredity and disease; the father was an imbecile, the mother had suffered from sudden shock, and the boy himself from repeated severe illnesses during his early childhood.

There were not lacking experts in insanity to declare the boy responsible for the crime, but the jury was so im-

pressed by the testimony of the defense that it could not convict in the first degree and the law not recognizing imbecility, there was no alternative but to declare him insane to avoid the extreme penalty of the law. Indeed against such, and for such, there is literally no law. Minors they are in all but the mere figment of years, yet that twenty-first mark once reached even parents have no legal right to restrain or compel. Courts of Justice (?) hold for him but the one fiat: "He is of age, let him speak for himself." And so judged and often condemned to a brief term of imprisonment he is again turned loose to pray upon society or worse, to corrupt and vitiate the very springs of life, for there is one law to which he is amenable, and of which he will be also the unswerving although unconscious executor. The fateful law of heredity has in him its special agent, for imbecility will breed but imbecility, and defective, starved conditions, can but produce defect; latent it may lie for one or two generations but sure to reappear in the third or fourth unless stifled by beneficent sterility. This is the actual race suicide of the day; a lowered birth-rate but one of its alleviations. May it continue to lower until sequestration and elimination of degenerate, and recuperation of healthy stock, shall lead to better opportunity for, and greater discernment in, selection. Then and only then may we safely return to the generous families of the past. Quality is surely better than quantity from certain points of observation: thus I have found in a hundred families, 240 idiot children; in nineteen families, sixty-one idiots; and one family connection numbers in its various branches eighty-three mental defectives, all except two at large. An imbecile man at thirty-eight years is the father of nineteen defective children. Three imbecile children have parents each of whom is both imbecile and drunken, and the maternal grandparents, first cousins, were diseased and imbecile; an imbecile deaf-mute, an inmate of an almshouse from girlhood, is the mother of six illegitimate idiot children. I have recently been called to examine a mother with two daughters; a man, his daughter and her illegitimate child, all imbecile; and an imbecile woman with seven illegiti-

mate idiot children. I know furthermore of a family of twelve brothers and sisters all of the lowest grade of idiocy, two lapping their food like dogs, their only language animal cries.

Clearly such conditions for which there is no cure, call loudly for prevention. We exclude the Chinese, we quarantine against disease, and just now we are rampant upon the subject of child labor, and are forbidding to the normal boy or girl of twelve or fourteen, even the modicum of a day's work to contribute to the family needs; yet we allow without restriction, weaklings in body, mind and soul to exercise the prerogatives of citizenship and parenthood, in both of which they are too often the tools or the victims of the vicious or, transfusing their defect into the body politic, they become the innocent authors of many disasters and of a fateful increase of degenerate stock. Then upon the occurrence of any catastrophe, we are logically forced to prosecute to the full extent of the law, these children whom we most culpably have allowed to tamper with explosives.

I wish to make it clear that the cases I have cited are not exceptional, but typical, drawn from records of thousands of defectives recognized and treated as such; that there are as many unrecognized and unguarded, the daily press fully verifies. But, one may ask: "Are not these criminals?" Yes, according to preconceived logic they are and accordingly so are judged and condemned; but there is a flaw in the reasoning which renders the whole argument illogical. Reform schools accomplish nothing with this class because, although they do not know it, they are attempting to reform what has not been previously formed; to make straight what has come into being hopelessly crooked and deformed. To restore the normal sense that was not stored at birth, is as impossible as it is to put a seeing eye into a hollow socket.

Many have been brought into life not by the will of God, although through natural means, but by the will of man acting in opposition to clearly defined common sense laws of health, and the work has been furthered through

man's ignorance and through laxity of law. Thus defence less these enter into a maimed existence where they are ever liable to the penalties of the law which should either have forbidden or should protect such existence, by the simple means of asexualization, of separation and permanent sequestration; permanent because if merely temporary, there can be no assurance of permanent benefit. For after treatment and training have done their best, there must be a perpetual upholding and steadying, the unremitted applying of means employed; the arm of a healthful, compelling environment must furnish the constant and unceasing protection against the weakness and lassitude of defective heredity. As we have seen in the cases cited, these children who never attain to the fullness of manhood and womanhood cannot for long periods resist or stand, for always are they literally *in vacillo*, tottering *in bacillum*, needing a staff.

The consideration of moral defect has been first presented chiefly because it is associated generally with the two extremes of mental defect—precocity or brutish dullness—and suggests the gradations between. Mental precocity lends its subtle intelligence to moral warp, producing a certain deftness and cunning in evil doing, that will deceive at times the most experienced; whereas mental stolidity and stupidity, capable of nothing above the brutal and bestial, where unrestrained by the lack of moral sense or directed solely by a perverted one, tends to the pornographic type and becomes the author often of tragedies, which shock whole communities. This after all is but natural, for it must be remembered that this class either stupid or silly, has fewer resources than very young children, being as incapable of independent play as of independent work. A mere hewer of wood and drawer of water, the animal instincts are most frequently exaggerated; consequently the one relaxation from toil is mere beastly indulgence in degrees from mere automatism to purposive acts or brutal attacks in proportion as there may be complications, amounting at times to temporary insanity. In either type does the perversion or total lack of moral force

enslave the mental powers for the working of ill, forming as we have seen a monstrosity, but because irresponsible, therefore not criminal; and this is found in varying degrees from the indulgence in visciousness or filth in the low-grade or the deliberate plotting of mischief of the high-grade moral imbeciles, to the feebler nerve-storms, or the passing emotional impulses to which all imbeciles of whatever grade are more or less susceptible, and which constitutes the chief cause of irresponsibility.

While these pronounced forms of defect, mental and moral, show greatest irresponsibility, needing a double protection, we will yet find them in varying degrees in endless combinations, throughout all grades up to the backward child apparently normal, who may never work ill to his neighbor, but who will never make for himself a success in life. Incapable of competing and equally incapable of knowing why, he falls out of the race as a ne'er do well and finally drifts into the criminal class; whereas had he been trained with, and placed among his equals in work suited to his capacity, he would doubtless be recognized and esteemed as a useful member of his community.

The idiot incapable of self-help or of being trained to it is hardly to be included among the number of irresponsibles. A perpetual infant of whatever age is a care, but he is equally incapable of working ill to either himself or to another. But as intelligence increases, danger increases—thus, the idio-imbecile or the imbecile of low-grade incapable of self-help or in aiding in the care of others becomes also the creature of suggestion, and, as each advance in ability for service widens opportunity, or cloaks defect, it intensifies danger and demands proportionately that safeguarding given to any mischievous child ignorant or careless of consequences. For this, segregation offers the simplest and most economic means, for under a supervision that insures a healthful stimulus among numbers, with alternating periods of work and play, this very susceptibility to suggestion may be utilized in training these solitary ones, with whom experience has indicated there is ever safety in numbers and in solitude a snare. Again in

the handling of large numbers of varied degrees of mentality it is more possible—and here is a seeming paradox—to study individual cases, so that each may go to his own place and find the training and life occupation suited to his capacity; first the peculiar sense training needed, and next selection of occupation. As this is the chief aim of treatment and training, in its program the psychologic development must constantly be measured by the physiologic. Thus the awakening and directing through stimulation without undue excitement of the emotions, the arousing and strengthening of the will and powers of endurance and resistance; the exercise of the reason and the judgment in daily observation and in actual experiment of cause and effect in working processes, from the simplest occupations of the kindergarten to those of farm, garden, house and shops; all these are absolutely dependent upon physical upbuilding of starved conditions, by enforcement of cleanly, wholesome habits, healthful occupation, amusement, and a liberal dietary; the strengthening of the muscular and nervous system through physical training, athletic exercise and repose; the detection of defect in sense organs and their relief or amelioration where possible. Sight and audition, dulled or defective, especially among the lower-grades, are often caused by, as well as contribute to, lack of nerve stimulation and consequent apathy; many see without looking, or hear without listening. Again one finds anomalies, as in the idiot savants, of peculiar acuteness of both these senses evidenced in rapid character sketches, soft tone effects or the reproduction of voices or of melodies. But in these cases, stimulation is received from an extraordinarily vivid imagination often quickened too by an abnormal memory. This latter is the most marked of all psychic stigmata, yet it is repeatedly cited as an evidence of normal condition.

"I cannot believe that there is anything the matter with my child, for he has such a remarkable memory," parents will often say, little knowing that they are giving *one of the strongest proofs* of abnormality, and that an investigation will show even this defective, following certain

lines or events, dates, etc., and often lacking in the practical matters of every-day life.

Lack of or numbness of the tactile sense may also be traced to condition of nerve centers, apathy and abstraction. This is often evidenced in cases of almost complete inhibition to pain, and insensitiveness to extremes of heat and cold. Witness for example a boy watching with the greatest interest and without a murmur, the amputation of his fingers, and another resisting ether with the plea: "What's the use of having a broken arm if you can't see it set?" Of course in both there is always the ever-present ego, invariably a concomitant of imbecility; such as was remarked in a girl who, enraged upon being discharged from a hospital as on the road to recovery, ruthlessly tore the bandages from her wounded arm, which in the beginning she had wilfully thrust into a mangle in order to become an object of attention.

The sensibility of finger-touch is notably increased by continued practice under stimulus of interesting occupations, as seen in children who are guided unerringly by this sense in the selection of the quality of wood or of card-board, that they desire for a special object. Indeed the absence of such stimulus is often the true cause of the discouraging results of the purely abstract tests in the laboratory, which students are apt to attribute to lack of intelligence. With the imbecile as with other children, not what I have, but what I do is my kingdom, and in the doing he will often unconsciously exhibit the very power in which he has been deemed lacking. On the other hand it is to tactile insensitiveness that seeming deviations in taste and smell may be ascribed, such as indifference to odors or to nauseous doses. There is, however, undoubted evidence of perversion of taste in those who greedily devour filth or garbage.

The muscular and prehensile sense is feeble, and movements consequently incoördinate, noticeable in the slouching gait — often a mere lurching forward — and the moist, flabby hands, which never seem ready to take hold. Indeed apprehension—grasp—power—is largely a matter of culture and its daily exercise an absolute necessity in every

stage of training. A study of psychic defect naturally leads to a consideration of the condition of sense avenues as evidenced in deformities of mouth, teeth and palate, eye and ear, the skin and its appendages, nails, pelvis and genitalia; in asymmetries, cranial, facial and bodily, amounting frequently to deformity. Examples of the first are found in microcephaly, hydrocephalus, trionocephalus, etc. Unequal innervation of the facial muscles give rise to squints and tics; and variations of the cranio-facial angles are seen in extreme prognathism or orthognathism.

Imperfect hearing and articulation may be found due to malformation of ear, nose, teeth or palate, which may be modified in large measure by persistent training and treatment adopted to individual needs. The same may be said of defects of vision; if the services of the ophthalmologist are so valuable to normal school-children, what must they not prove to those whose enfeebled powers are dependent largely upon this one sense avenue for development, and for whom such defects as hypermetrophia, strabismus, nystagmus and the like, intensify apathy and inattention, and discourage efforts for advance in any line.

An acquaintance with stigmata—psychic and physical—together with some data of the family and personal history is necessary in making correct diagnosis: and with these, therefore, all actively engaged in work — philanthropic or professional—should early familiarize themselves. Indeed I have had probation officers working under my direction, acquire such distinct readiness in diagnosing as to obviate many difficulties. This study of defect leads naturally to an inquiry into cause, a knowledge also necessary in judging of possibilities of amelioration.

Two studies of records in England and America—Darenth and The Royal Albert Asylum, and the Pennsylvania Training School—aggregating some 5,430 cases have been made on somewhat similar lines by a separation of life into the periods before, after and at the time of birth. These afford not only an interesting comparison, but give data sufficient to designate authoritatively the first as the period most susceptible to disturbing influences; thus 64.85

per cent. of cases that I have actually studied belong to this period. Of causes acting after birth, including acute diseases, epilepsy, injuries from abuse, neglect and exposure, I find 32.23 per cent.; and of influences at time of birth, including difficult labor, instrumental delivery and deficient animation, but 2.92 per cent. While the English table gives no such summary of percentages, yet in both tables the hereditary causes whether acting singly or in combination, are found to be most pronounced, and these again are distinctly accentuated in the abnormal condition of mothers during gestation: English, 29.87 per cent.; American, 8.49 per cent.

In the English table of 2,380 cases, phthisis ranking first, gives 28.21 per cent. In my own table numbering 3,050, I find phthisis third and numbering only 7.57 per cent.; and the primary cause is an heredity of imbecility giving 27.38 per cent. In heredity of insanity I find only 7.08 per cent., but the English table has united imbecility and insanity in a percentage of 21.38. To an heredity of intemperance, the English compilers ascribe 16.38 per cent., while I find but 4.46 per cent.

The much-dreaded consanguinity appears in only 4.20 per cent. English, and 1.34 per cent American, or a comparatively small influence where the stock is pure, its only danger being an intensifying by quadrupling of impure stock.

In both studies a concensus becomes evident as to the production by all the causes—whether congenital, developmental or accidental—of a malnutritive condition tending so to prevent or retard or to arrest development physical, mental or moral as to result in idiocy or imbecility. Thus the whole being either enters life in a starved condition or is reduced to it by disease, maltreatment, or any accident producing physical suffering or nervous shock. The family history may be apparently good until searching inquiry reveals nervous instability on one side, or pronounced disease on the other, which coupled with nerve-strain upon the mother, or over-work or school-strain on the child at critical periods, have united to produce break-down of vital

forces, resulting in a condition of absolute defect, or so near the border line that any slight provocation may precipitate it.

Defect—let it be remembered—not disease, and once past the border line, there is no return, no cure. But as malnutrition has been the cause, treatment and training together with suitable environment must early combine to combat and relieve these starved conditions, and furthermore they are absolutely necessary for present amelioration as well as for protection from rapid and inevitable deterioration.

DYSPEPSIA CONSIDERED AS A BRAIN DISEASE

A HISTORICAL CONTRIBUTION TO THE NEUROPATHIC SIDE OF THIS SUBJECT.

By CHARLES H. HUGHES, M. D.,

ST. LOUIS.

Dean of the Faculty and Professor of Neurology and Psychiatry, Barnes University.*

IN 1832 Amariah Brigham, a distinguished American physician, in a little book on the "Influence of Mental Cultivation and Mental Excitement Upon Health," wrote as follows:

"Dyspepsia is generally considered a disease of the stomach primarily. But I apprehend that in a majority of cases, especially among students, it is primarily a disease of the brain and nervous system, and is perpetuated by mental excitement. This I emphasize as my text."

Among his reasons for so believing were the following:

First—A blow or other injury of the head, or a tumor on the brain, frequently produces sickness, irritation of the stomach, and all the symptoms of dyspepsia.

Second—Mental affections. And here he relates of himself as follows: One day when about to sit down to dinner, with an appetite whetted by five or six hours' exercise, a letter was put into my hands announcing the death of a friend to whom I felt strongly attached. The consequence was an instantaneous loss of appetite which

* Read before the Section of Nervous and Mental Diseases, American Medical Association, Portland, Oregon, July 12, 1905.

continued for two or three days; and here he quotes Dr. Parry, an authority of his day, as concurring with him, and asks who has not felt the influence of bad news or mental agitation in destroying appetite.

Third—Insanity, or disease of the brain, is usually preceded by the symptoms of dyspepsia, and recovery from mental derangement is often marked by a return of these symptoms.

Brigham combats the then prevalent views of Broussais and says that from his cases it evidently appears that slight irritation of the brain from mental or other causes gives rise to derangement of the stomach and produces the ordinary symptoms of dyspepsia. He turns Broussais' cases of melancholia from nostalgia and unrequited love, mortified pride and loss of fortune against this distinguished author, and says it is not the violent reaction from dyspepsia, as Broussais asserts, that produces the mental depression, but the mental depression that produces the dyspepsia.

The morbid influence, though primarily proceeding from the brain to the stomach, is doubtless mutually reacting.

Abernethy's peculiar and extravagant notion of the vast influence of the stomach in the animal economy is also combatted by Brigham, who was keen enough to detect a flaw in the great Scotch surgeon's reasoning when he says, "there is no hurt of the head that does not affect the digestive organs."

The relationship of the head in so-called sick headache is here noted by our author, who very much doubts whether sick headache as often arises from disturbed stomach as from an irritated brain, having repeatedly noticed an attack of sick headache prevented by keeping the head cool after an evening's debauch. His explanation of the sickness and disorder of the stomach of the debauchee, the katzenjammer, is as follows:

"The increased action of the blood vessels during sleep, produced by the stimulating food or liquor, determines an unusual quantity of blood to the brain, irritates it, and this irritation of the brain produces the pain in the head, sickness and disorder of the stomach."

In his fourth reason, Brigham refers to the fact that, "examination of bodies of those who have died after long continued dyspeptic symptoms," the lesion was found in the head and not in the stomach, and quotes from Ambercrombie on "Organic Diseases of the Brain," a standard then and even now not without authority, that "symptoms which really depend on disease of the brain are very apt to be referred to the stomach," and refers to several of Ambercrombie's cases in which for a long time the prominent symptoms were those of dyspepsia though no trace of organic disease of the stomach was discovered after death, but tumors or other disease of the brain, and quotes Abernethy's important caution to the careful diagnostician and clinician as follows:

"In cases of this class, we must beware of being mislead, in regard to the nature of the complaint, by observing that the symptoms in the stomach are alleviated by attention to regimen or by treatment directed to the stomach itself. If digestion be impeded from whatever cause, these symptoms in the stomach may be alleviated by great attention to diet, but no inference can be drawn from this source, in regard to the nature of the derangement."

Note now that it is the great Ambercrombie that is speaking. Referring to this our author justly comments as follows:

"This last quotation, I think, explains a very common mistake, a mistake which is not only made by dyspeptics themselves, but by writers on this disease. They suppose because low diet, etc., relieves the principal symptoms in the stomach that, therefore, the disease is principally confined to that organ, when in fact the disease is in the head, but is manifested only by the stomach, liver or some organ with which the brain sympathizes, and the low diet (and in our day, the pepsins, papoids and other digestives) gives relief. The atonically enfeebled stomach is relieved by lessening its labor, of course, either limiting its digestive labor or by performing it artificially, but to bring back its tone we must restore its innervation, even where ulceration or other impairment of its villi or its poptogenic glands exist."

The rest cure for the nervous dyspeptic was first propounded by Dr. Brigham in these words: "No one rule, relating to the cure of disease, is more important than that which teaches to let a diseased organ rest."

Dr. Robert Macnish, author of the Philosophy of Sleep, Anatomy of Drunkenness, etc., who wrote the preface in 1836 to the Glasgow edition of this remarkable book, adds an argument as follows:

"The relief which many dyspeptic people obtain by going to watering places, is a sufficient proof their complaint is often intimately connected with the state of the brain. Oppressed at home with the cares of business, or rendered nervously irritable by dissipation, vapid pleasures or want of occupation (for this is as pernicious to the brain as too much employment), a state of hypochondria, accompanied by impaired digestion ensues. In this state they fly to such places as Bath, Leamington or Cheltenham; place themselves in the hands of some fashionable emperic who very gravely tells them to drink the waters, restrict themselves to a particular diet and take some trifling medicine which he prescribes for them. They do this, coupling it with exercise in the open air, and with light amusements which generally abound in such quarters. The consequence is that the brain gets into a healthier state of action. If its morbid condition was produced by too much thinking, this is relieved; if by too little, this is obviated also, materials for employing it sufficiently existing in the change of scene and in the prevailing gossip of the place. Restored to comparative health by this change of scene, the patient returns home in raptures at the virtue of the waters, and the wonderful skill of the doctor under whom he was placed."

Dr. Brigham also quotes from Dr. Hastings, of England, who, in 1831, noted that many of the nervous symptoms of which dyspeptic persons complain are produced by slow alteration of the membranes of the brain in consequence of chronic inflammation.

Hastings had already noted the increased determination of blood to the head, alternate flushings, coldness, irregular

spirits of dyspeptics, and in the fatal cases had found the morbid appearance in the brain just mentioned.

Bayle, Burrows and M. Barras are quoted by Brigham as sustaining his position in spite of their preconceived views to the contrary. M. J. P. T. Barras, *Traite sur les Gastralgies et les Enteralgies, et Maladies Nerveuses de l'Estomach et des Intestins*, considered dyspepsia a nervous disease, but only of the nerves of the stomach. The cases of Barras are examined by Brigham and found to be mostly mental, "they had experienced severe mental affliction, had been melancholy, been afflicted with great mental suffering, or had studied severely or been exposed to constant turmoils. When such cases terminated fatally, no marks of disease were found in the stomach; but effusion or other signs of disease were observed in the brain."

This case is quoted from Burrows:

"A lady, who had been unwell for several years, referred all her suffering to the stomach, and often said that when she was dead, *there* would be found the seat of the disorder. She died rather suddenly with fever and delirium, after exposure in a very hot day; and on examining the body no trace of disease appeared in the stomach or bowels, but the brain exhibited marks of *long-standing disease*."

Brigham's fifth argument is as follows:

"The fact that dyspepsia is frequently cured by permitting the over-taxed and tired brain to rest, or by changing the mental labour or excitement, is evidence that it is primarily a disease of the head, and not of the stomach. How often do physicians fail to afford any relief by medicines, in what are called 'stomach affections,' but which are readily cured by traveling, or relaxation in accustomed studies, and freedom from care and anxiety. How often a change of the mental excitement affords relief. It seems as if certain portions of the brain having been unduly excited, became diseased, and were benefitted by strong excitement of other portions of the same organ. How often are *stomach* affections cured by inert medicines, aided by the imagination, confidence, hope, etc.

"What is it but the influence of the mind that gives

efficacy to remedies that are secret, which they do not possess when known?"

Macnish relates the cure of a lady who for some months fancied herself very ill of a stomach complaint, by administering three dozen bread pills.

The influence of hypnotism, then called mesmerism, and its record in the cure of stomach and other diseases, is referred to by our author as an evidence of the influence of mind over bodily ailments.

As a sixth proof, Brigham notes the fact that dyspepsia is a disease chiefly confined to the studious, whose minds are much exercised and excited, and to those who, by too early mental education, have had a prominence given to the nervous system, and instances among historic proofs, the melancholic and passion-devoured Tarquato Tasso, who at the age of twenty-two had written the finest epic poem of modern times, and the hypochondriacal, delusion-pursued Pascal, whose literary celebrity and death were so sad and premature.

He answers the argument that sedentary life causes dyspepsia by conceding that exercise improves the circulation of the body and determines blood from the head, which is more necessary in students than in others. Tailors, shoemakers, etc., he says, are not particularly liable to dyspepsia.

The great Abernethy, who advised a dyspeptic British nobleman to live on a shilling a day and earn it, learned the object lesson on which this advice was based from a class of non-dyspeptic English workmen who, in his time, lived below the level of great ambition and social striving, whose vegetative life of rhythmical labor and rest was a daily recurring routine without brain-strain, fret and worry. But the nobleman would not improve from following such advice unless the labor should be congenial and the mind satisfied, though physical labor tends to divert blood from the brain.

Abernethy seems to have put the cart before the horse in his conception that the complicated maladies of the human race are due to "gormandizing, stuffing and

stimulating" the digestive organs to excess, "thereby producing nervous disorders and irritations," for excessive feeding, where the brain is not goaded to irritability, tends in man as in the animal, to produce drowsiness and sleep by diverting blood from the brain, followed by recuperation and renewed power where sleep is sufficiently prolonged. I doubt if one would greatly overfeed, if it were not for an irritated brain and nervous system wasting and crying out for repair beyond the natural power of the stomach to respond. In the normal unirritated state of the organism, appetite, waste and repair are corelative. Young children, like the animals in a state of nature, do not ordinarily have dyspepsia.

Nervous disorders and irritations, as Brigham thinks, make the gormandizers. But even Abernethy conceded that the state of the patient's mind was a great cause of dyspepsia, as well as other diseases. "Fidgeting and discontenting yourselves about what cannot be helped; passions of all kinds—malignant passion, pressing upon the mind, disturb the cerebral action and do much harm," and apropos to the question of mental influence, we all know that history records how the celebrated John Hunter, a cotemporary of Abernathy, fell and died from an apoplectic stroke brought on by a fit of violent passion.

Dr. Macnish, already quoted, is again referred to by Dr. Brigham as follows:

"It is a great error to study immediately after eating. In such a case the nervous energy required for the process of digestion instead of being expended upon the stomach, is wasted upon the intellectual organs. The almost inevitable result is dyspepsia; and it will be found that those who are in the habit of strongly employing the mental faculties shortly after food, are more or less subject to this affection."

Unless the mind works tranquilly and does its daily work without undue fret and worry and within the physiological limitations imposed upon it by its organ, it will prove to its landlord (the brain) as even Plutarch observed, a ruinous tenant. It will pull down the temple and destroy

its props—its gastric, hepatic, cardiac, renal and other sup ports. While this is true, the contrary is likewise truth, viz., that regular mental occupation alternating with proper recreation, rest and accompanied with adequate nutrition, tranquility and a reasonable and temperate play of the emotions and passions, tends to promote health and prolong life, as the history of the world's great thinkers from Hippocrates, Harvey, Jenner and Cullen in our ranks, to Newton, Herschel and Galileo, Hippocrates having the greatest longevity (109 years) of all.

Though dyspepsia is yet generally considered and treated as a disease of the stomach primarily, as in the time of Amariah Brigham, I now reaffirm, as this distinguished practitioner did so much in advance of his colleagues sixty years ago, that in the majority of cases, especially among students, it is primarily a disease of the brain and nervous system, and is engendered and perpetuated by over mental strain and mental worry and excitement, and its cure is brought about through mental rest, recuperation, diversion, the rebuilding and restoration of the tired and damaged centers of the cerebral cortex and of the medulla and fourth ventricle, through a judicious neurotherapy reinforced by mental relaxation, agreeable diversion, congenial companionship, pleasing travel and all environing conditions of good physical and mental health.

Here is an instructive biographical record that Brigham made of cases he had observed, and it is as true as truth itself:

"Some have travelled far, and have recovered: voyages have restored others. Some have become husbands and forgotten their stomach complaints; some have succeeded in business and are well; some are in or out of office, and thus their minds are freed from long-continued anxiety; while others remain as they were several years since, having just discovered, for the twentieth time, some new, and, as they believe, effectual remedy for their indigestion; but which will assuredly disappoint them, if they do not cease from mental toil, and for awhile let the excited brain be quiet."

But we do better with our dyspeptics now, for we have resources for arresting and delaying brain waste and promoting rest and restoration of exhausted nerve force. But nothing supplements agreeable and invigorating change of air and scenery and congenial diversions for promoting or completing recovery from dyspepsia, when the tired nervous system is put in recuperative state by the chemical restrainers of nerve irritability and promoters of tranquility, when at the same time the brain and mind are made quiescent and willing to receive the benefits of rest, diversion, etc. This is best done by the very agent which has contributed and is contributing as much as any other to break the brains and nervous systems of the people—electricity, the cerebral tranquilizing power of constant galvanism. What the dynamo, the telephone and the phonograph have contributed to undo, this agency helps to repair again, and modern medicine which has given us dynamite and its train of social and political agitation, has given us agencies which "knit up the ravelled sleeve of care" and "minister to minds diseased," hypnotics that soothe psychic pain and quell riots in psychic centers.

These the physician may use to prevent cerebral waste, pending reconstruction and the reaccumulation by other suitable treatment of that exhausted nerve force upon which dyspepsia, or at least nervous dyspepsia, depends. I will not deny that it may have a purely local origin in the stomach, but such origin is comparatively infrequent. It is possible to cause dyspepsia by local causes, as by a few swallows of concentrated lye or other corrosives, and certain foods and drinks, the excessive use of alcohol, etc., but this latter, as well as tobacco, more often damages through depressing the nervous system than otherwise. But if we examine the lower animals, we find that the most ravenous and omniverous never have this disease in their wild and free state. Hogs are not dyspeptic, nor are the domestic animals, unless they become trick animals and are overtrained. Hunting dogs become dyspeptic when taken from the chase and confined and fretted in close quarters. I have known an old dog to become dyspeptic from jealousy

of attentions bestowed upon a younger dog. When a domestic animal is satisfied with its life and environment, it does not become dyspeptic. Human beings are likewise free from this disease under similar circumstances, and as to over-feeding being the determining cause of dyspepsia in the otherwise healthy, though it undoubtedly may cause attacks in the predisposed, we have only to consider for refutation the condition of those people who habitually eat enormously, as the Siberians who eat from twenty to fifty pounds in one day, and the Esquimaux who will eat ten or twelve pounds of solid food and a half gallon to a gallon of whale oil in a day, eat and digest tallow candles wick and all, as Brigham records. While there is a limit to the stomach's capacity, that limit is determined largely by the general health, and the general health gives tone to and depends on the tone of the nervous system.

AN EARLY AMERICAN DESCRIPTION OF ASTASIA-ABASIA.*

By CHAS. F. TAYLOR,

NEW YORK.

Reported by CHARLES H. HUGHES, M. D.,

ST. LOUIS.

UNDER the title of Carnomania, Dr. Charles P. Taylor, of New York, described this disease in 1868 as having been observed by him in 1866-7.† Though this interesting disease of the nervous system has come back to us under a European alias, in some respects better named, and in some others not so well named as descriptive of all its symptomatology, as the original name given by its discoverer it is worth while to remember to whom the real credit of its discovery and original description is due.

On the first of November, 1867, Dr. Charles F. Taylor was asked to see a lady of New York suffering from loss of power in both extremities. Dr. Taylor's associate, Dr. Vermilye, had already seen her during Dr. Taylor's absence in Europe, and had inaugurated the treatment which was afterward more fully carried out. She was an intelligent married lady of twenty-nine years, in good flesh, bright and cheerful, lying on a lounge, wholly unable to walk, stand or even sit for more than a few minutes at a time. One year before she had an attack of diphtheria, a slight attack, which lasted

* Astasia, 2; Abasia, 3; Carcomania, 1.

† Vide *Jour. Psych. Med.*, 1868, p. 266.

but a few days, when, on the day after she began to get about, she suddenly felt her left leg give way, and from that time she was unable to walk upon it. She was blistered along the spine, and received such treatment as eminent counsel proposed, but without the slightest benefit.

She was obliged to resort to crutches, and thus she moved about dragging the left leg until three weeks before Dr. Taylor saw her, when without apparent cause, the right leg gave out as the left one had done a year before, and from that time she had been almost helpless in the lower extremities. The right leg, which was the last one affected, was still much the stronger of the two, though it was quite unable to bear her weight, while the left leg was softer and smaller than the other. She had passed the summer in the country, being much in the open air, and had been very much benefited in general health by it; and though there had been no improvement in the leg, she had grown quite stout. It was while still in the country, among the most delightful influences, and with longings for and hopes of recovery, that the second attack occurred as sudden and unexpected as the first.

Dr. Taylor observed that she could move both legs in all directions while lying, and that the character of these movements—a very important consideration—was peculiar to but one class of cases. The idea of diphtheritic paraplegia was therefore rejected, as we considered the diphtheria only an indirect and accidental cause, its only influence being to weaken and prostrate, but without involving any nerve centers in its poison. Without any structural lesion the inference was that she could be cured; and he accordingly gave that as his opinion.

Let me here explain and apologize, says Dr. Taylor, for coining a word hitherto not used. There is no word now in use by which I can express the thought which it is the purpose of this chapter to illustrate. "Hysteria," says one. That word, as indefinitely and often wrongfully applied, has out-lived its usefulness. No amount of explanation which could be given it can prevent the term "hysteria" from contradicting and neutralizing all I can say in regard to

these cases. In the first place, the word is worse than meaningless when applied to this class of cases. This lady was as healthy in all her uterine functions as a child of nature. And as to the influence of the imagination, in this case Dr. Taylor remarks that he does not believe in it. The inference so generally, though often unintentionally drawn, he says, when the term "hysteria" is used that the disease is imagined, he rejects as unworthy a scientific study of disease. In cases like this he believes the inability to walk is real; real as any symptom or condition which we can observe. It is the reality of the condition in these cases which he insists, leaving nothing, whatever, even in the worst cases which I shall insist on for the imagination, any more than in organic diseases. It is only from this standpoint that we can hope to escape the opprobrium which these cases cast upon our profession by our worse than foolish methods, or no methods of treating them, which always result in failure; puerile, acknowledged failure. He endorses the sentiment of Skey with fervor when he says: "I wish to raise your attention to the level of a great malady, and not a trivial derangement of the hour." While using the term "hysteria" he acknowledged its incorrectness and inadequateness. He goes a step farther and calls this condition by a term which expresses a distinct pathological condition. This disease is an insanity of the flesh—Carnomania (Astasia-Abasia.)

It is the body which sends false or perverted impressions to the mind and not the mind which imagines falsely concerning the body. The mind recognizes what is sent to it; it has no choice. If the telegrams lie, that is a misfortune, but not an imagination. We should treat the disease by correcting these false telegrams; by removing the false impressions which the flesh has sent to the mind. The disease is not of the mind but of the body.

Dr. Taylor here draws a valuable distinction between peripheral impression illusion and the hallucinatory evolved delusions of hysteria. That Dr. Taylor so regarded this disease as functional, the following presumption shows:

Concerning successful treatment Dr. Taylor says it

must consist in demonstrating the existence of greater power than is ordinarily recognized and brought out. If successful, the result will *seem* like an increase of power, while in reality it will mostly be the establishing of more truthful relations between mind and body; or rather, between body and mind. And this is not difficult, when once we see the truth in its entirety, and wholly shake ourselves free from preconceived false notions.

These are not cases of perverted imaginations repeats Dr. Taylor. On the contrary, he says, they are peculiarly quick and ardent mentally, and are the most ready of all patients to listen and act on *reasonable* advice. Of course long confinement, and more especially unjust censure, or what they conceive to be unjust censure, which amounts to the same thing practically, tends to make many bed-ridden women morbid and hypersensitive; but I believe, most fully, that such a condition is quite as much due to the ignorance of physicians and friends as to the patient herself. I am speaking in regard to the class in general of bed-ridden women.

Instead of saying to such a patient as this, a lady of superior intelligence and energy, and whose whole mental and moral tone was a model of balance and correctness, that it is nothing but "hysteria"—whatever that may mean— it would very much increase the dignity as well as the success of our profession, if we would accept the patient's actual condition as the facts of the case, rather than stultify ourselves by ignoring existing palpable phenomena. If we would secure the patient's co-operation—and we can do nothing without it—we can secure it wholly by simply explaining her condition to her. Simply telling her that she can walk if she tries, will not elevate you in her estimation nor hasten the time of her recovery.

Can any sane man suppose that a person with everything in (active) life to live for, and all contributing to her happiness, will voluntarily renounce them all for the purpose of deceiving her friends with the idea that she is helpless? And yet this is the plain inference of the ordinary sentiment surrounding most of these cases after they

have been in this condition a certain length of time. Nothing can be more unjust or harmful in my opinion. I repeat, the patient's condition is a bodily mania instead of a mental hallucination. This condition must be explained to her. If we establish a right to her confidence by making her understand herself, we shall secure it, and she will be ready to follow us wherever our advice may lead. A patient with paralytic carnomania will not make any better effort to walk, merely because we tell her she has the power, and that she ought to and must make the effort. She simply will not believe us, and there is no reason why she should. Our statement contradicts her senses and her experience. She had already tried a hundred times and failed to do just what we now assure her she can do if she tries again.

With her, our assertion received the same credence, and it is entitled to no more, than we should give to the assertion of another that we could lift a weight which we have just tried a hundred times to lift, and failed. Our *consciousness* of force has been measured, and our effort is made to correspond to this consciousness. The defect, then, is in the consciousness, which, in case of so-called paralysis, is deficient; but as this is merely the registered impression given to the mind, it follows that the latter has had nothing to do with it, but to receive what is sent.

The treatment consists in correcting these impressions, and thus increasing the consciousness of force, and thereby augmenting volition. We can do much through the patient's reason. Our statement that she has more *capacity* of muscle than she usually called into use will be believed, in spite of her own experience and consciousness, when we have established a right to be believed.

If the patient has been rendered distrustful by the constant iteration of sentiments opposed to her consciousness and labors under an unexpressed sense of the injustice of the tone about her, it may take time and pains to secure her confidence; but generally confidence is given, and her own experience and consciousness are surrendered at once. More readily than any of us will attempt that which our

judgment and experience assert that we cannot do, they will undertake in obedience with our request. But we should never request them to do what they cannot do easily. The steps should be made so easy that they are almost unconscious of the increased effort.

We should always respect their fears. They are *real* fears. To get a person into the middle of the room, and then leave her, may demonstrate to her consciousness a greater power than she believed she possessed, and thus in a rare instance do good; but it is a dangerous experiment, and in nine cases out of ten will fail entirely, and thus confirm the impressions arising from a misinformed consciousness. The steps should be made easy and gentle, and thus rendered possible. The patient's consciousness and volition should not be lessened by any fears of unexpected requirements, but they should be increased by a complete understanding of what she is to attempt. In general we make but the smallest possible increase beyond the patient's own estimate of her capacity; but in the case we have cited in part illustration of the preceding remarks, there was such a desire to follow unquestioningly our opinion and desires, that we begun at once to put her in advanced positions. In order to see her method of effort, I required her to stand on her feet. This she at once attempted, but caught hold of me with all her force, and fairly hung by her arms around my neck. Her consciousness of inability to stand, and her fear of falling, (*all real,*) were so great, that her will acted very little on the muscles of the legs, but powerfully on the arms in order to save herself. The effort was so severe, that in a few minutes it was quite exhausting, and she was obliged to sit down. Each effort had been, and each succeeding effort would be of precisely the same kind and quality, unless she were instructed in the method of making a more correct volition. But this would be impossible while fear is so powerful and so prominent an element. A person cannot dismiss fear, merely because we tell her there is no danger. She must be conscious that there really is no danger. It is idle to expect a person not to be afraid of

falling while she expects to fall; and while fear is the prominent idea in her mind, she is in no condition to make a proper volition.

And here we find the greatest source of evil in these cases. The fear and consequent agitation are so great as to amount to a paralyzation of the will. Now see how easily this condition may be changed.

In treating these cases, we are in the habit of stiffening the knees by a light and simple brace, so that they cannot bend and give way, and hence the fear of falling from that cause is entirely removed. The purpose for which the knee braces are used is explained to the patient. Next a strap is passed around both the patient's and my own hips, and fastened so that after rising she will be nearly an arm's length in front of me, standing face to face. These knee braces are put on and the strap adjusted while the patient still lies on the edge of the bed. She is then carefully raised up while the feet are dropped down on the floor, and she is erect! She stands without fear or agitation, because she cannot do otherwise. She cannot fall, and hence she has no fear of falling. I have repeatedly had those patients become quite unconscious in the middle of the floor; but they were kept walking till they reached the bed or lounge. The braces keep the knees from bending; she leans firmly against the strap around the hip, her hands rest on your shoulder, and your hands support her under her arms and against each side of her chest. To fall is impossible, and she feels it. She is astonished, and begins to distrust the accuracy of her previous consciousness in regard to herself. If the novelty and excitement of her position should cause her to swoon, lay her gently down and let her alone. Should violent paroxysms come on, *let her alone*. It is in the highest degree harmful to do anything during the continuance of a paroxysm. But more of this further on. Let her get well accustomed to the upright position, and familiar with the idea of walking, before commencing. Having got this far, the rest is easy enough. As you step backward she of course steps forward, in fact, she walks. This she is able to do because we have so

arranged it that she does not have to make much effort, no more in fact than she is accustomed to make at times even in the recumbent position. After walking thus, day after day, as we find a gradual increase of consciousness of strength—it will seem to her like an actual increase of strength—we may as gradually increase the effort, and also vary the process. But generally it is quite enough to walk her about in the way we have described, gradually lessening the support against the strap, and taking down first one arm and then the other till we find that the impressions conveyed to the brain and consciousness in regard to the force of the lower extremities are corrected. The carnomania will then have been cured.

We can, as we see the indications become favorable, take off entirely one brace, and then the other, and finally the strap; but it is not best to withdraw the hand for a long time yet. Lead the patient about, up and down stairs, occupy her attention in conversation while passing along the halls or about the rooms, so that she will form the *habit* of walking without special direct effort, and thus lessen the amount of volition required to accomplish locomotion. Neither is it best for them to sit much till they are nearly well; it is better to walk and lie than to sit. We thus secure the best effort and the completed rest afterward. Once or at most twice a day is quite enough, and care should be taken not to require too much. A successful effort is what we desire; it is recognition of force rather than actual development of it which constitutes the cure.

A positive withdrawing of the hand may cause a perturbation which will defeat our object. It is the balancing on the feet—the effort to maintain the vertical position—which costs most effort and is most exhausting. If we allow the attention to be withdrawn by unnecessary struggling to balance the body, we incur the danger of diminishing the volition in regard to the legs; the muscles may again give way. Gradually the patient will take steps alone, and she had better be left largely to her own discretion as to when she will begin to walk independently.

She will not fall after she feels conscious of her ability to stand. In the case above quoted the patient could walk alone, and left our institution, cured, at the end of four weeks.

I do not know that the condition which I have designated by the term carnomania (Astasia-abasia) has ever been recognized as a distinct disease. But such I believe it to be. Of course there could have been no lesion of the nervous centers in this case, or she could not have recovered as she did. And even if there had been any hysterical phenomena, which there were not, the loss of power accompanying or following it would be an entirely distinct condition. I repeat, the disease was a defective consciousness in regard to muscular power; she exerted all the power she was conscious of, and when the consciousness was increased, as it was after a time in using the muscles, she was in the normal condition again. That is, she was cured.

I have introduced the above case in the beginning of this essay, because it was the best illustration of the class of cases under discussion which I have ever had. In this case there were no symptoms whatever, besides the simple loss of locomotive power, to complicate or obscure the case in the slightest; while in the majority of cases we have, either alone or coexisting with the loss of muscular power, hyperæsthesia and various local functional derangements. That is, we have carnomania of more than one organ, and perfected carnomania in regard to a variety of functions existing together in the same case. But beginning with the simple case just recited, it will not be difficult to follow the relations of a variety of symptoms to the same general class.

The following case is similar to the above, with the addition of hyperæsthesia.

I saw Miss V. P., of Patterson, N. J., on the 19th of November, 1866. She was a dress-maker, twenty-two years old. Two years before, after having been hard at work for many months, while at a customer's house in the country, she felt a "sinking" and general strange sensations, which caused her to return to her mother's house. After that she went about town for a week or two, but

gradually losing power in the right side, till in about three weeks she was nearly helpless. When I saw her, she had been two years without walking alone. Each morning she was placed in an arm-chair and drawn out by the fire, where she sat for a couple of hours, when she was drawn back to her room and got into bed. The right arm and leg, and indeed the whole right side, retained only a modicum of muscular power, and along with it there was the most extreme hyperæsthesia of the back. I believed it to be a case of carnomania, induced by over-exhaustion, which is always the most potent cause of it, exhibiting the two phases of loss of muscular power and increase of local sensation. So much of this I could be sure of; but the loss of power looked so very like positive hemiplegia in all except the *quality* of the force brought out, that I concluded that there probably might have been also some lesion of the brain. In this I was mistaken. A visit since the commencement of this paper has satisfied me that no injury had ever been inflicted on the brain; all the symptoms were due to the one cause alone, carnomania. I found that by carrying out a treatment similar to that previously described, she had recovered the entire use of the muscles of the right side, and the hyperæsthesia of the dorsal surface had disappeared. In regard to her previous treatment, the back had been subjected to an endless amount of counter-irritation. I directed that the back be left entirely alone. Not having the best facilities for treatment, her friends were directed to use the muscles of the arms and legs, under the belief that a persistent use of a small amount of muscular function would, after a while, correct the consciousness, both in regard to force and sensation. In this I was correct. This treatment was begun in November, 1866, and by March, 1867, she began to walk, of course by her own wish and volition.

And this leads me to say a few words on the differential diagnosis, in cases like the foregoing. If a patient who is unable to stand, can move the legs and feet while lying—of course having in mind that there is such a disease as *locomotor ataxia*—or does not move them at all, in

some directions, it is probably a case of carnomania (astasia.) There is no paralysis dependent on injury of the brain or spinal cord, which appears at all like it, and there should be no difficulty in distinguishing interruption of function, in consequence of inadequate volition, from actual loss of power, following injury to the brain or spinal cord. Our investigation should have reference not only to muscular force but the kind and quality of the volition. An inefficient volition must of necessity produce feeble results, and of course when that is the case, there is corresponding feebleness of action in the muscles toward which the volition is directed. But this is very different from actual loss of innervation, which results from injury to the integrity of the spinal cord. But we must not commit the equally grave error of supposing the volition is not an honest one, because it is inefficient. I have already explained that our volition is necessarily measured by our consciousness of force, which being defective, constitutes carnomania. Under peculiar circumstances the bodily functions partially escape from under the ordinary influence of the will. Instead of the patient's will controlling too much, it, on the contrary, has too little influence over the functions. It is true that the will is often misdirected, but this is because it is deceived. It is thus rendered powerless. The cure consists in re-establishing the supremacy of the will, and in giving it normal direction and force.

It might be supposed, if the foregoing statements represent facts, that cases of carnomania (astasia) would be as likely to occur in persons of good intellectual endowment, as in those of feeble minds; and such we find to be the case. More than that, we find that large and active brains; receptive and cultivated intellects; energy which cares little for the bodily toil entailed by effort; impulsive, benevolent organizations, are the very ones of all others most favoring carnomania. If the individual be naturally religious and over-conscientious, the conditions are complete. The patient first forgets, and then loses control of herself. In my experience, these cases, as a class, correspond exactly with the character above given them.

I repeat, they first forget, and then lose control of themselves. Hence we find that in a large proportion of instances, there has been special preparation, by unusual abstraction of the mind, which has been intensely absorbed on extraneous objects. It may be in long-continued care and anxiety in ministering to sick friends, or it may be shorter and more intense mental occupation. A studious, ambitious girl at school; a leader in enterprises of benevolence; an anxious watcher with the sick and suffering; a teacher of Sunday and mission schools; in short, a person who habitually ignores herself, is the one of all others who is most liable to carnomania. But whether the exciting cause be traceable or not, there is always superior activity of the brain and nervous system. In fact, there is a species of practical subordination of the bodily functions in consequence of this relatively superior activity of the brain and nervous system. Bodily functions being thus habitually subordinated, the step is short and easy to that of what may be called partial independence. Then comes quickly abnormal functional manifestations, imperfect consciousness, and inefficient volition. Thus we see that the mind is simply deluded, rather than deluding; it is the intellect and moral sense which is deceived instead of deceiving others.

I do not in the least fail to appreciate the force of the mind on the bodily functions. On the contrary, I would exalt it even above the influence it is commonly acknowledged to possess. But before we can use the potent power of the mind on bodily functions we must understand their mutual relations. An intelligent, well-directed mental effort, controlling bodily functions, is one thing; to accuse it of causing the disturbance which it only recognizes, is quite a different thing. Of course I fully appreciate the undeniable fact that there are very wrong bodily derangements depending on mental conditions; but they are quite different and distinct from those under consideration. That a mind instructed in the matter may control not only the phenomena exhibited in all the different phases of carnomania, but may be found potent in all functional derange-

ments, I hope to be able to fully establish before the close of this essay.

Paralytic carnomania may occur not only in the form of paraplegia, as in the case previously given, but may affect any organ of the body. Very many of the cases misnamed "spinal irritation," have perverted consciousness in regard to some member, very often of one side. An arm or leg or the whole side will seem weak. I am often called upon to prescribe for this loss of strength on one side. This condition often continues for years; better when the patient is better, and worse with every depression of the patient's health and spirits. Or it may occur suddenly, and more or less completely, in one or both upper extremities.

A finely developed young lady, from Kansas, applied to me for treatment for Pott's disease of the spine. Immediately on her arrival in this city, probably owing to the jars and injury of so long a journey, she was seized with acute inflammation of the cervical vertebræ, and was very ill for several weeks. She recovered and went home. The disease of the vertebræ, which is in the lumbar region, has been arrested; her health is good and she is recovering. But previous to her arrival, during her violent attack, and now a whole year since her return home, she has only a partial use of both hands and arms. Of course a disease of the lumbar vertebræ could not directly paralyze the upper extremities, and besides, the paralysis is not of the same kind as would result from injury to the spinal cord at or above the point where the brachial nerves are given off.

The fact is, disease of the vertebræ, like the diphtheria in the first case, acted as a shock, and an occasion for the development of carnomania in this patient's temperament. I have also seen the same phenomena in a child six years old, from which however she soon recovered. In the case of the child, my opinion may be disputed as to the nature of paralysis; I can only say in reply, that I watched the case carefully, and became satisfied in my own mind that there was at no time actual paralysis, but only loss of consciousness of power in the arm. Such phenomena are not infrequent even in children.

But the simulation of paralysis is the least common manifestation of carnomania. To say nothing in this connection in reference to those more violent muscular phenomena, which alone ought to be denominated hysteria, muscular spasm is a frequent manifestation. Here, also, there is the same perverted consciousness as in diminished muscular power. In those cases, the consciousness of increased power must be diminished. This may be done in various ways. We may do it by calling off the attention to some other organ—one which is probably suffering for want of attention, like the antagonists of the over-active muscles. But whatever we may do, the cure is effected by diminishing the volition in reference to that particular muscle, through correcting the exalted consciousness of its force. To occupy the attention in some other direction is the most ready method of accomplishing this end. But as in diminished muscular power the effect on the muscle, if continued long, is an actual diminution of muscular volume and strength, as atrophy; on the other hand, in increased consciousness there will be increase of muscular volume and power, as hypertrophy. Both of these conditions of the muscles require treatment adapted to correct the altered condition of the muscular tissue. The anæmic muscle will require strengthening, and the hyperæmic muscle will require to be weakened. It is true that the accomplishment of either end will help to correct the perverted consciousness, but these effects should not be confounded with the original cause of the difficulty.

It frequently happens that patients are thrown into various unnatural positions by contractions of certain muscles. These positions are just as likely to be uncomfortable and distressing as otherwise; nor does the patient's *desire* for relief make the slightest difference. But if we correct the impressions which are sent to the brain from the extremities, the contractions immediately cease. It has sometimes been erroneously thought that if the physician could interest the patient in conversation, by abstracting the mind, and could then reduce the contraction, that this was proof that the muscular spasm was voluntary. Noth-

ing could be further from the truth. It proves just the contrary. For the time the consciousness was diminished, and the spasm ceased during that time.

One case I first saw seven years ago. At that time the lower extremities were very much distorted; but the contortions all abated under the will, except those of the gastrocnemius muscle. When brought to me, two months ago, there was talipes equinus of both feet, and I expected to be obliged to use apparatus to extend those muscles. In less than a week these contractions had disappeared. This is the case which will be described further on as having been bed-ridden for twenty years.

A most interesting case was that of an unmarried lady of about 38 years of age, of a fine, intellectual, and benevolent disposition. In former years she had been much troubled with tooth-ache and all those symptoms which are apt to attend certain highly organized temperaments. One day when reaching up to close the slats of the shutters, she felt a sharp pain in the shoulder. The pain continuing, she applied to me about three weeks after the supposed accident. Not then understanding the nature of her case, (it was six years ago,) I sent her to another physician, who, I thought, might better understand it. By him she was sent to a person to be rubbed as for an old sprain. In about a year she again presented herself, and this time, on examination, I found the arm, (it was the right arm,) drawn tightly down against the side by very strong contractions of the right pectoralis major muscle. The shoulder was perfectly immovable and very painful. On consultation with her physician, Dr. E. R. Peaslee, it was resolved to etherize her, and then endeavor to overcome the tonicity of the muscle, which was greatly enlarged and much shortened. We accordingly etherized her, but found that the rigidity of the muscle was not in the slightest degree lessened while she was in the state of complete anæsthesia, and it was impossible to extend it without resorting to an unjustifiable amount of force. I was prepared with an apparatus intended to keep the arm extended upward, and it was placed upon her, acting so as

to abduct the arm, and of course resisting the pectoralis muscle; and thus she was left for the night. The next day I found her in the most intense agony. The muscle had continued in a condition of constant tonic spasm during the whole time, and our patient was so nearly worn out that I was obliged to abandon the further resort to force. The anæsthesia had prostrated her to the last degree, so that it was five weeks before she could sit up. A consultation was then held with Drs. March, of Albany, and Post and Peasley of this city. After we had assembled and talked over the case in the usual manner, Dr. Peaslee and I were somewhat chagrined on presenting our case, to find that the spasm of the muscle had entirely disappeared!

Three years after this event, I was sent for to operate on the other shoulder of the same lady. In this instance it was the left latissimus dorsi and teres that were principally contracted. The left shoulder was entirely stiff with fibrous anchylosis. She was again etherized, and this time the muscles were overcome, and the adhesions broken up, and Dr. Peaslee and myself supposed that we had made an end of it. She was again prostrated for a month, but at the end of that time the arm was in a worse condition than before. The muscular spasms had returned with even greater severity than before the operation. No amount of force which I dared to use would overcome them, and I tried faithfully. I then tried nitrous oxide gas in two operations, and in a fortnight she was entirely well.

The lesson to be drawn from this interesting case is that the success of treatment depends on the modification of the volition through the consciousness. I believe there is an involuntary volition, of which the patient is unconscious, and unless this is changed the treatment will not be efficacious. Had I known then what I know now, I do not think there would have been the difficulty we experienced. It will be seen that the unsuccessful operation in the first instance cured the case, and that the second operation, which was perfectly successful, did not do the least good. The fact is, that the operations were mere incidental facts, and were successful or unsuccessful in pro-

portion as they could modify consciousness and volition. Whatever makes a powerful physical impression, is calculated to effect the cure, whether it relates to the part immediately affected or not; and whatever fails to make this profound impression, though acting with force directly on the affected muscle, will not be of the least benefit. I have no doubt that if the operation had been made on any other part of the system the result would have been the same, but always successful or otherwise, according to the fact of impressing consciousness. It is now eighteen months since the last treatment, and she still remains well. I should say, that there is no use in operating for contracted mussless in these cases, till after the consciousness is corrected, and then it is not often necessary.

The principle of treatment in all cases like the class just described, will of course embrace the idea of withdrawing attention from the affected part, and lessening the consciousness of force in this part. As in paralytic carnomania, the effort must be to concentrate attention and increase consciousness of force. For, let me repeat, force is exhibited, not according to its absolute quantity, but in the ratio of our consciousness of it.

A striking illustration of this occurred in a young lady of twenty-two, who had been a subject of Pott's disease of the spine. The disease is arrested, but the deformity is extreme, and at one time there was probably actual paralysis of the lower extremities, as often happens in such cases. The paralysis accompanying caries of the vertebræ, depends either on inflammation, affecting the cord, or is the effect of pressure of an abscess in the bodies of the vertebræ. But this paralysis is seldom permanent, passing off with the absorption of the abscess or the subsidence of the inflammation. In this case she did recover from the paralysis, but she was entirely unconscious of it. In fact there remained paralytic carnomania, of which she is now recovering after being eleven years confined to the recumbent position.

(*To be continued in next number.*)

MIXOSCOPIC ADOLESCENT SURVIVALS IN ART, LITERATURE AND PSEUDO-ETHICS.*

By JAS. G. KIERNAN, M. D.,

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AMONG sociologic expressions of adolescent mixoscopic ethics, is the tendency to employ narrowly limited conventional tests to variants from the ego-centric standard of sciolists, in literature and science. This peculiarly crops out in charlatanistic sociology like that of Nordau.† He has employed proper tests for degeneracy but has shown his ego-centric charlatanism by applying them from a plutocratic Semitic standpoint, whose standards are oriental, not occidental. Lombroso‡ shows the same tendency. Accepting the sound principle that hypertrophy of one function at the expense of others, or of the body as a whole, is an expression of physiologic instability and hence an outcome of degeneracy, Lombroso points out that certain men of

*Continued from the *Alienist and Neurologist*, May, 1905.

† Degeneration.

‡ Man of Genius.

genius have such sensibility to odor that they realize the poet's dream, and

Die of a rose in aromatic pain.

Urquiza fainted at the odor of a rose. Baudelaire, who had a very delicate sense of smell, noticed the odor of women in dresses. He could not live in Belgium because the trees had no fragrance. Predominance of the sense of smell and its connection with the sexual life, is, according to Nordau,* very striking among degenerates. Scents acquire a high importance in their work. Tolstoi represents Prince Pierre as suddenly deciding upon marrying Princess Helene when he smells her fragrance at a ball. Tolstoi never mentioned Uncle Peroschka without speaking of the smell he emitted. The Diabolists and Decadents, Baudelaire, Huysmans, etc., admiringly linger on odors and especially on stenches. M. Barres makes his little princess say: "'I go every morning to the stables. Oh, that little stably smell, so warm and pleasant.' And she inhaled with a pretty sensual expression." M. de Goncourt describes an actress, letting Lord Annadale smell her bosom. "Smell? What do you smell?" she asks. "Why, carnations," replied Lord Annadale, tasting it with his lips. "And what else?" "Your skin." According to Binet,† odors are responsible for marriages contracted by clever men with female subordinates. To them the most essential thing in a woman is not beauty, mind or elevation of character, but odor. The beloved odor determines them to pursue some ugly, old, vicious, harlot-beldame. Carried to this point, the pleasure in smell becomes a malady of love —a malady from which Nordau claims that only the degenerates suffer. The examples Binet cites prove this, according to Nordau, abundantly. Krafft-Ebing,‡ while insisting on the close connection between the sensual and the olfactory sense, nevertheless expressly declares: "At all events perceptions of smell play a very subordinate part within physiologic limits (*i. e.*, within the limits of the

* Degeneration.
† Psychology of Sex. Sexual Selection.
‡ Psychopathia Sexualis.

healthy life)." Even after abstraction of its sexual significance the development of the sense of smell among degenerates, not only of the higher but even of the lowest type, has impressed many observers. E. Seguin* speaks of idiots who discriminated woods and stones merely by smell without having recourse to sight, but who, nevertheless were not disagreeably affected by the smell and taste of human odor and whose sense of touch was obtuse and unequal. Zola, according to Nordau, shows at times an unhealthy predominance of the sensations of smell in his consciousness and a perversion of the olfactory sense which make the worst odors, especially those of all human excretions, appear to him particularly agreeable and sensually stimulating. Leopold Bernard, inspector of the Montpelier Academy, who in an elaborate work, has brought together all in Zola's novels which touch on odors, claims that men and things do not present themselves to him as to normal individuals, that is, in the first instance as optical and acoustic phenomena, but primarily as olfactory perceptions. Zola characterizes his personages by smell. Albine appears like a great nosegay of strong scent. Serge at the seminary was a lily whose sweet scent charmed his masters. Desire smells of health. Nana, *degagé une odour de vie, une toute puissance de femme.* Bachelarde exhales *une odour de debauche canaille.* Madame Campardon has a good fresh perfume of autumn fruits. Francoise smells of earth, hay, the open air, the open sky. Here also occurs the sausage symphony, as celebrated among Zola enthusiasts as the minute description of the stenches of dirty linen.

"To the comprehensive," according to Nordau, "this insistence on the odors emitted by men and things is naturally one more merit and perfection. A poet who scents so well and receives through the nose such rich impressions of the world is a more keenly vibrating instrument of observation, and his art in representing things is more many-sided than that of poets who reproduce their impressions from fewer senses. Why should the sense of smell be neglected in poetry? Has it not the same right as all the

* Idiocy.

other senses? And thereupon they rapidly build an esthetic theory which induced Huysmans to compose a symphony of perfume and prompt the symbolists to accompany the recital of their compositions on the stage with odors which they pretend are asserted by the contents of the verses."

The old question here arises, are psychologists justified in conclusions as to the mental state of an author from his works alone? To this question, as I pointed out fourteen years ago, a negative answer only can be returned. Even Lombroso has to criticise Nordau for his excess in this particular. "Are," asks the elder D'Israeli,* "the personal dispositions of an author discoverable in his writings, as those of an artist are imagined to appear in his works, where Michael Angelo is always good and Raphael ever grateful? Is the moralist a moral man? Is he malignant who publishes caustic satires? Is he a libertine who composes loose poems? And is he whose imagination delights in terror and blood the very monster he paints? Many licentious writers have led chaste lives. La Mothe wrote two lascivious works, but lived a retired sage. Bayle is the too faithful compiler of impurities, but he resists the voluptuousness of the senses as much as Newton. La Fontaine wrote tales fertile in intrigue, yet the "bonhomme" has not left one record of a single ingenious amour of his own. The Queen of Navarre's tales are gross imitations of Baccaccio, but she herself was a princess of irreproachable habits and had given proof of the most rigid virtue; stories of intrigue told in a natural style formed the fashionable literature of the day and the genius of the female writer was amused in becoming a historian without being an actor. Fortiguerra, the author of the "Riccardetto," abounds with loose and licentious descriptions, and yet neither his manner nor his personal character was stained by the offending freedom of his inventions. Cowley, who boasts with such gaiety of the versatility of his passion among so many mistresses, wanted even the confidence to address one. Thus licentious writers may be very chaste persons. The imagination may be a volcano while the heart is an Alp of ice."

* Amenities of Literature.

Lombroso's adherents singularly neglect scientific tests of relativity for the obsolete archaic absolute standards. To this element of error they add another resultant on purely arbitrary tests. This is singularly well shown in the attempt to claim the employment of odors and stenches in literature as a mark of degeneracy.

No one but the shallowest sciolist dares to make such a claim. One of the most fastidiously delicate of English literary critics, Leigh Hunt,* points out that "Virgil appears to have been the first who ventured to find sublimity in a loathsome odor." "I say appears," remarks Hunt, "because many Greek writers have perished whom he copied, and it is probable the invention was theirs. A greater genius, Dante, followed him in this as in other respects, and probably would have set the example had it not been given him. Sackville followed both and the very excess of Spenser's sense of the beautiful and attractive would render him fully aware of the capabilities of this intensity of the repulsive. 'It is one of the tests,' Burke† remarks, 'by which the sublimity of an image is to be tried not whether it becomes mean ideas but whether when united with images of an allowed grandeur, the whole composition is supported with dignity. Things which are terrible are always great. But when things possess disagreeable qualities of such as have indeed some degree of danger, but of a danger easily overcome, they are merely odious as toads and spiders.' Both points are easily illustrated. Passing by a foul ditch you are simply disgusted and move aside, but imagine yourself crossing a mountain and coming upon a hot and slimy valley in which pestilential vapour ascends from a city, the inhabitants of which have died of the plague and been left unburied; or fancy the great basin of the Caspian Sea deprived of its waters and the horror which their refuse would send up over the neighboring regions." The same principle is illustrated by the use Shakespeare makes of odors. In more than one drama Shakespeare, like Zola, suits the odor to the locality. In

* Fancy and Imagination.

† The Sublime and the Beautiful.

the "Tempest" Ariel drives Caliban, Trinculo and Stephano into the

> "Filthy manteled pool beyond your cell,
> There dancing up to th' chins, that the foul lake
> O'er stunk their feet."

In "Cymbeline" Iachimo says anent Imogene:

> "T is her breathing that
> Perfumes the chamber thus."

In Shelley's "Ode to a Skylark" occurs:

> " Like the rose embowered
> In its own green leaves,
> By warm winds deflowered
> Till the scent it gives
> Makes faint with too much sweet,
> These heavy-winged thieves."

Keats' "Eve of St. Agnes" also has an odor simile:

> " Into her dream he melted as the rose
> Blendeth its odors with the violet,
> In solution sweet."

Odors of flowers often occasion, as Hildebrand remarks, pleasurable sensual feelings, as Solomon felt. The Hebrew Song of Songs is, as Havelock Ellis remarks, a very beautiful Eastern love-poem in which the importance of the appeal to the sense of smell is throughout emphasized. There are in this short poem as many as twenty-four fairly definite references to odors—personal odors, perfumes, and flowers, while numerous other references to flowers, etc., seem to point to olfactory associations. Both the lover and his sweetheart express pleasure in each other's personal odor.

> " My beloved is unto me," she sings, "as a bag of myrrh
> That lieth between my breasts;
> My beloved is unto me as a cluster of henna flowers
> In the vineyard of En-gadi."

And again: "His cheeks are as a bed of spices (or balsam), as banks of sweet herbs." While of her he says: "The smell of thy breath (or nose) is like apples."

There is, therefore, nothing necessarily degenerate in the recognition of the part played by odor in human life. The employment of this is a proper phase of literature, and hence, in no respect by itself, necessarily a stigmata of degeneracy. In all probability, Nordau and Lombroso are guided in their criticisms by a Semito-centric tendency, which would shut up all recognition of the free relations of the sexes in the harem of Oriental life. This tendency appears likewise in the mixoscopic view of literature which regards the realism of the eighteenth century as a moral factor, but the realism of the nineteenth as demoralizing.

This tendency appears very strongly in Carlyle from his sexual anomalies which practically amount to impotence. Nearly twenty years ago, accepting the data alleged by Carlyle and Lombroso, as well as the dwarfishness of Jean Paul Marat, I was led to rank him* among the suspicional degenerates. Later it was evident that the Semito-centric tendencies of Lombroso deprived him of all sense of perspective and that Carlyle's Semito-Scotch, neurasthenic, ego-centric impressionisms rendered him totally unreliable as to the use of facts. As has been more than once pointed out since, he treated the characters of history as puppets. If the fact did not agree with his cataclysmic doctrine of the autocrat, so much the worse for the fact. This mental strabismus was not due to optical defect, as claimed by an oculist whose cosmos in more senses than one is one vast eye. It was "law and order cant," by a poseur "whose extravagance and all that made his writings intolerable to many and ridiculous to not a few, was not so much any real peculiarity of opinion as an unlucky ambition to appear more original than he was."† Carlyle, like all *ex cathedra*, irritable, egotistic, impotent newspaper prophets, reckless of hygienic and medical advice, was affected by iatrophobia. This peeps out rather comically in his discussion of Marat's relation to the French Revolution,‡ which is characterized by his usual and indolent disregard of easily accessible data. He remarks in the chapter entitled "Windbags": "Prince

* *Journal of Mental Science*, 1887.
† Garnett: Life of Carlyle.
‡ French Revolution.

d' Artois has withal the strangest horse leech: a moon-struck, much-enduring individual of Neufchatel in Switzerland, named Jean Paul Marat." Carlyle thus speaks of a man eminent in medicine and physics on whom the University of St. Andrews, Scotland, June 30, 1775, conferred the following degree of Doctor in Medicine: *

"Since it is just and reasonable that those who, by long study, have attained a knowledge of the useful arts, should receive a prize worthy of their studies and distinguish themselves from the ignorant vulgar by honors and special privileges, which bring to them some advantage and the respect of each and all; since among the important rights accorded from a distant period to the University of St. Andrews, it has that of attaching to itself, whenever necessary, capable men in each section of the faculties, and of making them participate in the honors which it enjoys; since Jean Paul Marat, a very distinguished master in arts, has given all his attention to medicine for several years, and has acquired a great skill in all branches of this science; with the approbation of numerous doctors in medicine; there has been conferred on him the supreme grade of doctor in medicine; on these grounds we have accorded to the master who has presented himself, and who has been named above, the free and entire liberty to profess, to exercise, in whatsoever fashion, the art of medicine, and to do all that is connected with this art; so that the privileges, advantages, emoluments, honoraria, which are accorded in all countries to doctors in medicine, may be conferred upon him; and we wish that he be honored with the title in medicine, and that he may be considered henceforth by all as a doctor received and very worthy to be one. In faith of which we have delivered to him this diploma as a privilege bearing our signatures and stamped with the seal of our powerful University of St. Andrews."

Marat's family came originally from Sardinia, an exceedingly mixed ethnic district where survivals of the primitive pigmy race of Europe are far from uncommon. His dwarfishness was therefore an expression of race character-

* Bax: Life of Marat.

istics, rather than of departure from race type in the direction of degeneracy. Lombroso's use of it as evidence of degeneracy hence was erroneous. The family moved to Neufchatel in Switzerland because of a change in religious opinions. Marat's father became a Calvinist and a citizen of Geneva. His mother was of French Huguenot descent. The father, at first a designer or chemist in a Swiss manufactory of Indian stuffs, later became a teacher of Italian and Spanish. At this time, Neufchatel was under the Prussian rule.

Marat seems to have been most strongly under the influence of his mother, who had great regard for justice in the true sense of the term. His sense of the rights of others was markedly developed at the age of eight. Even then, he could not bear ill treatment practiced upon another. The sight of cruelty filled him with indignation and injustice always made his blood boil with a feeling of personal outrage. Intense sense of justice, especially in English-speaking countries, has led frequently to an ethical contempt for oppressive statutes and judge-made law. Marat's early feelings and training were similar to those of Fielden, who was convicted of murder in the faked Chicago anarchy case. "There is," remarks Judge Joseph E. Gary, commenting on an application for commutation of Fielden's sentence, "in the nature and private character of the man a natural love of justice, an impatience of all undeserved suffering, an impulsive temper; and an intense love of and thirst for the applause of his hearers made him an advocate of force as a heroic remedy for the hardships that the poor endure. In his own private life he was the honest, industrious and peaceable laboring man. In what he said in court before sentence he was respectable and decorous. His language and conduct since have been irreproachable. As there is no evidence that he knew of any preparation to do the specific act of throwing the bomb that killed Degan, he does not understand even now that general advice to large masses to do violence makes him responsible for the violence done by reason of that advice, nor that being joined by others in an effort to subvert law and order by force,

makes him responsible for the acts of the others tending to make that effort effectual. In short, he was more a misguided enthusiast than a criminal conscious of the horrible nature and effect of the teachings and of his responsibility therefor."

Unfortunately, this sense of justice creates that dictatorship in right and wrong, which underlies the inquisitor or lynch law practicer. Like most of the leaders of the French revolution, Marat was an ego-centered dictator in government and ethics. The state in Marat's works is entirely too supreme. This crops out in his violation of the principles of toleration when the atheist comes under consideration for proselytism. According to Marat, he then makes a dangerous use of his liberty and ought to lose it. This is an expression of ill feeling due to criticisms of the skeptics on Marat's philosophic doctrines. Sir Thomas More showed the same inconsistency not only in his "Utopia," but likewise against the Protestants in practice when Prime Minister to Henry VIII. Carlyle has in a marked degree the same intolerance of opinion.

Marat left the paternal roof at his sixteenth year. He went to Toulouse and Bordeaux, where he stayed two years, studying medicine, literature, philosophy and politics. Here he wrote a romance, entitled Young Count Potowski; the plot of which is very simple. A young Polish nobleman is in love with the daughter of one of his father's friends. All goes well, and the marriage is about to be celebrated, when suddenly a civil war breaks out with the object of freeing Poland from the Russian yoke. The one family is on the side of the Russian authorities; the other on that of the Polish patriots. Hence, mortal enmity arises between them. Gustave, the hero, is induced by his father to enlist under the confederate banner. Meanwhile the bride, Lysille, and her mother take refuge in flight to foreign lands. Episodes are introduced illustrating the griefs of the lovers and the fortunes of war. The intrigues of a countess, who is herself in love with the young nobleman, also play a part. Finally, hostilities come to an end, and the course of true love runs smoothly into marriage. The

narrative is interrupted by dissertations on the perfidy of monarchs who stir up strife, and on the new political principles then agitating men's minds. The work lacks originality, and its execution is distinctly amateurish. Marat eventually reached Paris, where he pursued his studies in medicine. Later, he went to London, stopped but a short time, going to Dublin where he remained a year, visiting Edinburgh later. He then set sail for Holland where he visited The Hague, Utrecht and Amsterdam. After this he returned to London, about 1765. During these years, unremittingly employed in professional medical work and study, he made the acquaintance of many distinguished persons in the scientific world, and had relations both literary and personal with learned bodies, like the Royal Society of London, the Academies of Berlin, Stockholm, St. Petersburg and Madrid.

Marat succeeded in establishing a practice in London. At the same time, in addition to occasional excursions into politics, he took an active interest in general sciences, particularly experimental physics, as well as in philosophic literature, and in music. While in London he was a welcome guest in the scientific, literary and art circles of the time, among others that of Angelica Kaufmann, in Golden Square. He was a frequent visitor at Benjamin Franklin's house. His practice and his name as a physician increasing, his reputation spread far beyond his immediate circle, so that when the post of physician to the Garde du Corps in the Comte d' Artois' household became vacant, the Comte was led to offer it to the distinguished French-speaking physician then practicing in London. The offer was accepted, and Marat left London for Paris in the early summer of 1777.

The first physiologic work of Marat was his Essay on the Human Soul, published in English in 1777. Marat is a Cartesian dualist, an opponent of Helvetius, and treats the body as the machine serving as the organ of the soul. There neither is nor can be any direct relations between the soul and body, each being in its nature *sui generis*, distinct from the other. Yet that there are reciprocal relations he had already maintained. Hence these relations,

since they are not immediate, must be brought about through the mediation of some third agent or influence. That *tertium quid* is, according to Marat, what he terms the "nervous fluid," by which he understands a subtle ether or substance, "neither grossly material, like the body, nor purely immaterial, like the soul," but occupying a position between the two, which is the vivifying power of living nerve-substance, and which is concentrated in its greatest intensity in the brain. Marat later compiled a treatise on electricity. There was then in Paris a journal equal to any modern medical journal, the organ of the leaders of French thought, which discussed topics in a more cosmopolitan manner than do modern French journals. This was the *Journal de Médécin*, the organ of the Paris Academy of Medicine, published under patronage of the King's brother at the Royal Printing House. The number of January, 1785, (in my possession), remarks in a review of Marat's book on electricity that:

"This important subject cannot be treated with success other than by a man who unites the light of physics to the light of physiology. If a stranger to either of these sciences, he would merely grope and not attain by his efforts other than vague, uncertain and false notions. The fact that these sciences are equally familiar to Dr. Marat is evident in the works he has already published on these subjects. Dr. Marat commences by a short history of electricity, and then passes to the time when electricity was first used in medicine: 'From the slight success which had rewarded the first attempts the greatest hopes were conceived and soon enthusiasm passed beyond all bounds. Not content with the assured specific effect on disease, the triumphs over it were said to be accomplished at one stroke. Marvels like these ascribed without foundation to electricity, simply aroused skepticism among physicians. Too much had been ascribed to it; as a result any salutary effects were denied it. Neither extreme of belief was durable. Judicial minds retook, little by little, their former attitude. While it could not be denied that electricity had at times salutary effects, it must also be admitted that such effects

were infrequent and required long patience for their attainment. Electricity might have had brilliant success in the hands of a physician who had learned the effects of the electric fluid on the functions of the animal economy, but it long remained in the hands of pure empirics; from thence it passed into the hands of imperfectly-educated physicists. Far from having entered on the career of medicine, uniting the art of the physician with the science of the physiologist, they scarcely know even the rudiments of the sciences they profess to employ and deliver themselves to blind routine, experimenting wildly on disease to discover where electricity might be a specific nostrum. Although the results hitherto obtained do not justify hope of success, these old chimeras are still eagerly advocated. The attempt is still made to proclaim electricity a universal panacea.'"

This quotation of the *Journal* from Marat's Memoir reads strangely like the introduction to the average review of medical electricity and is a reminder that the quack in all ages comes in for his share.

Marat had previously written two medical monographs, one entitled "An Essay on Gleets," and some time later "An Essay on a Singular Disease of the Eyes." He repudiates firmly the secrecy of the quack, which some today are endeavoring to restore by advocating patenting medical discoveries in defiance of the centuries-old practice of the profession, "freely ye have received, freely give." Marat had the same bitter feeling toward the quack in medicine as he had toward the quack in sociology. The two monographs just mentioned were written in English, whilst Marat was practicing medicine in Soho, London. The eye monograph was dedicated, by permission, to the Royal College of Surgeons. It is therefore clear that in England he occupied a high medical status. His departure from London, while doubtless hastened by the offer of the Prince, was due to the treatment of his work, "Chains of Slavery," by the British government. The venal administration of Lord North (who was such a tool in the hands of the paranoiac criminal, George III.) expended several thousand pounds in suppressing Marat's book and in inter-

cepting his correspondence. Marat was in touch with English constitutionalists who supported the position of the Americans. Marat's book was conservatively based on the principles of the Bill of Rights, and its suppression was the usual dodge of George III. to overthrow those principles. Marat was persecuted in England for the same reasons and by the same influences which caused the expulsion of Franklin from the Royal Society and the mobbing of Dr. Priestley, the discoverer of oxygen. Marat's results in optics, translated into German, were commended by Goethe. Marat appears to have anticipated the doctrine of the correlation and conservation of force which the nineteenth century re-established and which underlies all the practical applications of electricity. "It is the same today," writes Marat in 1770, "it seems to me, with the theory of fire as it was with the theory of color before Newton. It is regarded as matter, while it is only a modification of a particular fluid which I have designated as the igneous fluid." What today is designated "force" would in the eighteenth century be designated as a "fluid." Indeed, the modern term waves of light, waves of electricity, etc., indicates that in certain respects the fluid conception of Marat still holds its own in modern physics and plays a part in the assumption of the hypothetic ether which pervades all space. Despite or perhaps in consequence of Marat's ethical course, assaults upon him were made by certain cliques of society physicians, who then as today, infested medical societies and rose like scum to the top.

Marat's position as to political matters seems exceedingly conservative and rather of the Carlylean autocrat type than of the evolutionary psychologist. The autocrat, according to Marat, is the source of all evil, as to Carlyle he is the source of all good. Marat, as Bax remarks, "presents the villain and the hero of contemporary speculation —the villainous prince and the heroic, if down-trodden and stupefied, people. On e rouse the hero from the magic sleep into which the wicked giant has thrown him, and the hero will come to his own, and the machinations of the hateful ogre will be confounded and brought to nought. It

is all so like a fairy tale. At all times and at all ages, where political communities have existed, there was the cruel, deceiving tyrant, and the good, deceived, enslaved people. Of evolution, economic, political and intellectual, not so much as a rudimentary idea is discernible. Of the growth of classes, religious conceptions and political forms by a necessary process of development from elementary germs, the dependence of political upon economic forces, of the action and reaction of speculative beliefs on both, in short, of society as living organism, we have no trace. All is so delightfully simple—black and white, bad and good, ruler and subject, prince and people." The view expressed in the Declaration of Independence, that government is simply an expression of public opinion, arose from the views of English constitutionalists based on the recognition of individual right which finds expression in the presumption of innocence of the common law, a presumption based on the principle that the rights of one individual extend as far as the rights of another, and no further. In all English-speaking countries, however, this principle has been violated by creation of corporations which hold themselves above individual responsibility, but claim extreme individual rights, albeit, they are Frankensteins created by state socialism, pushed to an extreme for the benefit of the few at the expense of the many, as all products of state socialism must inevitably be. To quote Emerson:

> Fear, craft and avarice
> Cannot create a state.
> When the Church is social worth
> When the Statehouse is the hearth
> Then the perfect State is come
> The Republican at home.

Despite his tendency to the equality that degrades rather than the equality that elevates, Marat became more democratic in his practice than in his doctrines. His conception of law starts with the social compact of Locke, viewed from the standpoint of Rousseau, and therefore dominated by state socialistic principle, rather than by the

individual right principle, which ruled the English sociologists and their pupils, the Americans. There are, however, in Marat, leanings to Jeffersonianism. Discussing crime, Marat asks: "What is a crime: the violation of the laws? But how far are laws sacred in the sense that it is the citizen's duty to obey them? In order to be just, laws must, in the first place, not be contrary to nature, the most primary of all laws. This, however, is not enough, if they do not tend to the general good, that is, if they do not apply equally to all members of the state. Where they do not, you have a condition of oppression, in which man tyrannizes over man. The sole legitimate foundation of society is the good of those who compose it." Men are only united in society for the sake of their common interests. "They have only made laws in order to fix their respective rights, and they have only established a government in order to ensure for themselves the enjoyment of these rights. The original social compact is confirmed by subsequent generations. Then, owing to the free course permitted to ambition, industry and talents, a portion of the population enriches itself at the expense of the rest. The laws of inheritance accentuate this. A mass of indigent persons arises in the state."

The conception underlying these principles is to be found, as Grahame shows, in Locke's Treatise on Government. His opinion that there exists a compact between prince and people, which engagement on the part of the former justifies rebellion, became the orthodox whig creed and was formally accepted by Parliament when it declared that James II. had tried to subvert the constitution by breaking the original contract.

Marat's views as to government, however, were more of the federalistic type than of the Jeffersonian. They differed from the teachings of autocracy only in the claim that the powers of government should be exerted for the good of the people.

(*To be continued.*)

THE

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EDITORIAL.

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

OVER BRAIN-STRAIN ILL HEALTH has another portentious illustration in the recent cerebrasthenic break down of Secretary of State, the Honorable John Hay, who, in a sea of diplomatic troubles during his official career, bore himself with signal strength of brain and fertile fruitful resource and suggestion in many crises of National and Cosmopolitan diplomatic action. His masterful and persuasive brain-strength appeared notably in his influencing England to acquiesce in the Clayton-Bulwer treaty and the sensational modification of the Hay-Pauncefort treaty, making the now-building Panama Canal, so essential to the Americas and the world's welfare, a possibility, and almost certain of consummation, and his post-bellum successful efforts for the integrity of China and the revivifying of The Hague Tribunal, attest at once his cerebro-mental ability

and the strain to which great brain and mind were officially subjected before the collapse of over-cerebral tension came. Let us hope that the long sea voyage to the Philippines, and lighter labor after the extended sea air, rest recuperation with abstemption for a time from brain-straining official duty, may restore and save him for long official usefulness. But it is a fatal fad of our men of great mind capacity and brain power that there is no limit to psycho-neural endurance, except for the other fellow, and they strenuously prod and whip their psychic neurones into such continuous and inordinate activity, that their outraged and insulted brains are urged far beyond their natural sustaining powers, and suddenly collapse. It is fortunate when the collapse of this sort of brain strain comes, if it be only the exhaustion of recuperable cerebrasthenia and not the irreparable brain break of a broken blood vessel or the brain destruction of a paralyzed heart or organic catastrophe, putting the brain and mind suddenly and forever out of action.

THE MONIST is one of the specially interesting magazines devoted to those side studies in which alienists and neurologists take an interest.

"A scientific view of consciousness," by G. Gore; "Chinese Script and Thought," by the editor in the April number, can not fail to interest all readers of the *Alienist and Neurologist*..

In fact the "Ceptacle Hypothesis," by Oren B. Taft, "What Pragmatism is," by C. S. Pierce, and the entire table of contents of the April number will attract considerate attention from our readers, as will each succeeding and preceding number. The Open Court Publishing Co., of London and Chicago, are the publishers.

MICROBE OF SENILITY.—The *Paris Herald* some time ago announced the discovery by M. Metchnikoff, of the Pasteur institute, of this remarkable microbe, which he thinks he has isolated, finding its favorite habitat in the colon.

The newspapers appear to have got ahead of the scientific journals in the discovery, as they often do. There

are microbes enough to be found on the large intestine to bring on disease and decadence if not swept out from the entrails of aged people, and likewise from those who are not so old as to be called senile.

WHAT MAY CAUSE DISEASE IN THE INSANE JUDICIOUSLY CONSIDERED.—The Kansas Supreme Court on May 6th last rendered a ridiculous decision to the effect that a sick claimant against the United Commercial Travellers Insurance Company had no cause of action because the claimant's disease resulted from the accidental swallowing of a pin. The patient got well after vomiting up the pin and this wise and most excellent judge decided that such a cause of disease was to be differentiated from the accident of catching a cold, microbe or other materies morbi and becoming ill thereby. All diseases except such as are voluntarily sought like vaccination and lymph inoculations or suicide results, are accidentally required.

A MULTIPLE PERSONALITY.—Cases of alternating consciousness, as in the Jekyl and Hyde life history, are common to the epileptic diathesis, and epileptoids reveal many psychic states, but the alienist seldom encounters a dicem-ego or ten personal psychic phenomena like the following, described in the last April 1st number of the *London Lancet*:

"The patient was a girl, aged 12½ years, of healthy parentage, who had herself been healthy in mind and body until she was attacked with influenza, after which the changes of personality manifested themselves. Some of these were complete, others incomplete, some sudden, others gradual in appearance. In some the patient was totally, in all partially, ignorant of her life during other states. Acquirements such as drawing, writing, and also normal faculties present in certain states were lost in others. While in a blind condition the patient developed the faculty of drawing with the aid of touch alone, this sense being enormously increased in delicacy. The character and the behavior in some states differed widely from those in others. The various phases varied in duration from a few

minutes to ten weeks. The normal state gradually became less frequent and of shorter duration till it finally disappeared. The various stages lasted about three years in all, until ultimately a particularly abnormal stage was reached in which the patient remained at the date of the report. In this she was intelligent and able to work. The patient, it is important to note, had two or three epileptiform seizures, but there was no reason to regard the altered psychical states as a post-epileptic. The various manifestations in this case appear from the testimony of competent and independent observers to be undoubtedly genuine."

The editor of *The Lancet*, who probably speaks without adequate clinical experience in psychiatry, thinks "our present knowledge of the physiology of the constituents of the cortex cerebri does not warrant attempts at explanation of the various phenomena of consciousness."

The editors of *The Journal of Mental Science* and members of the British Medico-Psychological Association will probably reach a different and more satisfactory conclusion in view of what we already know of the *bizarre* displays of the psychic and psycho-motor neurone centers under the morbid touch of epilepsia and epileptoid in and out of the psychopathic hospital.

HOSPITAL JAILS FOR ALCOHOLIC INEBRIATES AND DOPE FIENDS, as often narcotic habitues are unkindly called by the public press, are to become a commendible feature of New York's advance eleemosynary charity system.

Commitment may be for a term less than a year on complaint of a father, mother, sister or brother, or of a child against its parent, or a guardian.

The hospital is to be under a staff of three physicians appointed by the mayor. One of the three is to be the chief physician, and will receive a salary of $6,000 a year. The other two will get $5,000 a year each. The building and its site will be paid for from the excise money.

The new institution will be a novelty for New York, and ought to be generally imitated, and will meet the ob-

jection often raised in the police courts that there is no place to which a magistrate may send habitual drunkards, opium, cocaine, chloral, chloroform and ether victims. Connecticut and several other states have such institutions.

TOXIC INSANITY.—George H. Savage, (Lettsomian lecture) discusses the various mental and nervous disorders dependent on brain toxicity, direct and secondary, or toxic agents from without, as alcohol, morphine, cocaine, and those which form within the body as the result of some infection, directly as from influenza, or indirectly as from syphilis and those of disordered metabolism, as in Bright's disease, myxœdemia, or diabetes; those of acute delirious mania (the acute bacillary delirium of some writers); and those from organisms from without. The disease first shows confusion of function, then sensory and motor troubles; then loss of higher control, self-respect, the yielding to temptation, defective memory and finally general dementia.

REVIEWS THE DOCTRINE OF CABANIS—Under the stirring caption "The soul dies with the brain," Dr. Wm. H. Taylor, professor of Medical Jurisprudence in the medical college of Virginia, and state chemist, is reported as reasserting that "The soul, estimating it from a purely scientific examination, is a generation of the brain, and dies with it."

This looks startling to the public, but this is all that science has thus far seen and what Cabanis asserted in the early part of the past century. "As the salivary glands secrete saliva, the stomach gastric juice and the liver secretes bile," said Cabanis, "so the brain secretes thought." After this is Herbert Spencer's realm of "The unknowable."

But a dynamo or a battery gives electricity, but elect tric force is not the instrument (metals with friction or chemical action) that reveals it. It is a force, perhaps the force of Nature.

A PHYSICIAN IN THE SPANISH CABINET.—Spain ahead of the United States in recognition of medical men.

Besides the beautiful May tribute from the profession to Raymond y. Cajal, the labor leader of the Spanish biological laboratories, Don Carlos M. Cortezo, editor of *Siglo Medico*, late president of the International Medical Press Association, was appointed April 8th. Minister of Public Instruction and Fine Arts, a well merited and thoroughly appropriate appointment. More high places should be filled in National affairs by medical men the world over than now, for the highest welfare of the people.

SCHOOL CHILDREN AND THE CIGARETTE.—While the cigarette is really no more hurtful than the cigar, save in its cheapness and in the facility of its procurement and consumption, and while it is a tyranny incompatible with our constitutionally guaranteed personal liberty to inhibit its use or sale to adult, the duty of caring for the health and morals of the growing child is becoming properly recognized by school and state governments. The Board of Education of Philadelphia has shown a just concern for the welfare of the fathers of our future men, by looking into, with a view to checking, the vicious cigarette habits of its public school children.

The several teachers reported to Superintendent of Public Instruction Brooks that of the 82,000 boys in the public schools of Philadelphia, 20,000 use cigarettes, and that two-thirds of the Pennsylvania University students are cigarette smokers.

The investigators into this alarmingly growing and vitally depressing habit, justly conclude from their inquiries of medical men and the interrogation of statistics, that the habit weakens the heart and digestion, stunts growth, depraves morals and degrades intellectual capacity and class standing.

They refer also to the French governments' prohibition of the use of tobacco in French schools, and the inhibition of its use at our Annapolis and West Point naval and military academies.

It is interesting to note in this report that it is no longer suggested as the chief object of education to cram

and stuff the student's brain to the full and make it a store house and lumber room of literature and vanished facts and figures, but to "look after the physical and moral interests of pupils," taking "care that they do not acquire habits that will undermine their physical constitutions" or impair their intellects and unfit them for "intelligent and virtuous citizens."

It is gratifying even at this late day, when perils are impending to our Great Republic to see right conceptions of physiological psychology and sound psychiatry entering into the calculations of American Pedagogy. A great reponsibility is in that great profession. The American pedagogue must lead the American child in the ways of cerebro-physiological and moral power, and have a care that his pupils' brain is neither broken nor depraved by the neurasthenical or neurone poisoning vices, that beset the pathway of our children and youth on their way upward to the responsibilities of intelligence and power impending for their handling, greater than has yet fallen upon American citizens. As well pour water with expectation of saving it, into cracked vessels, as instill principles and duties of American democracy into brains degenerate and depraved by vicious indulgence and inadequate neurone support. The Nation needs, and will ever need, strong-brained men and women, with neurones nurtured like the muscles of the athlete for feats of strength—for feats of high moral and great intellectual and physical strength will be in demand of American citizens so long as America lives as a Republic. In time of trial to the Nation the Rooseveltian idea of numbers will avail us little, unless they be strong in psychic power.

A PSYCHASTHENIC JOKE.—Our honored and much esteemed friend Professor Osler talks like a cerebrasthenic. He is psychasthenic and perhaps feels himself prematurely aged and brain exhausted. Though himself closely verging towards the sixty year dead line he has prescribed for the usefulness of others and nearly two decades past the period he assigns to the original mental activity capacity of others, there will be yet to him we hope, a full decade or

more of fruitful endeavor in the new field to which he has been chosen as Regius Professor at Oxford, else, if so soon our good friend "is to be done for" what has he begun for, at the great English University?

We hope his approaching voyage across the Atlantic and a new current of trans-Atlantic thought will re-enervate and reanimate his now weary pessimistic brain and our Osler will be himself again.

Dr. Osler has certainly perpetrated a neurasthenic brain weary joke, such a little investigation into the best result producing ages of the great men of the world gives the erroneous statement historic refutation; even Von Moltke in war and Bismarck in statecraft refute it, to say nothing of the Harveys, Hunters, Hallers, Nortons, Miltons, Edisons, Ericksons, et al.

Gray haired men of sixty and vim
Read Osler's joke and smile at him.

The professor did not take himself so seriously as to mean it.

A TRIUMPH IN MUNICIPAL WATER PURIFICATION has been practically recorded by St. Louis. It only remains now to double the number of settling reservoirs and screen them antiseptically so that the water may escape reabsorbing atmospheric impurities and become a little more vitalized by readmixture with atmospheric air before being conveyed to consumers to make St. Louis water the best on earth and dry Sundays tolerable to the most beer thirsty soul. The impure water of the past has added much to the consumption of St. Louis pure beer.

MR. THOMAS W. LAWSON in his (*Everybody's Magazine*) description of his final acquiescence in the "Crime of Amalgamated" copper describes himself in good medical terms as "not the first man who has balked at amputation and got blood poisoning."

WE REGRET DR. OSLER'S UNFAIR FLING at the equipment of American Medical Schools and the achievements of American medical men. No body of medical

men anywhere more deserve the credit of the medical profession for the manner in which they have advanced medical and surgical resources in America and built and fully equipped hospitals and colleges the equal of any anywhere for efficiency and this solely through their enthusiastic love of medical science and the welfare of the people.

Neither the general nor the state governments in this land have given much aid to our medical colleges but the professional eclat and enthusiastic zeal of doctors, aided by endowments they have secured through wealthy patients, have given us medical colleges equal to the best of the old world in capability of imparting practical medical instruction. In most of them up to a very recent date, too, the respective chairs have been filled gratuitously, except the chairs of chemistry, bacteriology, biology and anatomical and pathological demonstration.

We regret the doctor did not withhold this parting shot for Johns Hopkins and some other schools are equal to the best the world can produce.

A MUNICIPAL REST CURE may be seen in active operation among the street and sewer manhole cleaners on any fair day in St. Louis. The art of resting from labor, not alone for refreshment, is illustrated by them vividly enough for a clinico-therapeutic lecture. The strenuous life finds no votaries among them.

New York has some of the same rest cure votaries working (?) on her streets as may be gleaned from the following from an April 15th editorial in the *Medical Record.*

"The lazy incompetents who now spread the dust over the streets by worn-out tin scoops should be replaced by men who will sweep it up and away on seven days in the week. At present they are merely digging "a hole for McClellan."

GOING IT BLIND.—This is not a very eloquent caption for a scientific medical journal editorial note, but our brief theme at once suggests the frequent feature of the play in a favorite game of chance. The blind confidence expected of physicians by many of the blindly formulated

proprietary medicines now tendered to them for prescription purposes, suggests this more in the American game with which some of the proprietors are doubtless familiar.

The doctor can neither subscribe with precision without precise knowledge of his remedies in quantity and kind, nor gain therapeutic experience from his practice.

The presenting of combinations of indefinite or secret formulæ to the profession presupposes ignorance and indifference in the profession and the successful introduction of so many unknown and blinded compounds offered to doctors for use in their practice employed by them moves it.

Honest and capable proprietary medicine has made valuable contributions to our therapeutic armamentoria and greatly helped the young practitioner in his practice and there are many such meritorious firms whose advertisements have been admitted to our pages. "But there are others" and they are not with us and never will be.

We are gratified to note that the Journal of the A. M. A. which ought to exclude all unformulated prescriptions from its pages, has awakened to an active and correct appreciation of this vital subject in successful medical practice.

DR. EDWARD D. FISHER HAS DONE the profession a real service in translating and Saunders and Company have done likewise in putting on the market Jacobs' excellent atlas of the nervous system, including an epitome of anatomy, pathology and treatment. Although put out in 1901, this excellent (and convenient to carry) manual with its 112 colored lithographic figures and 139 other illustrations ought not to be omitted from any medical library. The original was prefaced and endorsed by Professor Struempell, Director of the Medical Clinic of Erlingen.

THE NEW PANAMA CANAL COMMISSION has no medical member. As usual the medical profession is relegated to the rear in public government enterprises, even in digging of a sanitary canal through an unsanitary district.

CORRESPONDENCE.

THE SOUND OF THE HUMAN VOICE NOT A CRITERION OF TRUTH IN A WITNESS WHILE TESTIFYING.

Under the caption of "Sound of Truth, or How a Court Stenographer Judged the Veracity of Witnesses" the following has been going the rounds of newspapers: "Any shorthand reporter who has been doing court reporting for a long time can tell almost infallibly by his sense of hearing whether a witness is telling the truth," said an old court stenographer the other day, according to the St. Louis Globe-Democrat. "It comes from experience combined with abnormal development of the sense of hearing which all first-rate court and parliamentary stenographers possess.

"You know how abnormally the remaining senses of the blind folks are developed, particularly their sense of hearing. Well, it's the same way with the court shorthand man, after he's hammered away at that work for a good many years.

"His ears become as sensitive to the slightest inflexions and intonations of the human voice as a phonograph roller. There's a certain tremulous quaver in the tone of a man or woman who's lying in court that the stenographer catches when the shrewdest judges, lawyers, or jurors quite fail to catch it.

"When he's got his head bent over his note book he feels the jarring false note in the voice of the liar every time, no matter how plausible and convincing the testimony in itself may sound. So frequently have I tested this idea in the past fifteen years or so that I have come to accept it as certain when that almost indistinguishable false tremolo is absent from the tone of a witness' voice that the witness is telling the truth.

"A few years ago I reported the trial of a young chap who was accused of having sandclubbed a jeweler in his store and of looting the establishment. The young fellow was good-looking, intelligent, with a face as frank as an eight-day clock, and an easy, candid, winning manner.

"I looked the young chap over before the trial began, and I decided that the accusation against him was outrageous. When the witnesses testified that they'd seen him coming out of the store I strained my ears to catch the false intonation in their tones but it wasn't there.

"When the defense opened the young man was permitted to go on the stand in his own behalf. I was astonished to find his voice had the lying quaver in it right from the beginning of his statement.

"His words vastly impressed the jury and as vastly chagrinned the prosecution. He undertook to prove an alibi for himself.

"In corroboration of this, a married sister testified that her brother had been at her apartment from 3 o'clock in the afternoon until 10 o'clock at night, taking dinner with her and keeping her company in the absence of her husband. Well, she was lying, too. She had that tell-tale false ring in her voice that convinced me of it, despite her fine frank face and her obvious respectability.

"The court adjourned for luncheon at the end of her testimony. I took luncheon with the attorney for the prosecution.

" 'Well, what do you think of this case?" he asked me when we sat down. 'I guess we don't land him, eh?'

" 'He's guilty,' I replied briefly. 'He was lying, and so was his sister.'

"The attorney for the prosecution looked me over out of the slits of his eyes, but I didn't say any more.

"When the court reconvened he asked for an adjournment until next day, and the judge granted it.

"On the following morning he had in the court the janitor of the apartment house in which the sister lived. The janitor testified that the prisoner's sister had not been

in her flat from noon until late at night on the day of the sandclubbing.

"While the janitor was on the stand a detective walked into the court room with the loot from the jewelry shop. He had found it in a satchel in the prisoner's sister's apartment that morning.

"That settled the case, of course. The prisoner's sister broke down and confessed that she had been endeavoring to shield her brother."

Believing this to be impossible from an alienist's standpoint, I submitted the above clipping to a friend of mine, who has been for thirty-three years a Supreme Court reporter in the state of New York, and here is his reply:

"There is nothing in this except a case of big-head. The self-conscious runs all through the item. The 'tremulous quaver' is as quickly to be noticed by one as another, among those accustomed to court proceedings; and its occurrence is as likely to be with an honest and timid witness as with the hardy liar—in fact, the hardy liar has nothing tremulous about him.

"The article may have been written by a newspaper paragrapher, and given a local habitation. But if written by an official court stenographer he must have flicked his ears back and forward to more certainly catch the "false intonation," for that those appendages are unusually long in his case is to me an unavoidable inference. I have known two such, and never lost an opportunity to re-adjust their perception of self.

Of course in criminal cases, tremor is more likely than in civil cases. But to detect it is easy. To interpret it is not a gift of psychic quality. It is an incident from which the dependent has a range from the Zenith to the Nadir of the case.

In my own experience, I do not remember a single instance."

ALBERT S. ASHMEAD, M. D.

New York, May 10, 1905.

SELECTIONS.

CLINICAL NEUROLOGY.

FORMS OF INSANITY DUE TO ALCOHOL, ESPECIALLY IN THEIR MEDICO-LEGAL RELATIONS.—The alcoholic somnambulist may steal or kill in his abnormal sleep; the alcoholic melancholiac may commit suicide or destroy others because of his depressive delusions. The alcoholic suffering from acute mania may strike down his fellowman in his wild excitement. The victim of delirium tremens, in trying to defend himself from his tormenting hallucinations and delusions, may do great harm to others and to himself, and the alcoholic dement may be unfit to care for himself or his estate, and therefore may need the protection of the law. Chronic persecutory insanity, or alcoholic paranoia, and dipsomania are especially considered. Special stress is laid upon the fact that in the former the delusion of marital infidelity plays a leading role; it may be associated with delusions of poisoning, with hallucinations of sight or hearing, or it may be the only evidence of insanity and very difficult to demonstrate. Mills classes dipsomania with the impulsive insanities. He emphasizes the distinction between dipsomania and inebriety with periods of great excess, and also between dipsomania and other forms of alcoholism.—*Chas. K. Mills in American Medicine, February 11, 1905.*

THE LOCATION WITHIN THE SPINAL CORD OF THE FIBERS FOR TEMPERATURE AND PAIN SENSATIONS.—Spiller (*Journal Nerv. Ment. Diseases*, May, 1905, Schwab's excerpt.) Many believe that the tracts of Gowers may contain the fibers for the sensations of pain and tempera-

ture, but evidence supporting those opinions has been sadly deficient. A man twenty-three years of age began to have pain in the lumbar region four months before he came under observation. Numbness was soon felt in the feet and gradually involved the lower limbs below the knees. Sensation for pain was almost abolished and sensation for temperature was diminished. At the autopsy, tuberculous meningitis and caries of the vertebræ were found, and a small tubercle was present in the right lateral column, at the extreme lower end of the thoracic cord involving the area of Gower's tract.

RAILWAY VIBRATION DIABETES.—Navarre of Lyons, France, has been investigating the proportions of diabetics among the employes of the railroad line to the Mediterranean, and *The Sémaine Médicale* summarizes his views as follows: The number of cases of diabetes reported by the medical officers of the road during the last ten years was 222, an average of 3 per 1,000. The proportion was much higher among engineers and conductors than among other employes, being 12.63 per cent. per 1,000 among the former and 13.1 per 1,000 among the latter, while it is only 1.76 per cent. among the office employes. During the last four years 733 employes have been retired on account of chronic illness, including 14 on account of diabetes. Of this number 11 were engineers or stokers, while only three were from the office force. Navarre comments that these figures suggest that vibrations and jars evidently favor the development of diabetes.

MYELOMALACIA.—F. W. Langdon, in the *Journal of Nervous and Mental Diseases*, emphasizes the frequency of myelomalacia as compared with that of myelitis. He attempts to establish on a practical basis a clinical differentiation between the two diseases. The principal points are the following.

1. In myelomalacia there is no preceding disability. The onset of paralysis is sudden, with no fever and no chill, while in myelitis there is usually preceding disability

or injury, onset or paralysis gradual or rapid, not sudden, fever with high-tension pulse, and sometimes chill.

2. Rigidity of spine is absent, spasm of extremities absent in myelomalacia, while in myelitis rigidity of spine is sometimes present, and rigidity of limbs often.

3. Symptoms on two sides differ more widely in myelomalacia. Paralysis more liable to be unilateral, dissociation symptom often present on one or both limbs, girdle symptom often absent, knee-joint and plantar reflexes unlike. In myelitis there is nearly always uniformity of symptoms on two sides.

4. Sphincteric control may remain or be lost for a few days only in myelomalacia; usually for a long time in myelitis.

5. Bed-sores often absent in myelomalacia, inevitable in myelitis.—*Am. Prac. and News.*

BORATED FOOD AND NEPHRITIS.—Harrington says that the two most commonly employed chemical preservatives of food are borax and boric acid. They are used so extensively that persons of all ages are likely to receive frequent, if not daily, doses of one or of the other, or of both. They are added to milk, butter, oleomargarin, some forms of cheese; they are almost always present in open clams and oysters; they are applied externally to fresh meats to prevent sliminess and to freshen salted fish. They are important constituents of the brine in which meats are pickled and corned. Their solutions are injected into ham and other pork products, and they are found in almost every known make of sausages, to prevent the sausage contents from contracting and thus causing the casing to appear loose and wrinkled. Moreover, they preserve the natural color. Once established in the tissues borax can not be soaked out, not even boiled out. The author points out that many cases of slight kidney disturbance may be due to the continued ingestion of the boron compound. Experiments have been performed from time to time with a view to establishing the relationship between these two preservatives and kidney lesions.

Unfortunately, most of these experiments extended over too short a period of time to lend any weight to the results obtained. Harrington submits the details and results of a feeding experiment which he conducted for a period of 19 weeks. Twelve healthy male cats were selected and kept under precisely the same conditions in separate cages. All were fed on the same food with this difference: One received no preservative; six received borax from 48 to 112 grams. in daily doses extending over a period of from 56 to 133 days. The average minimum dose was .544, the average maximum dose .857; the remaining five cats received another preservative which proved to be innocuous. Of the dozen animals under observation but three showed any signs of illness and they were of the borax group. One died at the end of the sixth week; the other two were sick occasionally, but during the last weeks of the experiment appeared to be normally active. Each cat was weighed at the end of each week; all showed occasional losses, but with the exception of the one that died there was a net gain ranging from 230 to 990 grams. When the animals were killed a careful autopsy was made and all the tissues were examined microscopically. The control animal showed no lesions whatever. The animals that were fed on borated food all showed kidney lesions and changes in the liver. The five cats that were given another preservative showed no marked changes in the kidneys or elsewhere. The kidney lesions of the cats fed on borated food were of the same general character, but differing in intensity. They consisted in degeneration of the tubular epithelium, most marked in the convoluted tubes. The normal fat vacuolation was greatly increased and there was focal swelling and disintegration of epithelial cells, with fragmentation of nuclei. The lumen of many of the collecting tubes contained irregular granular masses representing cell fragments. Some tubules were completely stripped of epithelium. In one kidney the change was confined entirely to degeneration of an intense character, with hyaline casts in the small tubes. In other cases the degeneration was not so intense, but was accompanied by

foci of cellular infiltration, most marked on the cortex, and also around single glomeruli. Where this was most intense the tubules were entirely destroyed. The lesions were analogous to those found in subacute and chronic nephritis in man, although they do not conform to any type.—*Jour. A. M. A.*, Sept. 17, 1904.

PATENT MEDICINE AND PUERPERAL MULTIPLE NEURITIS.—Wharton Sinkler, Philadelphia (*Jour. A. M. A.*, February 25), after discussing the various causes of multiple neuritis, such as alcohol—by far the most frequent—coal gas poisoning, carbon disulphid, metallic poisons, white lead, copper, phosphorus, mercury, etc., calls attention to the use of patent medicines containing alcohol as a possibility. He reports a case due to the use of arsenic as a medicine in a child treated for chorea, and refers also to the epidemic traced to arsenic in the glucose used for making beer, which was reported in England in 1899. He also refers to infectious diseases as a cause of the condition and reports four cases from an apparently hitherto unrecorded cause, namely, puerperal septicemia.—*Abstracted from Maratime Medical News.*

NEUROTHERAPY.

THE THERAPEUTIC INDICATIONS IN EPILEPSY.—Paris *Archives de Neurologie:* The epileptic mother should not nurse her child, for if there is the least suspicion of epileptic taint, when such a mother nurses her child (and this is the rule, not the exception), not only is the child exposed to infantile convulsions, to *epilepsie précoce*, but the mother may easily suffer an aggravation of her own state. In any case we should aim to remove all causes which tend to produce states of abnormal excitement of the child's nervous system.

Paris regards infantile convulsions as manifestations of true epilepsy in the majority of cases, as will be shown by investigation of the antecedents (epileptic or alcoholic history), a conclusion with which reviewer cannot agree.

The institution of pre-natal treatment (during intra-uterine life) will serve to prevent these convulsions, and assist the child to support the numerous and varied excitements which its neuropathic taint will surely bring about later. After weaning, a careful regimen must still be maintained, eggs and milk forming the diet staples, and gastro-intestinal excitations must be guarded against.

Similar care should be exercised with the skin, kidneys, and other emunctories; also the exhibition of vermifuges if required. The first manifestations of irritability, ill-humor, etc., Paris regards as danger signals.

Intellectual effort, though permissible, requires careful regulation, as does also physical exercise. The special irritability peculiar to the tainted nervous system of the congenitally predisposed requires the removal of all conditions capable of causing "nervous shock." (The fulfillment of the Paris programme will necessitate a degree of vigilance and interest not available, unfortunately, for the majority of cases.)

Puberty accentuates the necessity for caution. Sexual irritability will require attention—cold baths, simple diet; if required, a mild course of potassium bromide. Erethism in both cases is best controlled by camphor; often a mild hypnotic is in place. Warm baths a little prolonged are of service; as adolescence approaches Paris advises that the co-operation of the epileptic (as is now done with the tubercular) be obtained, to the end that he may have an intelligent understanding of the consequences made possible by deviation from a vigorous hygienic life, both in the narrow sense, as well as for society and his possible descendants in the broader.

Paris thinks that the attention of the sufferer should be drawn to the habitual character of the epileptic, and in thus directing his attention to the instability of the psychic manifestations, to the accessions which he so often deplores, he may be taught how to avoid many sources of excitation.

In thus opening the eyes of these patients to their true condition, the force of the congenital taint (*tare epilep-*

tique), as well as the effect of causes acting later, may be minimized. The alimentary regime in adult life, though naturally less restricted than during juvenile life, calls for similar control, and should be the more guarded, the more the indications of excitement present.

For the female a similar procedure will be required, but Paris emphasizes the importance of regulation of the menstrual function, inasmuch as there seems to be an especial relation between the menses and the occurrence of attacks. Both sedation and elimination are here called for. The sexual relations of the predisposed should be regulated both from the standpoint of minimum and maximum natural indulgence, which control, of course, includes the proscription of all unnatural sexual life. The usual methods are mentioned.

Paris has discussed the prophylactic side in this extended way, because, as he says, so much attention has been paid to the treatment of the attack, and so little to the intervals, or the disease as a whole.

Curative Treatment.—Paris establishes four principal indications:

1. Diminution of the meningo-encephalic impressionability.
2. Moderation of the functional activity of the thyroid and genital apparatus.
3. Regular elimination of their secretions.
4. Removal of all complementary causes of excitement (meningo-encephalic), as the development of toxines.

In infancy the curative treatment has less extended indications. Modification of thyroid activity would involve possible danger to psychic and physical development. On the other hand, the causes of excitement are less in evidence, especially if a proper régime has been adopted.

To diminish cortical excitation the author still relies chiefly on the bromides, but often gives in connection with it, trional in two doses, half at 8:30 to 9:00 p. m., half next morning. He speaks highly of trional, and in cases of bromide saturation, recommends it as a temporary substitute.

Now for the second condition, moderation of functional thyroid, and genital activity. Paris thinks that excess, or lowering of thyroidal function, has analogous accompaniment in the genital sphere. Camphor, lupulin, warm baths (slightly prolonged), diuretics and diaphoretics are mentioned. He prefers camphor in conjunction with a hypnotic, in females, before the menstrual epoch.

The epileptic is often an "arthritique," or his various conditions strongly resemble those of the arthritic type. In searching for a remedy which can prevent the accumulation of glandular secretions peculiarly noxious when acting on the arthritic type of epileptic, He has fixed his choice on benzoate of lithia. This brings about, in Paris' opinion, a sort of lavage of the blood, preventing the accumulation of thyroid or other glandular secretions therein.

Regulation of all the functions concerned in excretion is, of course, imperative. Intestinal antiseptics have a place. Camphor is recommended as combining the latter quality with its well-known anaphrodisiac action.

Serum therapy does not meet with the author's unqualified approval.—*C. I. Wolfstein and F. W. Langdon, in Cin. Lan.-Clin.*

ANATOMO-SURGICAL RELATIONS OF THE FACIAL NERVE.—Under caption of Surgical Anatomy of the Facial Nerve, H. A. Alderton, Brooklyn (*Archives of Otology*, December, 1905), reported to the New York Academy of Medicine, a study of the surgical anatomy of the facial nerve as observed in eighteen adult skulls examined. Only one probable and one doubtful dehiscence were found in the wall of the facial canal where it lies within the mastoid process. In the majority of specimens the wall was truly compact but in a few bones there was merely a denser concellous structure surrounding the canal. Seven marked and two dubious dehiscences in nine bones were discovered in that portion of the facial canal bordering on the cavities of the middle ear; all of these were in the neighborhood of the fenestra ovalis. No dehiscences were discovered in the bony wall between the facial canal and the labyrinthine

cavities. The distance between the internal surface of the external wall of the facial canal and the spina supra meatum was measured. The average was found to be 15.9 m. m., the minimum 14.2, and the maximum 20 m. m. Averaging these results with the measurements of twenty-two bones by Noltenius, gives 15.5 m. m., with 11 m. m. as a minimum. The distance between the internal surface of the external wall of the facial canal and the posterior-inferior angle of the orifice of the osseous external auditory canal was found to be 12.1 m. m., the minimum not exceeding 7.5 m. m.; this external point of measurement was selected because it is left untouched in the operative field longer than any other portion of the external surface of the mastoid apex.

The facial canal in its vertical portion was found to be at an average distance of 3.5 m. m. from the nearest point of the posterior edge of the annulus tympanicus, the minimum measurement being 3 m. m. The distance between the tympanic cavity in the region of the sulcus internal to the posterior edge of the annulus tympanicus and the nearest portion of the descending area of the facial canal averages 1.4 m. m. A considerable number of the specimens did not exceed the minimum measurement of 0.5 m. m. by any considerable margin. The wax injection failed to make its escape from the aqueduct of Fallopius into the internal auditory canal, notwithstanding that it did escape from the hiatus Fallopi into the middle cerebral fossa in seven of the specimens, and would probably have done so in all had an injecting material been used that could have been more easily liquefied, or that would have remained so longer. Mechanically the track of any infection passing from the mastoid or middle ear along the facial canal is an easier and more direct one toward the middle cranial fossa than toward the internal auditory canal and thence into the posterior cranial fossa. In removing the large ossicles or on curretting the tympanic cavity two regions should be treated guardedly. There is reason to fear the forcible use of the incus extractor in the region just above the oval window and backward from this toward the floor

of the aditus. The other region is that forming the bony posterior wall of the tympanic cavity and adjacent portion of the annulus.

PUSTULAR BROMIDE RASH.—Vincenzo Chirivino (Giornale Internazionzale delle Scienze Mediche) publishes a case of bromide rash, with observations on the cause of such affections. The patient took each year a course of bromides for the relief of epilepsy, and he had usually no bad effects from the use of the drug. Finally, on one occasion of using the drug, he had a severe pustular eruption appear nearly all over the body, lasting three months, without fever. Careful histological examinations of the skin and pustular contents were made, which showed that the lesion was of the endothelium of the cutaneous vessels, and exclusively those of the rete subpapillare and of the papillae, and that it was inflammatory in nature, and not functional or vasomotor. The author considers it of the greatest importance to note that before this attack the patient had marked gastric disturbances characterized by hyperchlohydria. He considers that this produced a chemical stomach.—*New Albany Medical Herald.*

INSANITY AND EPILEPSY IN RELATION TO LIFE ASSURANCE.—Dr. Robert Jones in discussing insanity and epilepsy in relation to life assurance, presented by Sir William Gowers, November 2, 1904, in London, England, before the Life Assurance Medical Officers' Association, presents an able analysis of the expectancy among the insane and epileptics, and compares their mortality ratio with the sane population.

1. Insanity per se is inimical to life. It is a deterioration mental and physical. It causes more deaths in every quinquennium among the certified insane in asylums than in corresponding periods among the general population. Cases least affected are those holding fixed ideas, sometimes called paranoiacs, or persons suffering from delusional insanity, as are also those in whom an acute attack of insanity has left moderate but chronic

weak-mindedness. Congenital weak-mindedness diminishes the expectation of life.

2. The most powerful and the most frequent antecedent of insanity and epilepsy is either ancestral insanity or epilepsy.

3. All medical forms of inquiry used in insurance offices should ask whether there is a history of ancestral insanity (parents and grand-parents) and collaterals (uncles and aunts).

4. That a suicidal tendency is eminently heritable—often appearing at the same age in the offspring as in the ancestor.

5. That suicides in asylums occur less frequently by one-half than in the general population during the period of greatest liability.

5. That phthisis and insanity are strong converging factors towards insanity.

7. That epilepsy shortens life—more so by an average of ten years—than insanity.

8. That antecedent syphilis in many assurable cases cannot be definitely ascertained either by admission of the fact or by its sequelæ, and that general paralysis occurs not more often than in about 1 per cent. of all cases which have contracted syphilis.—(*American Journal of Insanity*, January, 1905.)—*Abstracted by Joseph M. Ain, for Western Medical Review.*

MANAGEMENT OF IDIOPATHIC EPILEPSY.—Daniel R. Brower discusses the treatment of idiopathic epilepsy so rationally in the *Journal of the A. M. A.*, March 25, 1905, that I think exact quotations here will benefit many readers. He specifies the need of an exhaustive examination for discovery of removable causes of the fits, before concluding the case should be classed as idiopathic and a plan for therapy adopted. He says: "In marking out a line of treatment, it must be borne in mind that in the pathogenesis of epilepsy there is an autointoxication, an increased irritability of the nervous system, a deficiency of vasomotor tonus, and of circulatory capacity, and, lastly, a cerebral

sclerosis, and in the plan of treatment each must be considered in due proportion, even though it is possible that the first factor is the foundation of the other three. The autointoxication, in the majority of cases, has its origin in the gastro-intestinal tract, and to minimize this there must first be a careful regulation of diet. For this purpose no special and universally applicable diet table is either necessary or desirable, as the digestive capacity and necessities of each patient must be determined. The exclusion of meat, which is advocated by some, is a serious error. The majority of these patients are gormandizers; they eat voraciously, and masticate imperfectly; these conditions must be corrected, they must be taught abstemiousness, and slow and thorough mastication.

The condition of the stomach, especially the want of muscular tone, with more or less dilatation, is sometimes at the foundation of this toxicity; and then gastric lavage is indispensable. Insufficient intestinal elimination is a very common condition; so much so do I regard it that even when patients come to me, telling me that they have a daily habit of evacuation which they regard as ample, unless there is some contraindication, I order them a compound cathartic pill (U. S. P.), at least once a week, and frequently direct colonic flushing with normal saline solution. These measures of themselves are often inadequate, and intestinal antiseptics must be added to the treatment. Salol has given me the best results, and I usually combine it with the extract of phytolacca. The two drugs are placed in capsules and given before meals. Phytolacca decandra is a drug not sufficiently appreciated by the profession at large. In that complex error in metabolism that we recognize as rheumatism it is of undoubted value, and in the errors of metabolism with which we are now contending I know it is sometimes useful."

He prefers the sodium bromide as being less depressing to the circulatory system, and less disturbing to digestion than potassium bromide. This observation is certainly commendable. I have seen many epileptics in whom the fits were decreased in frequency and lessened in severity

by potassium bromide wholly at the expense of the digestive and circulatory powers. Autointoxication is doubtless one important cause of the convulsions, which when repeated too often become an established part in the nervous mechanism of the individual. Bromism retards elimination, dulls the intellect, and I believe is largely responsible for the noticeably increasing number of insane epileptics.

He does not discard the bromides, but says: If sixty grains of bromide a day do not arrest the paroxysms, then I add to the treatment the fluid extract of solanum carolinensen, in one-half to two-drachm doses, in the bromide mixture. In some cases in which the bromides disagree, this drug alone will control the seizures. Cases that resist combination will sometimes yield if acetanilid is added to the treatment; this may be placed in the capsule with the salol and phytolacca before meals. Some cases of nocturnal epilepsy that will not yield to this method of treatment are benefitted by moderate doses of chloral or chloralamed at bedtime.

The circulatory and vasomotor defect, so manifest in many cases, often can be improved by the use of the fluid extract of adonis vernalis, and this can be added to the mixture already mentioned of bromides and solanum. This drug—adonis vernalis—has all the properties of digitalis without its untoward effects; it does not disturb the stomach, it has no cumulative effect, and it has some sedative influence on the nervous system. It has also marked diuretic properties, and thereby relieves the system of some of its accumulated toxins.

He considers cerebral sclerosis an indication for the use of alteratives and recommends the addition of the iodides with the bromides. Whatever plan of treatment may be determined on, the treatment, to be effective must be continued for a space of at least five years. No epileptic can be regarded as cured until there has been at least five years intermission in the epileptic manifestations.—*Abstract by Joseph M. Akin, Omaha, for Western Medical Review.*

DRUGS IN INSOMNIA.—At a recent meeting of the British Medico-Psychological Society, Dr. Henry Rayner read a paper on the subject, which gave rise to an extremely interesting discussion. Dr. Rayner himself (Hospital) opposes strongly the custom of giving drugs for the purpose of producing sleep, and recorded his belief that a large amount of the nervous and mental orders so prevalent amongst the well-to-do is due to the indiscriminate and injudicious use of soporific compounds.

Dr. G. F. Blandford takes an entirely different view, and from an experience of forty years stated that in cases of threatening insanity, with insomnia as a marked feature, he felt as certain as he could feel of anything that a great number of these patients had been materially benefitted by the use of medicines given to induce sleep. He further held that it was possible to give drugs in such doses as to produce a state which was indistinguishable from natural sleep, but it was necessary to select the drug suitable to the case. He thought that the profession as a rule was inclined to give too large doses of sedatives, and to continue the same for an unnecessarily long period. Paraldehyde he considered to be one of the best and safest narcotics.

Dr. Savage, while allowing that sleeplessness was the predominant symptom of the day in all nervous and mental affections, said that before treating it was necessary to first ascertain the cause. In anemia of the brain, concerning which so much was heard nowadays, he was certain that a nightcap of grog with a little food were more likely to produce sleep than sedatives of the opium type. Again, hydrotherapy in certain cases was of the utmost use with patients whose tissues were already loaded with toxic agents, who had taken too much alcohol, or who were gouty. For persons in these conditions a dose of calomel, followed by salines and baths, was of great value in producing sleep as well as in curing the patient of his malady. Where much pain was present opiates and other narcotics assisted in inducing sleep, and this was especially so in cases of mental pain, and though it was true that

opium upset the digestion, the rest which it produced was the means of the digestion being in turn improved. Referring to the more extreme use of narcotics, Dr. Savage said that he had seen extremely mischievous patients narcotized into dementia, and on recovery from that condition get perfectly well. A morphomaniac could be given an ounce of bromide per day for several days and be found to have recovered at the end of that time.

Dr. Fletcher Beach said that in many cases of neurasthenia and brain fag little could be done unless sleep could be produced, and for this purpose he recommended the use of sulphonal, but he thought it was wrong to give narcotics continually for weeks. Dr. Percy Smith urged that patients who could not sleep at night should be allowed to sleep whenever they felt inclined to do so, and in regard to the drug treatment of insomnia said that he thought general practitioners had not yet fully realized that other drugs would produce sleep without the very bad effects of morphia.

The trend of the discussion seemed to veer in the direction of the use of narcotics, when employed intelligently and with discretion. Dr. Julius Mickle gave the key to the situation when he said that sleep producing drugs should be administered with brains.

Latterly, there has been somewhat of a hue and cry with respect to the prescribing of narcotizing mediums by the medical profession. The charge has been made more than once, that the physician has been in many instances responsible for the moral, mental and physical ruin of individuals through his zeal in recommending opiates for the relief of insomnia, of acute pain, and of varied forms of nervous disorders. While this may be true to some extent, a careful scrutiny would probably show that the situation, so far as the acts of the physician are concerned, has been greatly exaggerated. Narcotics are sometimes absolutely indicated; indeed there is no other way known of successfully treating certain phases of mental and nervous affections. The first thing to do is to diagnose correctly, and then, if necessary, to prescribe narcotics with due discrimi-

nation. Dr. Savage's remarks with respect to the efficacy of hydrotherapy and aperients in the treatment of alcoholics or of those whose systems were loaded with toxic agents were much to the point.—*Medical Record.*

OSMIC ACID IN TIC DOULOUREUX.—At the March 8th meeting of the Philadelphia County Medical Society, Dr. W. Wayne Babcock reported a case of trifacial neuralgia that had persisted for thirty-five years, in spite of eight operations, including two attempts to remove the Gasserian ganglion, and an excessive use of drugs that had at one time led to temporary insanity. A two per cent. solution of osmic acid had been injected, under cocaine anaesthesia, into the inferior dental, and more recently the infraorbital, palatine, and subraorbital nerves. The patient had gained thirty-five pounds and his physical condition was revolutionized. Osmic acid injections might be of value in cases of the most persistent type of tic douloureux. No major operation was warranted in the treatment of trifacial neuralgia until the futility of osmic acid injections into the peripheral nerve trunks has been proved.

LEPROLIN, LEPROSY AND ROST'S HOSPITAL.—At Rangoon, Burmah hospital, Rost uses as culture medium a distillation from beef extract, also solid agar purified from its salts. He finds that the bacillus can be cultivated only in a medium free from chlorides. Injections of the culture fluid are made at intervals of ten days. Pain, swelling, and fever to 100° F. follow the injections, the reaction lasting three days, as a rule. The quantity of leprolin to be used for each injection is ten cubic centimetres. Perspiration in skin which has previously been dry is the first evidence that improvement is taking place. Then follow a return of sensation, increase in strength, and loosening of the contractions of the fingers and toes. Ulcers at once began to heal, nodules and tubercles gradually become flattened and disappear. Pain in the limbs disappears early in the treatment. The mental condition and the condition of the body in general undergo marked and rapid improvement. Sixteen

patients have been discharged cured from the Rangoon hospital, and many others are apparently approaching a cure.

THE TREATMENT OF NEURASTHENICS WITH HIGH ARTERIAL PRESSURE BY MEANS OF HIGH FREQUENCY CURRENTS.—(Ugo Gay, *Zeitschrift fur Elektrotherapie* Breslau, Germany, Vol. 6, No. 12, 1904.) Prof. Hurchard deserves the credit for having first proved that increased arterial pressure does not always indicate an anatomical alteration in the circulatory apparatus, but is often the sign of a simple functional disturbance, which slowly becomes the cause of material lesions of blood vessels. This occurs in different affections, notably neurasthenic conditions. Here the extraordinarily beneficial effect of high frequency currents is not known and appreciated.

The author has treated 12 such cases and comes to the following conclusions:

(1) High frequency currents of the autoinduction method increase metabolism in neurasthenics, thus producing a quick removal of poisonous substances from the blood and a lowering of blood pressure.

(2) Improvement of subjective symptoms goes hand in hand herewith.

(3) High frequency currents are to be recommended in the early treatment of arteriosclerosis.—*Archives of Physiological Therapy.*

PSYCHOTHERAPY.

PSYCHIC IMPOTENCE.—Dr. William Lee Howard, Baltimore, Maryland, (*Amer. Jour. of Dermatology and Genito-Urinary Diseases.*) This case is similar in its history to the one we saw yesterday. It is a case of psychic impotency. S. is a graduate of Johns Hopkins University, and up to last spring was a professor in one of the large universities. I said up to last spring because his condition had been such as to prevent his returning to his duties this winter. While I have stated that his trouble is

psychic impotency, he is suffering secondarily from a psychasthenia—sexual neurasthenia—which has so lowered his energy, depressed his will and caused a condition of abulia as to bring him to the active point of desiring death if he cannot be cured.

In these cases it is always difficult to place the cause and effect in their direct relations. That is, is this unfortunate man suffering this intense mental tension and morbid obsession because he believes himself to be sexless? or is the impotency the indirect effects of an inherited unstable nervous organization, which has been fostered by wrong environments, false teachings and mental applications? The history wili enable us to see the matter clearly: S. is 40 years old. You see he is fat and flabby, has an anemic appearance, looks older than his years demand, but his testes and penis seem normal. He tells us he never had normal sexual intercourse except once when a boy of fourteen, and his partner was a girl of eleven years of age. This rather naive statement of his experience of sexual intercourse we may, for obvious reasons, ignore. He has at times some psychic desire for women, but there is never any erection accompanying these thoughts.

Once, when at college, he visited a *maison de joie* with college mates. The women disgusted him, not from any moral or virtuous qualities he possessed but from purely psychic emotions. He tells us it was a feeling of indescribable fear, a peculiar shock, not moral exactly, but a feeling of helplessness. No sensual feeling could be aroused in him, and he was driven out of the place the butt of scorn and ridicule. Up to this period he had always suspected that there was something abnormal with him, but his arduous work as a student had prevented him from being marked by his fellow men. The last few years he has been troubled with horrible introspections, the morbid idea possesses him that every woman looks upon him with scorn and every man has branded him with the mark of detestation. He fled the university determined never to return.

Soon after these morbid ideas possessed him a characteristic symptom of neurasthenia developed—the periodic desire for alcoholic drinks, not for the alcohol itself, but for the relief it gave him from the horrible mental sufferings, and oblivion of his curse. But this sporadic stimulation of the cerebral cortex soon brought into activity cells heretofore latent, for sexual desire for man was aroused, and the pervert act was performed. Sobered, he suffered more than ever. The horrible memory hung over him like a suckling incubus, and he contemplated suicide. His "friend" of the drunken orgie was a congenital sexual pervert, and like most of these antisocial beings was well informed on the literature of the subject, and told S. he could be cured because it was disgusting to him, not a normal pleasure as it was to him—(the pervert.)

It is necessary to go further into the history of this case because it is typical of several others we shall see later in the course. I refer to early false teachings and unnatural environments. S.'s father was a strong willed and narrow minded Puritan. He had all the virtues of meaning well, and all the vices of doing ill, toward his children. He was a product of that chilling religious sect, the New England Puritans. S. as a boy was not allowed to enjoy the ungodly vices of baseball or football with his neighbors. His family having removed from New England to the active Middle West, the father determined to keep up the Puritan godliness, if not improve it. S. was not allowed to go swimming with his companions, as it was indecent to appear naked. He was taught the Bible and poetry at home by elderly sisters and a mother who was Puritanically plastic. As he tells us, up to the age of eighteen he never heard one word concerning sex relations or hygiene. His companions were old maids and senile deacons. From what he learned later he now knows that his first love affair was not a real one—as we might conclude from the ages. Any attempt to learn from father or mother those things a boy should know was suppressed, and his mind literally driven into that narrow band of academic studies leading to the pulpit. For several years he strug-

gled between a teasing desire for something only dimly realized, and the awful shame and remorse that such cursed passions as God gave him should ever possess his body. This continued suppression of a normal activity naturally brought about an exhaustion of nervous energy—sternicity—which has decidedly lessened the inhibitory powers. The deciding factor which brought about his present mental condition, was due to a second attempt some time ago to have normal intercourse.

He approached the affair with fear and timidity. He had stimulated his imagination by reading erotic stories, and had associated himself with men of the world. His sole aim was to determine for a certainty whether or not he was sexually a nonentity. He realized that he was looked upon by some of his scholars as effeminate, if not something worse. We cannot fully appreciate his mental sufferings. He entered upon his task with an erect penis, but not the anticipation of the mystery of life being revealed to him, not the pleasure of enjoying the rites of Venus were the ideas dominant in his mind, but the fear of failure, the disgrace of being exposed as a sexless being, were the powerful suggestive factors which controlled his mind. As was to be expected under these circumstances, the attempt was a failure, and the man ran from the house to the nearest saloon, where the words of scorn and laughter of ridicule from his ci-devant loved one were drowned in liquor. For weeks these periods of alternate drinking and depression kept up; then ideas of suicide became dangerously prominent; it was then he was sent to me. He will be cured.

There are many interesting details in his history showing the powerful influence suggestion and autosuggestion have played in this man's tragic life; but I have given you a sufficient outline from which many valuable hints can be gathered as to the cause and cure of these cases of psychic impotence.

We see in this case how great an influence early impressions and suggestions exert on the adolescent. S. undoubtedly had normal sexual centers in the cortex, but be-

fore they had opportunity to become unfolded and bloom in all their vigor and strength, they were distorted and suppressed by wrong suggestion and unfavorable environment. But few realize what a tremendous effect will permanently be made upon the undeveloped sexual cells by advice from the ignorant, or suggestion from the sexually unfit. It often means ruin and degradation to an unfortunate adolescent. It was Mms. Lamberceir that caused Rousseau to become a masochist. She delighted in whipping the boy. "Who would believe that this child-punishment, received at eight years from the hands of a woman of thirty, determined my future taste, my desires, my passions, my whole being for the remainder of my life, and in a manner quite the opposite of what it might be expected? * * * To fall at the feet of an imperious mistress, to obey her mandates, to be obliged to implore her pardon, were to me most exquisite enjoyment." (Rousseau's "*Confessions*," Book 1.)

Having established the fact that in S.'s case we have a purely psychic condition—that there is no congenital defect or organic cortical disturbance, what is the method of treatment? Here is a good example of the therapeutic value of hypnotic suggestion. The suggestion in this case must be thorough. No half measures will suffice. The patient must be placed in the second stage of hypnosis, and the suggestions powerfully made. This case necessitates a course of mental gymnastics. Day after day we must inhibit the active impressions under which he has no longer been acting, and slowly arouse those centers contrroling normal sex ideas. Suggestions of manly sports, companions of normal male instincts, and the oblivion of the past life and thoughts must go, *pari passu*, with the main suggestions. It is in these purely psychic cases of sex disturbances that hypnotism is of great value—in fact, it is the only method of get ing these cases well and putting them in a condition to face the world and forget the past.

Note.—Under this treatment S. has returned to his studies a well man. He now enjoys manly sports and normal sex instincts. His work has so improved that his salary has been raised. S. was under constant treatment nine weeks. He was hypnotized twice a day, 11 a. m. and at bed-time.

REVIEWS, BOOK NOTICES, REPRINTS, ETC.

"DR. BARNARDO, THE FOSTER FATHER OF NOBODY'S CHILDREN," by the Reverend J. H. Batt, S. W. Partridge & Co., 8 and 9 Paternoster Row, London, Eng., is a meritorious and well-written record and interpretation of the philanthropic work and life history of a young medical student evolved into a practical, philanthropic and resultful worker for the welfare of the help-needing, among the lowly and the unfortunate unopportunitied of the world's waifs and neglected and helpless poor.

As His Grace, the Duke of Argyll, says in his highly appreciative introductory to this book, "these pages tell a marvellous tale. They show how a man equipped only with a clear brain and a stout heart may do more in his lifetime in practical benevolence, than has been accomplished before in many generations. They show how Britain and the colonies have benefitted by the good done to the thousands of lads and lassies. Great multitudes of children have been saved from want and neglect and worse, have been admirably taught useful knowledge and have been sent into the world to aid in a hundred industries and to strengthen the national life of Britain here and British lands beyond the seas."

They show that giving to the homes like those founded by Dr. Barnardo, and guaranteed as they are against failure by incorporation and careful trusteeships of the true, trustworthy and responsible men, helps the help-needing and the nation and the people that found and foster them. The best material for the manhood and womanhood of the future is among the children, and these are not always the present heirs of fortune or of fame. They are sometimes to be found among the substrata of humanity like the

primitive underlying granite in the quarries of the inanimate world, that we delve for and bring to the surface to underly our greatest mechanical superstructure. The nation that despises and ignores its now submerged classes, will suffer tomorrow for its indifference and neglect.

THE INTERNAL SECRETIONS AND THE PRINCIPLES OF MEDICINE. The Chicago *Medical Examiner* speaks thus complimentarily of Dr. Charles E. De M. Sajous' new book entitled as above.

This is a very scientific work dealing with the important investigations, as may be judged by a brief survey of the table of contents. Chapter I deals with the physiology of the adrenals as viewed from the standpoint of clinical pathology. Other chapters treat of the internal secretions of the adrenals in its relations to respiration, composition of the blood and general oxidation processes; the internal secretions of the thyroid and thymus glands in their relations to the adrenals, the internal secretions of the pancreas and spleen, the internal secretions in their relations to immunity, and the preservation of life, etc. It is a work which must be read and studied carefully, and one which reflects great credit on its talented author.

TUMORS OF THE CEREBELLUM. By Charles K. Mills, M. D., Charles H. Frazier, M. D., George E. de Schweinitz, M. D., T. H. Weisenburg, M. D., and Edward Ludholz, M. D.

This is a valuable clinical contribution to the subject from sources of repute and reliability. Eight illustrations accompany the text.

Reprinted from the *New York Medical Journal* and the *Philadelphia Medical Journal* for February 11th and 18th, 1905, and published by the A. R. Elliot Publishing Co., 66 West Broadway, 1905.

The deductions of Dr. Mills are interesting and instructive. This is an especially valuable book for libraries, as well as for neuroclinicians and pathologists.

The XIIIth Annual Commencement Exercises of the Training School for Attendants was held at the Amusement Hall of the State Hospital at Danville, Pennsylvania, Thursday evening, July 13th, 1905, at 8 o'clock.

An Account of the Treatment of the Consumptive Poor, as carried on at the Post-graduate Hospital Dispensary, from the year 1898 to 1905, by Donald M. Barstow, M. D.

Medical and Hygienic Exhibits at the Louisiana Purchase Exposition, by Guy Hinsdale, M. D.

"Validol," An Eminent Restorative, by Dr. V. Meyer, of Naples.

Diseases of the Skin Connected with Errors of Metabolism, by L .Duncan Bulkley, A. M., M. D.

The Modern Treatment of Yellow Fever, by A. M. Fernandez de Ybarra, A. M., M. D.

Some Forms of Insanity Due to Alcohol. Especially in their Medico-Legal Relations, by Charles K. Mills, M. D.

Morphinomania, Cocomania and General Narcomania and some of their Legal Consequences, by Charles K. Mills, M. D.

Myelomalacia, by F. W. Langdon, M. D.

Report of the Department of Health of the Isthmian Canal Commission for the month of February, 1905. by W. C. Gorgas, Colonel Medical Corps U. M. Army and Chief Sanitary Officer.

Acroparesthesia, by Frank R. Fry, A. M., M. D.

Memoranda Relating to the Discovery of Surgical Anesthesia, and Dr. William T. G. Morton's relation to this event, by William James Morton, M. D.

Thirty-first Annual Report of the Medical Director of the Cincinnati Sanitarium for the year ending November 30, 1994. Variations, by F. W. Langdon; Presidential Address by A. E. MacDonald, M. D.

Prostatism without Enlargement of the Prostate, by Charles H. Chetwood, M. D.

President's Address at the 30th Annual Meeting of the American Neurological Association, held in St. Louis September 15th, 1904, by Frank R. Fry, A. M., M. D.

A Consideration of some Tendencies in Modern Medical Education, by Joseph D. Craig, A. M., M. D.

The Immediate Relief of the Hysterical Manifestations of the Larynx, by Hanau W. Loeb, A. M., M. D.

Sanitary Conditions in Cuba since the Proclamation of the Republic, by Carlos J. Finley, Chief Sanitary Officer for Cuba.

A Case of Extensive Carcinoma of the Tongue and Neck, by William Seaman Bainbridge, M. S., M. D.

Two Cases presented to the Clinical Society of the New York Post-graduate Medical School and Hospital, by William Seaman Bainbridge, M. S., M. D.

Some Observations upon Delusions, Impulsive Insanity and Moral Idiocy, by Bernard Oettinger, M. D.

Isthmian Canal Commission. Report of the Chief Sanitary Officer of the Canal Zone.

The Commission of Lunacy. Its Scope and Limitations, by William Francis Drewry, M. D.

A Report of Three Medico-Legal Cases Involving the Diagnosis of Chronic Delusional Insanity, by Sanger Brown, M. D.

Annual Reports of the Department of the Interior, 1903 and 1904, received from the Commissioner of Education at Washington, D. C.

Garrod Spa, Lithia Water, by Enno Sander, Ph. D., Ph. G.

The Treatment of Diabetes, by Robert C. Kenner, A. M., M. D.

An Improved X-Ray for the Study of Bone Injuries and Foreign Bodies, by G. H. Stover, M. D., Denver.

Hydragogin, A Valuable Heart Remedy, by H. V. Halbert, Chicago.

THE
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AN EARLY AMERICAN DESCRIPTION OF ASTASIA-ABASIA.*

By CHAS. F. TAYLOR, M. D.

NEW YORK.

Reported by CHARLES H. HUGHES, M. D.,

ST. LOUIS.

BUT carnomania is by no means confined to the muscles, nor to dynamic forces. Sensation is very apt to be incorrectly reported to the sensorium. We then have hyperæsthesia or anæsthesia. This may affect any part of the organism performing this function. But hyperæsthesia is the most common affection, and is the prolific source of a vast amount of suffering and disability. The trouble in this phase of the affection under consideration, is increased immensely by the general failure of the medical profession to appreciate this symptom in its true character. Skey has very justly, and not too strongly characterized the usual preceedings in regard to these cases. "You have declared your opinion," says this clear-headed writer, "that this girl is the subject of disease of the spine,

* Continued from August, 1905.

upon the single evidence of local pain produced by pressure of the fingers on the spinous processes of the vertebræ. . . . The slightest touch creates as much suffering as the greatest pressure of the hand, *and often more.* . . . It is on this evidence you have consigned this young lady to two years' confinement to her couch, to the loss of education, to restricted social and domestic intercourse with her family and friends, and to much moral and physical suffering. Now when you talk of disease of the spine, what do you mean? What *structure* is diseased, and what form of disease is present? . . . Is it inflammation, or caries, or necrosis? . . . But there is this remarkable feature in carious disease of bone, well worthy of notice, namely, that it is almost destitute of pain, that there exists no relation between the extent of the disease, which may be great, and the pain attending it. . . . Then, again, where is the disease situated? What is its precise locality? If in the body of the vertebræ, is it not almost absurd to suppose you can detect it by the slight pressure of the finger *on the summit of the spinous processes*, which are themselves rarely involved?"

Will the profession ever learn that pain in the back, or a sensitive point in one place, or a dozen places along the spine, are *not* symptoms that ever occur in any known disease of the spine. *There are no sore or sensitive points anywhere along the spinal column in cases of disease of the vertebral column or of the spinal cord!* Why then will physicians, who if they read, or have any experience, ought to know better, continue to torture their patients with the idea that they have "spinal disease," simply because they happen to have sensitive places along the back?

The injury done to the patients by the conviction that they have "spinal disease" is beyond expression. It is not their fault. Doctor after doctor has told them so; however much they may differ in other respects they all agree in this. "Spinal disease," "spinal irritation"—if any one knows what that may be—all repeated as the doctor's big cold fingers press along the spinous processes of a sensitive female, and she utters a soft exclamation of pain. Do

not these gentlemen know that they can find "sore spots" all over her if they will only examine? That their thumbs in her ribs, over the chest and stomach, or even about the joints of the extremities, will produce the same result? And then the treatment! Could anything be more opposed to correct principles than the blisters and setons, the counter-irritations and cuppings, by which the hyperæsthesia is kept up in the back and the idea of incurable disease is kept up in the mind of the patient? I am tired of the constant repetition of the same old story, as case follows case for consultation. As orthopædists we have no right to these cases. They do not belong to those we care to treat. And yet they come one after another because they have been advised that they have "spinal disease". This fact alone shows how little careful study is devoted to such cases. Can a person have disease of the spine year after year and the condition not alter? neither better nor worse; neither curvature or paralysis? This is not the way with diseases in other localities. And yet when the spine is mentioned all thought of differential diagnosis seems to be abandoned; a sore spot is looked for, and if found, as it generally is, it is at once called "disease of the spine," though, perhaps, there has been no alteration of a single symptom for twenty years. Can a fire be kindled and exist for twenty years without consuming something? What may be the effect of such ignorance—I have tried to find a softer word but can not find it—let the following case illustrate.

A lady was delicate as a girl of fifteen, and was better at seventeen, and for some cause broke down at nineteen. She had pain, soreness, and felt weak in the back, and was more comfortable in the recumbent position. Of course it was a pronounced case of spinal disease. For twenty long years this lady lay there; not daring to rise for fear of injuring the back, shrinking from effort that brought pain, because that to her mind was equivalent to increasing the disease. And thus she was brought to us. It was interesting to behold the look of blank amazement when I told her that there was nothing the matter with the spine.

After a while she was convinced, and the fear left her, and with the fear much of the painfulness of effort. This lady had plenty of courage. She did not shrink from effort or the pain because she cared for them, but because she supposed an increase of pain was equivalent to an increase of disease. She was not to blame. If she had really had "spinal disease" it *would* have injured her to move. If her physicians were right her own inferences were right. Shall I tell it? Will it be believed, when I say that this lady, after not having stood on her feet for eighteen years, began to walk in a fortnight after coming to us? Of course her case is, and all others like it are, simply monuments of professional folly. Twenty years of life lost is a matter of some consequence, even if there are still prospects of comparative comfort before her. There was no necessity for this long confinement if her case had been understood and the remedy applied.

The responsibility is with the profession, not with the patient. While there was no organic disease, and no defect in the muscles, there was a defect of the consciousness. This must first be recognized, and the remedy applied according to the indications, as in the treatment of all other diseases. But the indications will appear different, according to the stand-point of the observer. The remedy in such a case is to correct the impaired consciousness; diminish it when it is too great, as in hyperæsthesia and tonic muscular action; increase it when there is anæsthesia or loss of power; but in all cases recognizing the fact that this is a disease of the flesh, and not of the imagination. Although this lady has passed through every phase of so-called hysteria, exhibiting all the phenomena which these cases are apt at various times to present, yet I believe she might have been raised at any previous period, as well as now, if any one around her had recognized the condition and supplied the remedy. She could not get up in the usual way; that was beyond her power; and she could not gain strength while lying. And so she was in a condition which would propagate itself indefinitely, unless she was assisted out of it. Notwithstanding her great sufferings

and long confinement, there was nothing morbid about her, and there could not be a person more ready to do all in her power, whatever it might be, than she. There was the fear of injuring the spine, because effort caused pain in the back. But no one had called her attention to the fact that the other pains all over the body were precisely of the same nature; that they were simply pains, and not diseases, nor did they represent any disease but pain.

I do not doubt, indeed, it is one of the elements of this view of these cases, that the mind does affect the functions of the body, and none more so than those under discussion. It is to bring the powerful controlling influence of the mind to bear on these functional derangements which is the real object of our treatment. But it is one thing to teach a patient how to control her body by well-directed mental effort, and quite a different thing to consider bodily distress, which the mind justly recognizes but cannot explain, as the result of imagination. In the former case we make use of the judgment and the will, and under their combined influence the consciousness becomes restored to its normal condition through an actual modification of the condition of the flesh, which no longer sends abnormal sensations to the sensorium.

In this last case, it was interesting to note how much less back-ache there was than there had been. Indeed she did not mention the back afterward, though I have reason to believe she still suffered much from it. And this illustrates how great is the evil of giving names implying a local disease to merely local symptoms. The attention being directed to the spine or any other organ, as the declared source of all the evil, caused that locality to be the converging point of attention to the symptoms, besides increasing their intensity a hundred fold.

It is not uncommon for persons to apply to me in great distress with pain in the back, which they have been told is "spinal irritation" or "spinal disease," a condition of which they of course have no precise idea. But it is a frequent occurrence, that when the nature of this symptom is explained to them, and its identity with other symptoms

in other localities which have never caused them any alarm or even inconvenience is shown them, that they first become indifferent to, and then cease to notice it, and finally the pain itself passes away. So true is it, that much of our actual pleasure and pain are increased or diminished under the influence of an *educated* will.

Mistakes of this nature are constantly being made in the diagnosis of ladies who, in addition to those symptoms common to this class, happen to have a lateral curvature of the spine. The most various opposite symptoms are very often referred to the spine, after the very slightest curvature is detected. I may say for greater clearness, to those who have no experience in these cases of curvature, that the *lateral* curvature is *not* an organic disease; it is simply a deformity, a curving to one side, of the spinal column, which can occur only under peculiar circumstances. If the muscles become weakened from any cause, while the spinal column lacks solidity, and is soft and yielding as is the case during rapid growth, it is liable to this accident. But no lateral curvature ever begins, and seldom increases after the age of sixteen, for the simple reason that by that time the increased solidity of the bones resists the increased pressure, which may exist if the muscles fail to give support. In other words, the lateral curvature is not a local disease at all, but an accident, and has no direct effect on the general health. It often indirectly impairs the vigor of health by diminishing the mobility of the form and displacing internal organs. But even then the spine itself is the least affected of any of the organs. It is most apt to occur, as one would suppose, at the age of puberty, when with the rapid growth, and the effort to establish the functions of womanhood, especially in individuals with a constitutional tendency to great activity of the brain, all of which conditions united are sufficient in many cases to produce that state of weakness of muscular and nervous systoms which we always find in the formative stage of these cases. But if these symptoms should happen to occur in connection with a curvature of the spine—a lateral curvature, it always is—that is almost invariably set down as

the cause of the trouble; it is disease of the spine and no mistake. It is not three days since a lady was sent to me by a gentleman eminent in the profession, to be treated for disease of the spine. More than twenty years before, she contracted a slight lateral curvature while a school-girl. Meeting with reverses, she had labored exhaustingly for a living at teaching—the most exhausting of all occupations—with the result of getting completely run down, and with more or less pain along the back and shoulder. The curvature was so slight, that it took an experienced eye to detect it. But she was rendered very miserable, with the idea that it was disease of the spine to which she owed her sufferings, and her attention was continually reverting to it, with the inevitable effect of greatly increasing the sensations of those particular localities. Such cases are of almost daily occurrence in our experience.

A very interesting illustration of the contrary influence—that of withdrawing the attention from a part—is that of a child now under treatment for disease of the hip joint. She had been some two years affected, and for the last year had been confined to the recumbent position, with a weight attached to the foot. This was continued night and day without any interruption; at night she was lifted into bed and in the morning again lifted into a wheel chair, with both legs extended, so that the weight was always acting on the diseased leg. There was no opportunity for the well leg to be used at all. When the case came into our our hands, we adopted a different plan of treatment, one which, while still keeping up the extension of the limb, would allow her to walk about, A counter-extension splint was attached to the diseased leg, in such a manner that it served as a kind of crutch to walk on, while, at the same time, extension was kept up. When we got her on her feet we found that she could use the lame leg without much trouble; that is, she could move it as she wished, notwithstanding it was considerably injured by the disease, and also weakened by the treatment. But she could use it; while the other leg, that never had been diseased, she had lost entirely the use of, so far as walking

was concerned. She was a remarkably bright, well-developed little girl, not precocious, but large, and otherwise healthy, eleven years old, and was extremely anxious to walk. But she had lost all consciousness of ability to use that leg, and it was several weeks before it was restored to her. She could move it about in bed, but when she was helped to stand upon her feet she could not lift it from the floor. The fact was, that by directing the attention continuously to the diseased leg, as was necessarily the case, the attention had been correspondingly withdrawn from the other. She had entirely forgotten what sort of an effort to make in walking, and she had no more consciousness of strength in that leg than the patient whose case is recorded in the beginning of this paper.

While writing these pages, a little boy, six years old, was brought to us to be treated for disease of the hip-joint. The left leg was extremely contracted, and though there was some motion left, he was inclined to constantly draw it up. Causing him to extend the leg as far as he could, we applied an apparatus, which, while it did not extend it further than he could voluntarily do it, still prevented him from drawing it up. He did not complain of the lame leg to which the instrument was applied, but cried all night, because he had lost control of the well leg which had not been touched. It was several days before he regained control of it.

On the other hand, there was the case of a boy, seven years old, on whom I operated for contraction of the knee, produced in consequence of a previous necrosis of the femur, just above the knee-joint. The boy had walked at two years old, when the disease began to develop itself, and for five years he had walked on crutches. The operation was successful, and in about ten days he began to walk on that leg. But it walked to much; every movement was excessive, so much so, that it seriously inconvenienced him, and once or twice I noticed it came near throwing the little fellow down. To give complete control was only a matter of a few weeks' time.

My object in this paper is earnestly to call attention to

a class of cases, which I believe to be imperfectly understood, and I shall run whatever risk of criticism there may be, in a very plain pointing out of professional errors. My excuse is, that we are all personally interested in this subject. Our sisters and daughters are the very subjects for these complaints, and the more culture and intelligence there is, the greater danger. In fact, I believe an imperfect conception of one's own bodily condition—a perversion of the normal state of harmony and equilibrium—is the direct tendency of a high civilization. We must make up in knowledge what we lose in animal instincts.

The constant use of brain diminishes the healthful actions of the organs by withdrawing the stimulus of the mind from the body. The following case will illustrate the effects of both the withdrawing from, and concentrating the attention on, a particular point.

Miss X., aged twenty-four, came for treatment in February, 1867, for a complication of disorders. I say, complication of disorders, because it was impossible to find out from any account I could get, as to what was the matter, or even how she felt. The only facts which could be established were obstinate constipation, and, within a few months, disordered menstruation. She averred that she did not feel ill, and her actions and manner were those of a person unconscious of illness, though her appearance often betokened distress. I think she was, except at the very moment of suffering, entirely unconscious of it. She never mentioned herself or her pain, and would look surprised when I asked her about it. But she never could tell me where it was. Sometimes, when she was in conversation—for she was a near friend, and we had known her many years—I would see her wince, or carry her hand involuntarily to her back, without for a moment ceasing the hearty, ringing laugh with which her conversation abounded. Then, if I asked what was the matter, she would seem to be recalled to a sense of some undefinable suffering; but even then, I could get no definite idea of what or where it was. And so completely forgetful was she of herself, that she could not tell how she felt the day before. I have

often seen the same thing in other cases, but never to the degree as in this one. Well, the treatment went on, being directed to the two tangible derangements only; menstruation soon became regulated, but the constipation was unaffected. All the usual measures seemed to fail entirely. It took an enormous amount of medicine to act, and enemas were quite inoperative. She would go sometimes two or three weeks without any alvine discharges, and seldom less than a week or ten days. I suspected that some of her distress—for it was easy enough to see that she was often in great distress somewhere—was due to a slight uterine displacement; but resolving to give the patient the benefit of the doubt, I prudently determined to let the uterus alone. The controlling idea was first to cure the constipation, and then see what more was to be done. But the main question for the time was what was the cause of the long-continued and obstinate constipation? It had continued as a chronic habit since a mere girl. It occurred to me at this juncture, that the constipation might arise from sheer inattention; that it was confined to the lower bowel, in which the voluntary muscular fibre existed, which will paralyze by the joint influence of extension and the withdrawal of the will. From that moment I regarded the case as one of carnomania affecting the pelvic organs, especially the lower bowels. She had already been under treatment for four months, without the slightest benefit to the still obstinate constipation; but I sent her home with the assurance, which I felt could honestly be given, that she needed nothing further then to *think* of the bowels. She was advised to go out regularly, half an hour after breakfast, but in the meantime to prepare herself by *thinking* of the bowels. I accompanied this advice by giving her, in plain terms, my reasons. I also advised her to try to notice more about her bodily affairs, especially about the deranged functions, at least enough to actually know their relative states.

And now for the result. I saw this lady again after six months. She then informed me that in a very few weeks after she went home, without any other assistance

than the will, the action of the bowels became entirely regular, and had remained so up to that time. Regularly every morning, for the first time since her remembrance, the bowels move. Now comes the most interesting part of the story. With the improved tone and action of the bowels, came increase of *local* trouble. There is now local, apparently, uterine, distress. In fact, she is now like other women; finds difficulty in walking, and going up and down stairs, etc. But her bodily health is evidently better, and I now advise her to pay less attention to the bowels and wait for the heightened irritability, which has been caused by the will, to pass off, as I have no doubt it will.

Does not this case teach a very valuable lesson? Here was a person of good constitution, and naturally of the most perfect health, whose functions became very seriously deranged, merely by lack of the personal thought which we ordinarily bestow on ourselves. Functional restoration took place immediately under the direct influence of the will. There was not only increased action, but increased sensation or hyperæsthesia of the parts towards which the will was directed. There could not possibly be anything imaginary in any of these manifestations. Indeed in all these cases, admitting the reality of the mental influence on the action of the organs, it follows as a necessary corollary that there must be a real condition to be influenced. It is the assumption of the reality of these various conditions of the organs which furnishes the clue to their most successful treatment.

In the light of facts like those recited above, is it not a pertinent question to ask if what are sometimes called uterine *diseases*, are not often carnomania, assuming the form of hyperaesthesia, instead of being the local inflammation for which they are generally treated? They occur in the same temperaments as are most liable to suffer from defective and disturbed consciousness. What is there about the uterus which can exempt it from the same class of symptoms as are known to affect other organs—the back, the stomach and bowels, the muscular force, and the sensations—in fact, which are common under certain circum-

stances, to all of our tissues and to every function? One would naturally suppose that the uterus, endowed as it is with a special and periodical function, would be peculiarly liable to the phenomenon of impressing the brain differently at different times. And I have no doubt but this is the fact. Nor have I also the least doubt that there is altogether too much local treatment of the uterus. There is no more reason why a lady should have caustic applied to the uterus merely because she has a pain there, than there is for the old custom—now, happily, growing less—of applying croton oil, cups, and blisters, to the back because there is a back-ache. A pain in the uterus is no more indicative of inflammation of that organ than a back-ache is an indication of inflammation of the spine. Why, what would become of that organ, if there actually *were* an inflammation in it? We all know what the result is: recovery in a limited time, or death. "Chronic inflammation," says one. The same termination, only involving a longer time. "Congestion," says another. Still more difficult to explain, as continuing year after year. "But the result of local treatment settles the question," says a third. And so it does. How many of these uterine cases, let me ask, after being successively *cured* by a half dozen practitioners, finally get well by being let alone? The number is very great. I am not going to discuss the pathology and treatment of uterine diseases, real and simulated, though their differential diagnosis is a tempting subject. But the following case illustrates so many points in connection with our subject that I will relate it.

In the winter of 1863 I was called to visit a lady in the central part of the state, who was, as was supposed, lying very near death's door; as in fact I found her to be. She was a married lady, about thirty-eight years old, highly cultivated and intelligent, without children. She had been in ill health for some ten or twelve years, during nearly all of which time there was going on some kind of treatment of the uterus. Her symptoms, as she related them, had been those of what is denominated chronic congestion of that organ. She had comparatively little actual suffering,

but describing a sensation of heat, or inflammation as she called it, and it was for this rather than for any actual derangement of the ordinary functions of the uterus that she had sought and obtained advice and treatment from several of our celebrated physicians. I found her emaciated to a skeleton, unable to turn herself in bed, or to raise her head off the pillow, or to speak above an almost inaudible whisper. No voices were heard in the house, all conversation was carried on in low whispers except in the distant dining room, as sounds and even light gave her exquisite suffering. Of food she took next to nothing. In fact every organ was in a state of morbid sensibility, and she labored under the impression that there was an incurable uterine disease. Some six months before, there had been amputation of the *os uteri*. This proved a severe shock to her. From this city she went to a water-cure establishment, where by dint of much washing and low diet, the stomach soon became as sensitive as the uterus had previously been. In fact it was then the chief source of alarm, for the uterus being given up as hopelessly diseased, the attention became gxed on the stomach, to the great relief of the uterus and the no small discomfiture of the stomach; for no honest stomach can digest food properly while it is being looked at. I had not been in the house long before I saw the lady, naturally of a highly organized temperament and very conscientious, had been the victim of too much local treatment. My examination was very thorough, but I could not find the least trace of organic disease about her. The uterus was as healthy as any other organ. *But she was dying of starvation.* She could not have lasted many days longer without a change. According to the history, first the spine, then the uterus, and now the stomach, had received too much attention. I do not think that most of the local treatment had been *in itself* harmful, else she would have been in a much worse condition; but there was a constant succession of treatment, of what was undoubtedly intended as, and for the moment actually was, palliative treatment; but it was incessant. The very attention which so constant local

treatment required, kept the attention directed to the localities severally involved, which of itself was sufficient to destroy utterly all tone and proper condition of these organs.

This view of the case I explained to the husband and friends without reserve. "The present exigency," I said, "was one of food. She was starving." "But the food distresses her," was the reply. "She has no disease of the stomach; she must eat or die," I replied;" do not allow her to take the responsibility; that is the trouble now; prepare her food—any good nourishing food will do—and bring it to her and she will eat it, and then presently she can digest it. If she does not die soon she will get well." "But what of the uterus?" they anxiously asked. "LET IT ALONE." "And the spine?" "Hands off; don't touch her anywhere; if you do, that spot becomes an enemy. Nurse her, feed her well, let the light and air by degrees into her room, divert her mind from herself; never discuss the food question or the question of her complaints with her; do this *and nothing more*, and you will save her. Keep on as you are and she cannot last long. On you rests the responsibility." So I left them. They did as directed, and with the cordial co-operation of the lady herself. Soon she began to mend, at first slowly, after a while more rapidly, till at the end of the year she was in quite comfortable health.

I do not deny by any means the existence of all the various forms of uterine diseases which are described, nor is there the least doubt as to the propriety of local treatment as a curative or palliative means. But I urgently insist that we should be sure of our diagnosis before adopting local measures, and that local distress or pain is not necessarily an indication of local disease. And further, I believe a great deal of what passes for uterine disease is merely pain or distress in those organs, and nothing more. In such cases, local treatment, whatever may be the apparent benefit for the time, only serves to institute a condition of things which is extremely difficult to remove.

The case is still worse where there is more or less actual uterine functional derangement and displace-

ment which may require local treatment. I would be the last person to deprive a patient of any necessary treatment, but there are few local diseases where we ought to begin or end their consideration with the local organ; where there are not other, and often more important, facts in the general state, the peculiar temperament of the patient, or even other local derangements, which ought to have quite as much influence on our treatment as the organ exhibiting the more distressing symptoms. It is often a very delicate matter to decide, when a patient like the one above mentioned has undoubted uterine disease, and is distressed by displacements, and who derives temporary relief from replacements and palliative local treatment, what and how much to do.

We cannot refuse to do what seems so plainly indicated; while there is not the least doubt that her general condition of carnomania is aggravated by what we do. My rule is, to do nothing unless the indications are very evident indeed. Still a certain amount of local treatment, if properly managed, may be of great benefit, and need not, if we keep the patient's mindwell-informed, tend to increase the concentration of the mind on the uterine organs.

The stomach may be the organ originally affected by this functional disease. Some of the worst cases I have ever seen were those of gastric carnomania: cases of ravenous desire for food, and of utter loathing and rejection of food. Or the secreting glands may be affected, or the salivary glands, causing a dryness of the mouth or an incessant spitting of saliva. The kidneys are perhaps the most commonly affected, as is well known. But the sensations of any of these organs are just as liable to be perverted as in other functions.

Although modern investigation has been mainly directed to the subject of diagnosis, yet the subject is ever new and ever fruitful. To the want of clear, certain knowledge of the pathology of a case may be traced the blundering and ill-success in treatment. And there is nothing in the whole range of pathology which calls for so much careful and patient study as the differential diagnosis of vascular

and nervous diseases. To distinguish between an organic and functional derangement of organs often requires the keenest powers of observation, and a well-balanced judgment, to determine the exact value of different symptoms. Loss of power may not indicate paralysis; loss of sensation may even mean destruction of the power to feel; suspension of action does not necessarily involve inability to act; increase of action does not imply increase of power; heightened sensation does not imply inflammatory or other changes of structure; and local abnormal feeling does not necessarily involve local change of function, nor does abnormal change of function imply disease of the organ whose function is arrested or exalted. Well would it be for our patients if we would always interpret their symptoms aright. To enforce these ideas with the greater emphasis the two following cases are added:

Miss Z., aged thirty-three, was brought to us on a litter, in March, 1867, to be treated for what was said to be paralysis of the lower extremities. The characteristic of the so-called paralysis was a dropping of the feet. A clear, graphic description was given by her attending physician, who accompanied her, the substance of which was, that a year and a half or two years before, she was taken with what appeared to be gastritis. I should say this lady had been a leading and efficient worker in the Sanitary Commission, and similar works of benevolence, during the war, and had become very much exhausted thereby mentally and physically. The attack occurred at the consummation of these labors, and when her system was very much run down. The gastritis, according to the accounts, was of the most terrible description, lasting several months, during most of which time she lay in a most critical condition, often requiring the physician's attendance by the bed-side for hours, and even whole days and nights, but with very little success in alleviating her sufferings. Every phenomenon attending the worst form of diseased stomach seemed to be present. After a while she got somewhat better, and then had a relapse, during which all her symptoms were worse than before. After remaining in the most deplorable

condition, with some slight variations, during the winter of 1865-6, she improved in the spring so that she was removed to the country, and during that summer was so much better, that she rode out regularly in pleasant weather; but then it was found that she had no use of the lower extremities, and she was accordingly lifted in and out of the carriage and conveyed from place to place. Returning in the latter part of the summer to the city where sheresided, she soon grew worse, and during all of the winter of 1866-7 she was in a condition similar to that of the preceding winter, only perhaps slightly ameliorated. I have mentioned the so-called gastric and paralytic derangements, because these were more prominent and tangible; but there was no organ of the whole body that did not seem involved in the general derangement. The spine, the uterus, the chest, sides, and abdomen were alternately the focus or foci of the most exquisite agony.

A consultation was held, and it was suggested that the uterus was the offending organ, and accordingly it was subjected to local treatment, I must say, in justice, against the judgment of the attending physician. But the result was a perceptible aggravation of the disorder. With these symptoms somewhat lessened, but still very severe, she was brought to us, as before said, in March last. A consultation was held, Drs. Parker and Peasley being present. There was no difference of opinion; there had been no gastritis or paralysis; it was what they called hysteria of the most malignant kind; gastric carnomania would better express my views. Gastritis was impossible. A patient cannot live very long with that serious disease.

The treatment of this case was by no means easy. On the hypothesis of a vascular disease, the habit had been formed of endeavoring to combat each symptom as it arose. It was a fruitless chase and by no means harmless, for it kept the patient as well as the doctor on the *qui vive*, in regard to symptoms, when the whole attention should have been directed to the patient's condition.

It is not an easy thing to withstand the entreaties of patients to be relieved of pain, even when you know you

cannot do it, and that the very attempt will only serve to localize the attention and aggravate the suffering. And, notwithstanding the previous utter failure, the patient is just as clamorous for you to relieve the next. But the first step in the treatment is to instruct the patient in the fact that there is no organic disease which we have to combat, and *that the disease is the pain*, and that the first step in relieving them is to divert their attention from a given locality, instead of exciting local irritability, by attempting local treatment.

When this lady had her paroxysm of suffering, she was let alone; when she felt comparatively comfortable, the treatment was proceeded with. This happened in the first few weeks not oftener than once in two or three days. The treatment consisted in calling out the dynamic or muscular forces as a counter-poise to the over-excited sensations. We had the more difficulty, because in this case there was every aspect of carnomania at the same time and in the same person. But by directing her will to the legs, I would take the feet in my hand, and have her push against a slight resistance; she gradually regained more and more force, and as she grew stronger in dynamic expression of force, she grew weaker in its sensational expression. In other words, we found we could control the pain by bringing the muscles into active use. Thus, all the muscles of the whole body were, one after the other, group by group, brought into positive but gentle action. It was about five weeks from her arrival before she really began to feel the influence of the treatment, but when once the direction of innervation began to change, the recovery was rapid enough. She left at the end of two months, able to walk all about on the same floor with her room, and comparatively free from pain, and in a very short time after arrival at home the restoration was complete. The rapidity of her recovery shows that there could have been no vascular disease, and it is also a remarkable illustration of the vast controlling influence of the mind over vital phenomena, when properly directed.

The next case also illustrates gastric carnomania in a

still more remarkable manner. About two months ago I was called to a neighboring city, to see a young unmarried lady of twenty-two, who was lying very low indeed. I found the patient very pale, and extremely emaciated, in a noiseless, darkened room, and so weak that she could not turn over, nor speak aloud. There had been uninterrupted hiccough for nearly two months, with incessant spitting of a thick tenacious saliva. She had taken no solid food for two months, and no meat for two years; and for several weeks previous to my visit, nutrition was attempted to be kept up by beef tea injections. There was a great deal of distress in the back, in the pelvic region, and especially in the stomach. Food was intolerable to her. She not only loathed it, but it seemed impossible for her to swallow it. What with the salivary discharge, the hiccough and the emaciation and gastric distress, it had been concluded by the attending physician that there must be organic disease of the stomach. The opinion was accordingly given that she could not live. She certainly could not live long as she then was. On making a careful examination of the case, I could find no evidence of cancerous disease of the stomach, or any other organ, and on learning the previous history of the case, the impression which her personal appearance and the examination gave me, was confirmed. She had been a very bright, active, and studious scholar, and had studied very much in excess of her strength. In fact she had broken down, and was taken, while away from home, with chorea, which had lasted nineteen months, with the exception of a few weeks in the first summer. There was also some displacement of the uterus, which operated as another shock to the nervous system. Above all, she took an enormous quantity of medicine. In about ten months she actually swallowed more than one hundred dollars' worth of drugs! Her course had been steadily downward up to that time. Still, low as she was, I had no hesitation in committing myself on the spot to the opinion that there was no organic disease, and that she would probably recover. Believing the derangement purely functional, I advised the leaving off of all medicine, except

as purely temporary expedients, and to wait patiently for reaction to take place, when more active measures would be instituted.

For, let me here remark, that these cases generally come on under the influence of something which amounts to a shock. It may be a sudden or a long-continuing influence, but it is something which exhausts the nervous system or debilitates the body, or both. It will not do to attempt treatment of any kind while the system is still under the depressing influence of a shock, whether recent or remote. We are obliged to wait till nature begins to react, or else our treatment will be calculated to still further overwhelm nature rather than to aid it to regain its lost tone. Fearing that they should not be able to carry forward a treatment so different from what they had been pursuing, she was brought to New York, where we have watched her case with the greatest interest. The treatment is mostly expectant: food and light, and what conversation she can bear, with a little stretching of the arms and pushing with the legs, is nearly all. The improvement, though very slow, has been certain, and though none of the symptoms enumerated have passed off, most of them are ameliorated, and there is a very positive increase of strength. I have no more doubt of the ultimate recovery of this case than I had of any of the others related in the preceding pages.

It is a mistake to make a person who is already exhausted make much effort. *The majority of these cases keep up too long.* If they would go to bed sooner, they would come short of the state of utter exhaustion which they generally arrive at. If they gave up sooner, as a general thing, they would not be bed-ridden at all. But once exhausted, and forced, through either weakness or suffering, to take to the bed, their consciousness becomes perverted and they do not recognize the reaction when it does take place. However it is often impossible for them to tell how they are, or what amount of strength they possess. They can only tell how they *feel*, and as their feelings are similar to what they were while in a state of actual ex-

haustion and loss of power, they do not possess the ability unaided of knowing that they have recovered strength sufficient to do more or better than they had done before. The recovery of force is not always accompanied by a recognition of it. The correction of consciousness is the end of all treatment in cases of carnomania. How this may be delayed, and may never take place without special treatment for that purpose, has been fully illustrated in the cases already given. But cumulative evidence is often necessary in order to establish the truth. The following case has many points of special interest in connection with our subject.

In October, 1866, a married lady, without children, thirty-eight years old, was brought to our office on a litter. She had been carried about, when she went from home, on the same little bed, for four years. Want of strength, or power to walk or to sit up, was the present condition, though she still complained considerably of the back, which had formerly been the source of most of her sufferings. Her story—a long and interesting one—was concisely this: For several years previous to 1862, she had not been strong, and each summer had had an attack of dysentery by which she was successively greatly prostrated. A railroad accident which happened in 1858 probably contributed somewhat to weaken her nervous system. During the summer of 1862, she had two attacks of dysentery—one not long after the other—from which however she had recovered without apparent injury. In September, while in New York (she lived about twenty miles from this city,) she began to feel great distress in the stomach, for which she consulted a physician. Returning home, these symptoms continued to increase, others were added, and in a very short time she was entirely prostrated. The prostration occurred rather suddenly with all the usual symptoms of loss of speech and motion, but retention of partial consciousness and memory. From this time there was the completest perversion of consciousness, in regard to nearly all her sensations. There was besides the loss of muscular power, the severest dyspepsia, backache, formication, im-

paired vision; and all the functions seemed to be deranged. This condition of things continued without much alteration till March, 1863, when, other methods failing, resort was had to the hydropathic process called "wet sheet frocks"—wrapping the patient in a wet sheet—twelve applications of which she received in a couple of weeks. After this the prostration was excessive, but as all treatment was henceforth pretty much abandoned, she began to rally somewhat in the following autumn. She was then subjected for some eight months to passive exercises, from which she derived undoubted benefit. The circulation was improved, and the sensations generally rendered better; but the volition not being properly reached, the improvement only went so far as to benefit her health. It did not give her control of the muscles, because it did not include means to correct the consciousness in regard to them.

In this case every function had been restored to its normal condition by the process of time, which is always a formidable element, and she was of such a happy, equable disposition that the four years' confinement did not seem to have produced the least perversion in her admirable *morale*. The treatment was the same as in all such cases. It consisted in causing her first to begin to push with the feet and legs; placing her in an easy, comfortable position across the bed, with the lower extremities projecting a short distance beyond the bed. By thus taking the foot in one hand and steadying the knee with the other, a resistance can be offered proportioned to the patient's strength. This is to be repeated—always gently—day after day, and increased gradually until a consciousness of force in regard to these members is fully established. The same may be done with the upper extremities. For the majority of cases, this course should be pursued for a considerable length of time before the patient is made to walk, in the manner described in connection with the first case. In the case alluded to, the restoration was rapid and permanent. In about two months she began to walk, and left the institution at the end of three months, so nearly restored that there was no interruption to the improvement, till now sh

is in better health than she had been for maay years. I should have said in describing the first part of her illness that the diagnosis was *cerebro-spinal meningitis*, for which she was treated during the first six months. It is needless to say that, as this "disease" kills in less than a week, it must be impossible for it to continue for *six months*, without structural injury.

A very large number of these cases occur with suddenness; that is, there is a sudden perturbation which seems to inaugurate the perverted consciousness. This sudden illness, swooning, unconsciousness, loss of power, and what may properly be called perhaps hysteria, are but the explosion of long pent-up disturbance of the nervous system, the essential condition of which is exhaustion. But following these phenomena more or less nearly there is discovered the local or general carnomania, in some or all of its aspects. But it may also be caused by actual vascular disease as well as by these functional disturbances called hysteria. Still it happens in large numbers who have never shown any symptoms of hysteria, and when the latter does exist, either as a cause or accompaniment, it is a great error to confound the two.

An interesting case in this connection was brought to my notice about three weeks ago. A servant girl injured her foot some two months before I saw her. It seemed that the ball of the foot had been bruised by stepping heavily upon a stone step. It gave her but little pain and no trouble at the time, and she continued her duties as chambermaid for three weeks afterward. But then it began to swell and be exceedingly painful; the pain running into the ankle and even into the knee. She could not walk upon the foot for some time, and when I saw her was hobbling round on the heel, carefully keeping the ball of the foot raised above the gronud. The foot was very sensitive and painful to the slightest touch. I saw that time and rest had already cured it, but that it still continued to send the same intelligence to the sensorium as it did before the injury had recovered. By careful manipulation I endeavored to correct the impression which her mind had of its pres-

ent state. In this I was so far successful that before many days she would stand on tip toe without the least inconvenience. The cure of the injury was already accomplished. The restoration of normal relations between the foot and the sensorium was accomplished by the treatment; and that was simply a normal using of the function of sensation. This case will serve to explain some of the remarkable cases reported by certain quacks, men who cure by laying on of hands, etc. It will not do for us to sneer at or ignore some of the results these men do accomplish. While they are charlatans themselves, they often teach valuable lessons to the better educated and more honest men.

A respectable gentleman once told me of his cure by a most arrant quack, of a long standing rheumatism affection of the ankle. He said he had had the disease for several months and no one had been able to relieve him, when out of sheer desperation he called on this man, and in fifteen minutes by his manipulation, he was entirely cured. On further inquiry, I found that he had been going about for some time on crutches, holding up his foot for fear of hurting it. The fact is, the rheumatic inflammation had already subsided, and by submitting to manipulation, that fact was demonstrated to his consciousness. But nothing would make that gentleman believe that the rheumatism was not cured on the instant. I think we should often gain valuable hints if we would pay more attention to instances not quite regular.

Many of the so-called wonderful cures of the quacks who profess preternatural powers of healing, are perfectly intelligible when regarded from the point of view of this paper. I remember the Hon. George P. Marsh, now Minister Resident to the Kingdom of Italy, relating to me a remarkable cure of a sprained foot which occurred to himself while Minister Plenipotentiary to Turkey. His foot, which had been badly injured, had given him great pain, and had been too lame to use for several months. At last, in utter despair of obtaining relief in the ordinary way, he yielded to the entreaties of friends and allowed a native doctor to try his skill. He was laid upon the floor, and the doctor

manipulated his foot for some two hours without intermission. At first the pain was very great, but it gradually became less, and finally ceased altogether. When he was allowed to get up he found to his astonishment and delight that the pain and soreness had entirely left, and from that moment he could use his foot as well as ever. Now it is certainly impossible that there could have been any inflammation remaining in the foot at the time the "doctor" took the case. That had subsided by *time*; but the perverted sensations and incorrect consciousness remained. It was the correction of the consciousness, through the manipulation which constituted the cure.

And this brings us to the conclusion of our subject for the present. It is a subject of practical importance, and one which should engage the serious attention and study of every conscientious practitioner. Merely as hints to the direction in which lies a broad, unexplored field of medical and physiological inquiry, I have thrown these somewhat disconnected fragments of a great subject together. Who are to be my companions in these new investigations?

A CASE OF UNUSUAL SEXUAL PRECOCITY.

CASE HISTORY.

By HERBERT M. RICH. M. D., DETROIT.

L. C. male, born in Colorado January 6, 1900, was presented by his Aunt for admission to the Shelter Home for Children, Detroit, in December, 1904, when the following history was given.

FATHER, aged 35, roving disposition, had been a cowboy, healthy, one aunt had a puerperal mania. Mother—nothing known of family history except that she had seven sisters, six of whom at least were in good health. She died two years after this boy was born, with her fifth confinement.

Until her death Dec. 1902, the boy lived with his mother and father. From then until May 30th, following, he lived with maternal grandparents. Little known of this period except that he slept with an aunt, an unmarried girl of about twenty. He was then a little more than two years old and says now that he and his two sisters, aged seven and eight, and a brother aged six, were several times whipped for "fucking." He had never been ill except for a mild attack of pertussis. At this time, May 30, 1902, he was brought to Detroit to live with a paternal aunt, a woman of character, married but childless, who had a good home and gave him excellent care. In July he was found playing with his genitals and in August he shoved a match under his foreskin until it bled. He said he "was trying to make it stand up." He was immediately circumcized. This seemed to have the desired effect for a few months, when he began masturbating, and since that time has con-

trived to abuse himself, with occasional intervals of a week or so, almost daily and occasionally as often as five times in one day he has been seen playing with his genitals. In October, 1903, when three years and ten months old, he had an erection.

His aunt describes a peculiar sort of "spell" which he has nearly every day. He will roll his eyes and then fix them wide open, staring and usually crossed, on some point and sit perfectly motionless with mouth open, apparently oblivious to his surroundings for some minutes unless aroused. A sharp word or a shake will rouse him at once and there seems to be nothing more to it. There seems to be no close resemblance to *petit mal.*

For the last year he has exhibited the unlicensed sexual propensities of an adult. Although alone in a house with an adult aunt and uncle and particularly protected from things of a possible exciting nature, his mind is continually occupied with sexual matters. He looks at the genitals of all pet animals and talks about them; he looks at pictures and notices only the sexual parts of the women. Last summer he attended a particularly innocent vaudeville performance at a theater. A woman acrobat performed in tights and he became so excited that he masturbated under his clothes in the theatre—in spite of his aunt's endeavor to stop him. His games are often sexual in nature. He will peek into the bath-room door and say he is playing that he sees Miss A.—, his kindergarten teacher, naked and just going to take a bath.

As early as his third year he had to be excluded from his aunt's bed and dressing room. If he woke and found himself in bed with her, he would at once try to put his hand on her *vulva*, and insist on it. At the last trial, four times in one night he was spanked for putting his hand on the forbidden spot. Some time before he had been admitted to her dressing-room. She was completely dressed except for her shoes and waist. When she stooped over to put on a shoe he must have seen her breasts, for he jumped from the floor where he was playing, rushed across the room and pushed his hand beneath her chemise, saying:

"Give me some of that, mamma!"

He exposes his person to the little girls of the neighborhood on every possible occasion and asks them to come and sleep with him, and *four times* during the last year, he has enticed little girls of about his own age under the porch to the house, taken down their drawers in every case, and once is said to have actually had connection with a little girl of three and a half years. He is a continual source of shame and mortification to his aunt, exposing himself and talking to visitors and callers with apparently no ideas of shame or decency.

He looks like a normal, healthy boy, slightly large for his years and rather handsome. He breathes mostly through his mouth although no nasal or pharyngeal obstruction could be found. The occipital protuberance is sharp as to be almost a right angle, but no other congenital peculiarity was found. The penis had the flabby, bluish look common to masturbators. He is so irritable that he is practically unable to play with other children.

This case presents some unusual features to which attention may be invited. It will be remembered that when seen this boy was not yet five years of age. Manipulation of the genitals among infants is not rare; even this boy's continued masturbation would be only a confirmed common condition. But the mental state is certainly unusual. This possession of a boy's waking moments by sexual things; its predominance in his games; its power over the other faculties usually so strongly appealed to by a vaudeville performance, then seem so incongruous in early childhood. It can hardly be that he had not been taught some of these things. That a three-year old boy would be attracted by and wish to fondle a woman's breast unless he had been taught to do it, seems hardly probable.

The observer has had difficulty in finding records of similar cases and publishes it largely with the hope of getting information as to the experience of others with these cases. Can there be a good prognosis in such a case? Should such a child be sent to an institution for the feeble-minded? What line of treatment would avail? Is this case

uncommon or are they common and not reported?

In this connection the following extracts from a letter from Havelock Ellis, author of "Studies in the Psychology of Sex" and other works on the subject, concerning this case may be of interest.

"The case of sexual precocity you tell me about is most remarkable and interesting. I cannot recall having heard of any similar case. The spinal sexual centers may develop even in infancy and lead to masturbation (see a paper by J. P. West, *Medical Standard*, November, 1895), but so early a development of the sexual impulse on the cerebral side must be very rare, and it involves a considerable degree of general mental development. It would be hazardous to attempt any explanation. One can only say—so far as the evidence furnished goes—that it is a very uncommon variation from the normal average. Arthur Macdonald in his book, *Le Criminel Type*, studies minutely various cases of sexuality in American boys, but at nothing like so early an age. I hope you will not lose sight of the case. He might become a remarkable man—if he escapes prison!"

FRIGHT ETIOLOGY AS A BASIS FOR DAMAGES.

AN ANALYSIS OF THE BRAUN-CRAVEN CASE.

BY JAS. G. KIERNAN, M. D.,

CHICAGO.

Fellow Chicago Academy of Medicine; Honorary Member Chicago Neurological Society; Honorary President Section of Nervous and Mental Diseases, Pan-American Medical Congress, 1893; Foreign Associate Member French Medico-Psychological Association; Professor Medical Jurisprudence, Dearborn Medical College.

THE relationship between chorea and mental shock has been so long recognized by neurologists and physicians that it would seem as if it should be recognized by the courts. This is, however, not the case since, as the discussion of fright etiology by the Illinois Supreme Court shows, the courts, because of a fear of consequences inconsistent with the legal axiom *fiat justitia ruat coelum* decide that it cannot exist because it has leanings against public policy. As I have elsewhere shown*, fright may cause not merely ordinary chorea but likewise the chorea insaniens type of both the acute confusional and the typhomaniac form. In the Braun-Craven case, now the leading case in Illinois, on fright etiology, as a basis for damages, the Supreme Court decided against fright etiology as a basis for damages largely on the fact findings of the Appellate Court which were in turn based on the statements of a physician whom the trial judge refused to allow the plaintiff's attorney, Judge Wing, to cross-examine. The testi-

**Alienist and Neurologist*, 1902.

mony of this expert was aimed directly at the fright etiology of chorea, and was inconsistent with the opinions of almost every neurologist of repute. The defendant was a minister of the church of which the expert was a fanatical adherent. The case as given in the Supreme Court was as follows: The plaintiff lived with her sister who was a tenant of the defendant. The defendant went to the house to prevent removal. His actions, conduct and language caused the plaintiff to have such a fright that it was followed by a condition of shock and a confused mental state, and later, by chorea of a rather persistent type. The plaintiff was packing up goods when the defendant entered and threatened her with a constable. The entry was sudden and unexpected, as the defendant wore rubbers which prevented his approach being heard. Judge Phillips delivered the following opinion of the Supreme Court:*

"The declaration in this case charges appellee with negligence in approaching the room where appellant was, and in so speaking and acting in her presence as to cause her injury. This constitutes the entire allegation on which a recovery is sought under the various counts of this declaration.

In addition to the evidence above recited, it is disclosed that appellee claimed there was rent due him, and he entered the house for the purpose of collecting the same before the tenant's goods should be removed therefrom. Under this state of facts it is necessary to determine whether the language of the appellee, his manner of entering the house and his acts therein are such as can be held to constitute negligence, and whether the injury sustained by appellant was such as might have been foreseen, or was such a natural and probable consequence, under the surrounding circumstances, as might reasonably have been anticipated as the probable result of such acts and language.

The principle is damages which are recoverable for negligence must be such as are the natural and reasonable results of defendant's acts, and the consequences must be

* Illinois Reports, 175, p. 405.

such as, in the ordinary course of things, would flow from the acts and could be reasonably anticipated as a result thereof. Proximate damages are such as are the ordinary and natural results of the omission or commission of acts of negligence, and such as are usual and might have been reasonably expected. Remote damages are such as are the unusual and unexpected result, not reasonably to be anticipated from an accidental or unusual combination of circumstances—a result beyond and over which the negligent party has no control. The law regards only the direct and proximate results of negligent acts as creating a liability against a defendant. Here, the appellee approached the house and entered the same, the door being ajar. So far as the averments of this declaration are concerned he lawfully entered the house for the purpose of collecting rent. He passed noiselessly, because of wearing overshoes, up the stairs and along the hall, approached the door of the only room he saw occupied, and used the language and made the gestures testified to by the plaintiff's witnesses without impact with plaintiff's person. He then turned and left the room and went hurriedly to the office of the justice of the peace. These acts could not, in the ordinary course of things, have been reasonably anticipated to cause a diseased condition. Appellee might have reasonably anticipated that his acts would cause excitement, or even fright, but fright and excitement so seldom result in a practically incurable disease that from the ordinary experience of mankind such a result could not have been expected. The evidence for plaintiff was, that by reason of the excitement and fright a condition of chorea, or St. Vitus dance, was produced. This is shown to be a diseased physical condition resulting from mental suffering, superinduced by excitement and fright, unattended by injury to the person resulting from impact. Under the pleadings in this case mere words and gestures are sought to be made actionable because of the nervous temperament of the plaintiff, without which such words and gestures would not be actionable. This would introduce and incorporate in the law a new element of damage—a new cause of action—by which a recovery might be had for an

injury resulting to one of a peculiarly nervous temperament, while no injury would result to another in identically the same position. From such a cause of action and liability for damages a dangerous use could be made. No such recovery is authorized under the common law, and no statute gives it."

In Wyman v. Leavitt, 71 Me., 227, it was said: "We have been unable to find any decided case which holds that mental suffering alone, unattended by any injury to the person, caused by simple actionable negligence, can sustain action: and the fact that no such case exists, and that no elementary writer asserts such doctrine is a strong argument against it. . . . . If the law were otherwise, it would seem that not only every passenger on a train that was not only injured, but every one that was frightened by a collision or by the train leaving a track could maintain an action against the company."

In G. C. & S. F. Ry. Co. v. Trott, St. Tex. 12, plaintiff recovered damages for negligence of the railway company whereby his team was frightened and broke the wagon, putting him in fear and fright as to his personal safety, and causing him great mental suffering, vexation and anxiety of mind. The jury were instructed that if plaintiff was frightened and put in fear of his personal safety, and was caused mental pain or anxiety, they should allow him reasonable compensation therefor. Two questions were certified to the Supreme Court for decision: "First, in an action for damages based upon tortious and negligent conduct of a defendant, where the wrongful act caused damages to plaintiff's property but no physical injury to plaintiff, is mental suffering an element of actual damages? Second, can actual damages be recovered for mental suffering where there is no physical injury, no injury to property, nor other element of actual damages?" The court said: "We are of the opinion that those questions should be answered in the negative. So far as we have been able to discover, all the cases involving the question of the right to recover for fright alone are in accordance with that holding."

In Indianapolis and St. Louis Railroad Co. v. Stables, 62 Ill. 313, it was said, p. 320: "We cannot readily understand how there can be pain without mental suffering. It is a mental emotion arising from physical injury. It is the mind that either feels or takes cognizance of physical pain, and hence there is mental anguish or suffering inseparable from bodily injury unless the mind is overpowered and consciousness destroyed. The mental anguish which would not be proper to be considered is, where it is not connected with the bodily injury, but was caused by some mental conception not arising from the physical injury."

In City of Chicago v. McLean, 133 Ill. 148, it was said, p. 153: "Any mental anguish which may not have been connected with the bodily injury, but caused by some conception arising from a different source, could not properly have been taken into consideration by the jury."

In Canning v. Williamstown, 1 Cush. 452, it was said: "The argument for the defendants assumes that the plaintiff sustained no injury in his person, within the meaning of the statute, but merely incurred risk and peril, which caused fright and mental suffering. If such were the fact the verdict would be contrary to law. But we must suppose that the jury, under the instructions given to them, found that the plaintiff received an injury in his person—a bodily injury—and that they did not return their verdict for damages sustained by mere mental suffering caused by the risk and peril which he incurred, and though that bodily injury may have been very small, yet it was a ground of action within the statute and caused mental suffering to the plaintiff. That suffering was a part of the injury for which he was entitled to damages."

In Keyes v. Minneapolis and St. Louis Railway Co., 36 Minn., (290), it was said: "The mental distress and anxiety which may be proved in actions for personal injuries is confined to such as is connected with the bodily injury, and is fairly and reasonably the plain consequence of such injury. The mental anguish, like physical pain, to be taken into consideration in such cases is confined to such

as is endured by the plaintiff in consequence of a personal injury to himself."

In Alsop v. Alsop, 5 H. & N., 534 Pollock, C. B., it was said: "We are all of the opinion that the defendant is entitled to judgment. There is no precedent for any such special damage as that laid in this declaration being made a ground of action, so as to render words actionable which otherwise would not be so. We ought to be careful not to introduce a new element of damage, recollecting to what a large class of actions it would apply and what a dangerous use might be made of it. In actions for making false charges before magistrates, for giving false characters, and for torts of all kinds, illness might have been said to have arisen by the wrong sustained by the plaintiff. . . . . This particular damage depends on the temperament of the party affected, and it may be laid down that illness arising from the excitement which the slanderous language may produce is not that sort of damage which is a ground for action."

Benner v. Canfield, 36 Minn., 90, was a case where the defendant and a companion were driving along the highway in front of plaintiff's premises when a dog belonging to plaintiff's father attacked a dog of the defendant's companion. Defendant sprang from the wagon with his gun, whereupon the dog fled towards plaintiff's premises, and as it ran defendant fired at and killed it. Plaintiff's wife was standing at the pump near the house and saw the defendant shoot. She was in a delicate state of health, and her nerves being very sensitive owing to her pregnancy, she was startled and frightened so that she suffered a miscarriage and her health was seriously affected. Her fright was caused, or at least aggravated by the mistaken impression that the defendant aimed his gun towards her. For the damages resulting from this injury the plaintiff brought his action. It was said: "The court did, however, expressly instruct the jury that the shooting of this dog by defendant was unlawful. He also instructed them that a person is liable for all the consequences which flow, naturally and directly from his acts, and then left it to them to decide, as a question of fact, whether the injuries to plaintiff's wife

were the natural result of defendant's acts. From this the jury could, and naturally would, understand that the defendant might be liable in this action from the mere fact that the killing of the dog was unlawful. We think that a verdict for the plaintiff could not be sustained on such theory of the case. It is elementary that a man is liable only for the proximate or immediate and direct results of his acts. In strict logic it may be said that he who is the cause of loss should be responsible for all the losses, whether proximate or remote which followed from his acts, but in practical workings of society any such rule would be impracticable and unjust, and, therefore, the law looks only to direct and proximate results, or, as the rule is sometimes stated, whoever does a wrongful act is answerable for the consequences that may ensue in the ordinary and natural course of events. There can be no fixed rule upon the subject that can be applied to all cases. Much must depend upon the circumstances of each particular case. But in this case it is very clear to us that the killing of the dog was in no sense the proximate cause of the injury to the plaintiff's wife. The act itself was not a tort of any kind against plaintiff, as the dog was not his property. The injury to the woman would have been presumably the same whether the killing of the dog was lawful or unlawful, or whether the defendant had fired at the dog or at a bird in the air. If the acts of the defendant amounted to any tort which, in any possible view of the case, could be held to be the proximate result of the injuries complained of, the gist of it must be negligence in shooting in such proximity to a human residence as might naturally and reasonably be anticipated to be liable to injure the inmates by fright or otherwise. We are by no means prepared to say that upon the evidence a verdict for the plaintiff could be sustained even upon that ground."

In Scheffer v. W. S. R. R. Co., 105 U. S., 249, an action was brought to recover damages for the death of Scheffer. The deceased was injured by the negligence of the railroad company, and his injuries were of such a severe character that insanity resulted, and while in that con-

dition he committed suicide. It was said: "The proximate cause of the death of Scheffer was his own act of self-destruction. It was . . . a new cause and sufficient cause of death. The argument is not sound which seeks to trace this immediate cause of death through the previous stages of mental aberration, physical suffering and eight months of disease and medical treatment to the original accident on the railroad. Such a course of possible or even logical argument would lead back to that great first cause least understood, in which the train of all causation ends. The suicide of Scheffer was not a result naturally and reasonably to be expected from the injury received on the train. It was not the natural and probable consequence, and could not have been foreseen in the light of the circumstances attending the negligence of the officers in charge of the train. His insanity, as a cause of the final destruction, was as little the natural or probable result of the negligence of the railway officials as his suicide, and each of these are casual or unexpected causes intervening between the act which injured and his death."

In Haile v. T. & P. Ry. Co., 9 C. C. A., 134, it was said: "According to the great current of modern medical authorities insanity is a disease—a disease of the mind—the existence of which is a question of fact to be proved just as much as the possible existence of any other disease. . . . While the defendant, as a common carrier, had reason to anticipate that an accident would cause physical injury and would produce fright and excitement, it had no reason to anticipate that the latter would result in a permanent injury, as a disease of the mind, or any other disease was not likely to result from the accident, and was not one which the defendant could have reasonably foreseen in the light of the attending circumstances, then the accident was not the proximate cause. The defendant had no reason to anticipate that the result of an accident on its road would so operate on Haile's mind as to produce disease —the disease of insanity—any more than that the exposure and hardship he suffered would produce grippe, pneumonia or any other disease. He sustained no bodily injury by the

accident, so far as the petition shows, but it caused a shock and an excitement, which under his peculiar mental and physical condition at the time resulted in his insanity. The defendant owed him the duty to carry him safely—nor injure his person by force or violence. It owed him no duty to protect him from fright, excitement, or from any other hardship that he might subsequently suffer because of the unfortunate accident."

In Ewing v. P. C. C. & St. L. R. R. Co., 147 Pa. St. 40, it was said: "It is plain from the plaintiff's statement of her case that her only injury proceeded from fright, alarm, fear and nervous excitement and distress. There was no allegation that she received any bodily injury. If mere fright, accompanied with bodily injury, is a collision on a railroad, the passengers, although they may have sustained no bodily harm, will have a cause of action against the company for fright to which they have been subjected. This is a step beyond any decision of any legal tribunal of which we have knowledge. Negligence constitutes no cause of action unless it expresses or establishes some breach of duty. What duty did the company owe this plaintiff? It owed but the duty not to injure her person by force or violence—in other words, not to do that which, if committed by an individual, would amount to an assault upon her person; but it owed her no duty to protect her from fright, nor had it any reason to anticipate that the result of a collision on its road would so operate on the mind of a person who witnessed it, but who sustained no injury thereby, as to produce such nervous excitement and distress as to result in permanent injury: and if the injury was one not likely to result from the collision, and one which the company could not have reasonably foreseen, then the accident was not the proximate cause. The true rule on this subject is as follows: the determining what is the proximate cause, the true rule is that the injury must be the natural and probable consequence, as under the surrounding circumstances of the case, might and ought to have been seen by the wrong-doer as likely to flow from his act, etc. Tested by this rule we regard the injury as too remote. We know of no well

considered case in which it has been held that mere fright when unaccompanied by some injury to the person has been held actionable. On the contrary, the authorities, so far as they exist, are the other way. . . . We need not discuss the authorities cited by the appellant. They are nearly all cases in which the fright was the result of or accompanied by a personal injury, and have no application to the case in hand."

In Mitchell v. Rochester Railway Co., 151, N. Y., 107, it was said: "While the authorities are not harmonious upon this question, we think the most reliable and better considered cases, as well as public policy, fully justify us in holding that the plaintiff cannot recover for injuries occasioned by fright, as there was no immediate personal injury. (Many cases cited.) If it be admitted that no recovery can be had for the fright occasioned by the negligence of another, it is somewhat difficult to understand how the defendant would be liable for its consequences. Assuming that fright cannot form the basis of an action, it is obvious that no recovery can be had for injuries resulting therefrom. That the result may be nervous disease, blindness, insanity, or even a miscarriage, in no way changes the principle. These results merely show the degree of fright or the extent of the damages. The right of action must still depend upon the question whether a recovery may be had for fright. If it can, then an action may be maintained, however slight the injury; if not, then there can be no recovery, no matter how grave or serious the consequences. Therefore the logical result of the respondent's concession would seem to be, not only that no recovery can be had for the mere fright, but also that no recovery can be had for injuries which are the direct consequences of it. If the right of recovery in this class of cases should be once established, it would naturally result in a flood of litigation in cases where the injury complained of may be easily feigned without detection, and where the damages must rest upon mere conjecture or speculation. The difficulty which often exists in cases of alleged physical injury in determining whether they exist, and if so, whether they were caused by

the negligent act of the defendant, would not only be greatly increased, but a wide field would be open for fictitious or speculative claims. To establish such a doctrine would be contrary to principles of public policy. Moreover, it cannot be properly said that the plaintiff's miscarriage was the proximate result of the defendant's negligence. Proximate damages are such as are the ordinary and natural results of the negligence charged, and those that are usual and may, therefore, be expected. It is quite obvious that the plaintiff's injuries do not fall within the rule as to proximate damages. The injuries by the plaintiff were plainly the result of an accidental or unusual combination of circumstances which could not have been reasonably anticipated and over which the defendant had no control, and hence her damages are too remote to justify a recovery in this action. These considerations lead to the conclusion that no recovery can be had for injuries sustained by fright occasioned by the negligence of another, where there is no immediate personal injury."

In Victorian Railway Comrs. v. Coultas, L. R. 13, App. Cas. 222, it was said: "The rule of English law as to the damages which are recoverable for negligence is stated by master of the rolls in the Notting Hill, (1) 9 P. D. 105; case of negligent collision. It is that the damages must be the natural and reasonable result of the defendant's act—such a consequence as in the ordinary course of things would flow from the act. . . . According to the evidence of the female plaintiff, her fright was caused by seeing the train approaching and thinking they were going to be killed. Damages arising from mere sudden terror, unaccompanied by any actual physical injury, but occasioning a mental and nervous shock, cannot, under such circumstances, their lordships think, be considered a consequence which in the ordinary course of things would flow from the negligence of the gate-keeper. If it were held that they can, it appears to their lordships that it would be extending the liability for negligence much beyond what that liability has hitherto been held to be. Not only in such a case as the present, but in every case where an ac-

cident caused by negligence had given a person a serious nervous shock there might be a claim for damages on account of mental injury. The difficulty which often exists, in case of alleged physical injuries of determining whether they were caused by the negligent act would be greatly increased and a wide field opened for imaginary claims. The learned counsel for the respondents was unable to produce any decision of the English courts in which upon such facts as were proved in this case damages were recovered. It is remarkable that no precedent has been cited of an action similar to the present having been maintained or even instituted, and their lordships decline to establish such precedent. They are of opinion that the first question, whether the damages are too remote, should have been answered in the affirmative, and on that ground, without saying that impact is necessary, that judgment should have been for the defendants."

In Phillips v. Dickinson, 85 Ill., 11, it was said, p. 133: "From the evidence it must be taken that the cause of this premature birth was the fear growing out of the violence of the defendant. The question is whether such a result was such a natural and proximate consequence of defendant's conduct as to make him liable therefor. The plaintiff sues, here, for the effect of a fright which she received by reason of a quarrel between others. It took place between the defendant and the husband and boy, alone, outside of the house, upon the porch, out of the presence and out of the sight of the plaintiff, although in her hearing, she being in bed in a room some five or six feet from where the difficulty occurred, but the evidence does not show that the defendant knew the latter fact or condition of the plaintiff. The result complained of was not such a consequence as, in the ordinary course of things, would flow from defendant's conduct. He had no reason to apprehend that what took place between himself and Phillips, the husband, and the boy alone would occasion danger to some third person who was not present, through fright. The injury in question not being one which the defendant could reasonably be expected to anticipate as likely to ensue

from his conduct, we cannot regard it as the natural consequence thereof, for which the defendant is legally responsible."

In Fent v. Toledo, Peoria & Warsaw Railway Co., 59 Ill., 349, it was said, quoting from Mr. Parsons, p. 351: "It is held that every defendant shall be held liable for all of these consequences which might have been foreseen and expected as the results of his conduct, but not for these which he could not have foreseen and was therefore under no moral obligation to take into consideration." And the court continued: "We are disposed to regard this explanation of the rule as clearer and capable of more precise application than any other we have met with in our examination of this subject, and it is in substantial accord with what is said by Pollock, C. B. in Higby v. Hewitt, 5 Exch. 240."

In Derry v. Fletner, 118 Mass. 131, it was said: "The true inquiry is, whether the injury sustained was such as, according to the common experience in the usual course of events might reasonably be anticipated."

In Hoag v. Lake Shore & Michigan Southern Railroad Co., 85 Pa. St., 293, it was said: "In determining what is proximate cause, the true rule is that the injury must be the natural and probable consequence of any act of negligence, such a consequence as likely to flow from his acts."

In C. St. P. M. & O. R. R. Co. v. Elliot, 55 Fed. Rep. 950, it was said: "An injury that is the natural and probable consequence of an act of negligence is actionable, but an injury that could not have been foreseen or reasonably anticipated as the probable result of the negligence is not actionable."

Appellant relies upon Bell v. Great Northern Railroad Co., 26 L. E. Ire. 432, and Purcell v. St. Paul City Railway Co., 48 Minn., 134. Both of these cases fully sustain the contention of appellant that where sudden terror occasions a nervous shock, resulting from a negligent act without impact or physical contact by which the mind is affected, which may press on the health and affect the physical organization, a cause of action for negligence results. These cases have the approval of Mr. Beavan in his work on Negligence, vol. 1,

p. 7684, and of Mr. Sedgwick in his work on Damages, 8th ed. sec. 861.

The Purcell case arose on a demurrer to the complaint, and it was conceded that the effect of a wrongful act or of negligence on the mind alone will not furnish ground of action. The entire discussion was confined to the question whether the defendant's negligence was the proximate cause of the injury, and whether, if the fright was a natural consequence thereof and caused the nervous shock and consequent illness the negligence was actionable. While it is the duty of a carrier to anticipate that an accident or appearance of great danger will produce fright and excitement, and that an accident will cause physical injury, it could not be anticipated that a disease of the mind would result, and unless such anticipation could be had in the light of the attending surroundings it would not constitute the proximate cause of the injury under the great weight of authority. In the Purcell case fright may have been the natural consequence of the circumstances of peril and alarm in which defendant's negligence placed plaintiff, and the fright may have caused the nervous shock and consequent illness of the plaintiff, as held by the Supreme Court of Minnesota, yet if it could not have been reasonably anticipated as a result of the fright it would not be the proximate cause of her injuries. The question of the reasonable anticipation of the injury as a result of the fright is entirely disregarded in that case, and causes it to be in conflict with the weight of authority because it absolutely disregards this principle.

In the Bell case an instruction was approved which read as follows: "That if great fright was, in their opinion, a reasonable and natural consequence of the circumstances in which the defendant had placed Mary Bell, and she was actually put in great fright by these circumstances, and if injury to her health was, in their opinion, a reasonable and natural consequence of such great fright and was actually occasioned thereby, damages for such injury would not be too remote and might be given for them if they found for the plaintiff. It was objected to that the instruction was erroneous unless the fright was accompanied by physical injury, but it was held

that the objection was not well founded, that a nervous shock was to be considered as a bodily injury, and if such bodily injury might be a natural consequence of fright it was an element of damages for which a recovery might be had, that as the negligence caused fright, if the fright contemporaneously caused physical injury the damage could not be too remote. This case, like the Purcell case, bases the right of recovery solely on the fact that negligence may cause physical injury and hence the damage could not be too remote."

The courts in the above cases seem to have lost sight of the only safeguard against imposition in cases arising from negligence, and that is the elementary rule that before a plaintiff can recover he must show a damage naturally and reasonably arising from the negligent act and reasonably to be anticipated as a result. Two trains might be passing on a double track road, one carrying passengers and the other freight, and at the moment when the engine of the freight train is immediately opposite a passenger car it might become necessary to sound a whistle, whose effect might be a startle and greatly frighten a nervous person in the passenger car, and the fact that a whistle unexpectedly sounded would be calculated to startle and frighten a nervous person, and that such fright might produce a nervous shock that would cause physical injury, which under the principle announced in the Purcell and Bell cases, supra, would authorize a recovery. That could only be done under the authority of those cases by absolutely ignoring the principle that the injury might be reasonably anticipated as the result of the act, and where it cannot be so anticipated the result is too remote. These cases are discussed by Beavan and Sedgwick without laying sufficient stress on this principle.

In our opinion these authorities, so much relied on by counsel for appellant, are not only against the great weight of authority, but are not sustainable on principle. Appellee, in this case, was on the premises to collect rent, as he lawfully might, without any knowledge of the nervous condition of the appellant, and it cannot be said that his manner, language or gestures, or declared purpose of pre-

venting the removal of the household effects of his tenants, were naturally and reasonably calculated to, or that it might be anticipated they would, produce the peculiar injury sustained by the appellant. It could not have been reasonably anticipated by the appellee that any injury therefrom could reasonably have resulted. The action is purely one of negligence, and if appellee could be held liable under this evidence, then any person who might so speak or act as to cause a stranger of peculiar sensibility passing by to sustain a nervous shock productive of serious injury might be held liable. Thus, one whose very existence was unknown to the party guilty of so speaking and acting would be given a right of recovery. Terror or fright, even if it results in a nervous shock which constitutes a physical injury, does not create a liability.

On the ground of public policy alone, having reference to the dangerous use to be made of such cause of action, we hold that a liability cannot exist consequent on mere fright or terror which superinduces nervous shock.

The Appellate Court held the language of the appellee, as disclosed by the evidence, was not such as could be held to constitute negligence, and that the injury sustained by appellant could not, according to common experience, be reasonably anticipated to result from such actions and language. We concur in that view, and the judgment of the Appellate Court is affirmed.

It is obvious that in this opinion there is much appeal to possible consequence and to public policy which comes rather under the head of legislation than of interpretation of law. Certain of the cases cited are decidedly contradictory of the actual state of science on the subject and of legal principles. The finding in the case of Scheffer* is decidedly opposed to the facts as revealed by psychiatry. The deceased was rendered insane by a railroad accident. The forms of insanity thereon resultant are of persecutory, suspicional or depressed type, in all of which suicide is an imminent probability. Suicide of this type would be a direct result of the accident as much as any other mental phenomena

*105 U. S. 249.

of the insanity produced by it. The taking of the opposite view, was a disgraceful straining in favor of occultism by the Federal Courts. In this case the etiology was not as hinted by the court, mental, but was directly physical of a type recognized by the First District Appellate Court of Chicago in the case Baudler *v.* People's Gaslight & Coke Co.†

Whether fright does or does not occasion injuries is a matter of fact to be determined by a jury, not a matter of law, too illegally legislated upon by judges. Whether the fright was of a nature to have caused injury, is likewise a matter of fact for a jury. The courts in scientific matters have preserved too much of the autocratic spirit of Francis Bacon, who as William Harvey said, wrote upon science like a lord chancellor, that is, defying his own principles, he evolved it from his internal consciousness.

† ALIENIST AND NEUROLOGIST May, 1905, p. 241

RELATIONS BETWEEN PHYSICAL DISEASES AND MENTAL DISORDERS.*

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IT is a fact now scarcely contested, that all mental disorders depend on pathological processes in the brain. In some it is a matter of functional, compensable disorders; others induce permanent, severe changes in the brain substances, which we may demonstrate more or less by our present anatomical methods.

In this sense every mental disorder may be termed a brain disease. But the cause and the way in which the brain disease occurs are manifold and in part little explained. The simplest is when a trauma, a disease directly and primarily affects the developing or mature brain; here the way to the development of a mental disorder is short and readily recognizable.

Still in the previous history of mental disorder other organic diseases are often given as causes, in which the direct pernicious effect on the brain is not so evident. The laity, particularly the patient's relatives are not usually disposed to construct such a connection. In many cases you see a psychosis suddenly appear in perfectly intact mental health; then a somatic disease of some sort, that has just occurred, is utilized as a welcome etiological factor. They leave to the physician to discover the inner connection between the two manifestations, if he is able. That such a connection actually exists, that it is not always a matter of a chance coincidence, is shown by the frequency of the event, which is confirmed by the experience of every physician. In the defectiveness of our etiological knowledge

in the matter of mental diseases this evidence must not be neglected by the clinical observer or attending physician, the more so as many practically important data for the diagnosis, prognosis and therapy of individual cases mental disorders are thus afforded.

In each case we must propound the following questions:

1. Is a physical disease, which does not directly and exclusively affect the brain, alone able to produce a mental disorder, without the co-operation of other factors?

2. Is the existing mental disorder characterized by definite symptoms in its course, prognosis, which are indicative of its origin from the somatic disease?

3. Can an existing psychosis be essentially influenced in its course and the severity of its symptoms by physical diseases?

If an answer to these questions will be attempted in what follows, one remark is to be made by way of introduction. It is well known that any disease affecting a single organ, affects the whole organism by sympathy, then the brain. The separation of diseases which affect the brain from those of other organs is more or less artificial, but perhaps justified in the present case, if it is added that by the first shall be understood those pernicious agencies which exclusively act on the brain and induce immediate and gross changes, *e. g.*, inflammation of the membranes and brain substance, neoplasms, injuries of the skull and brain. In these gross processes the etiological connection with the resulting mental derangement is not so simple. After many of these brain diseases we see no psychoses arise, although severe destruction of brain substance has certainly occurred. But in other cases the anatomically demonstrable brain change in no way affords the key to the comprehension of all the clinical symptoms of the mental disease caused by it. The brain changes induced by the so-called progressive paralysis of the insane are familiar to us as to the most minute microscopical details; but still we do not know why on the basis of the same changes we see

*From the Sammlung zwangloser Abhandlungen aus dem Gebiete der Nerven und Geistes-krankheiten.

English by Dr. W. A. McCorn, Amityville, N. Y.

a paralysis in one case rapid with profound dementia, in another slow with persistent delusions or intensely anxious dejection.

Those diseases then which exclusively affect the brain in the manner stated and there cause gross changes, will be only briefly mentioned; the more definite pernicious factors to be spoken of may be classified according to the following points of view:

1. Traumatic effects of all kinds.

2. Intoxications.

3. Acute infectious diseases.

4. The so-called constitutional, exhaustive diseases, like anemia, diabetis carcinoma, chronic tuberculosis.

5. Different diseases chiefly located in single organs or systems of organs.

1. TRAUMATIC PERNICIOUS FACTORS.—It is here a matter of the action of mechanical, thermic and electrical force of different form and intensity.

A severe injury to the body may cause in the skull and its contents, the brain, gross, immediately perceptible destructions, which may at once result in a mental disorder. It is here a matter of injuries occurring in fractures of the cranium and severe concussions of the brain, hemorrhages, softening or abscesses of the brain substance in consequence of them, which may produce the traumatic epilepsy, profound dementia, etc. Also the mental disorders observed after attempts at hanging, strangulation and suffocation are to be included, because they are probably produced by the most minute hemorrhages in consequence of the *venos stacis* (Wollenberg, Lúhrmann, Oxenius). On the whole, cases of this sort are not very common and do not require detailed description, according to the presumptions above set forth. It is merely to be intimated that, contrary to the cases of the following group, the changes here are to be grossly demonstrated, usually follow the injury immediately, and that the mental disorder occurring in this way is to be considered in most cases as the immediate direct consequence of the action of violence.

Effects of violence of different kinds may affect the whole body or one of its organs, without a gross destruction of the brain or its envelopes being simultaneously observed.

Following these injuries we quite often see severe mental disturbances of all kinds occur after a long or shorter time, in which the etiological connection between the effect of violence and the latter disease is not at once clear. Here belongs the first group of brain diseases well characterized anatomically and clinically, like brain tumors, multiple sclerosis, different forms of progressive paralysis and insanity from arteriosclerosis. All these diseases have ordinarily another, but occasionally a traumatic etiology. It is common to most of these cases that the fundamental anatomical changes in the central nervous system are not directly produced by the injury, and that the fully developed disease usually presents nothing in its clinical symptoms by which a traumatic etiology can be concluded. The trauma in such cases is more a *collateral or exciting cause;* after the ground has been prepared for the development of a tumor, a paretic or arteriosclerotic degeneration of the cortex, the trauma has merely afforded the last straw for the development of these changes or caused a more rapid development of the process already present in its incipiency; perhaps molecular changes in the brain substance due to concussion, perhaps the most minute organic miliary changes, hemorrhages, etc., which occur without clinical symptoms, co-operate. Practically, especially for expert opinion in accidents, it is to be stated, that the etiological connection between trauma and brain disease is generally admitted when the first clinical symptoms have certainly appeared *after* the accident, if after periods of different length. Of course the trauma must have been of a certain severity and induced an intense shock to the body; in any paretic who once had a fall years before his illness, this trauma cannot alone be called the cause of the paresis. An individual decision must be made here. In rare cases certain unilateral symptoms, particularly pareses or signs of irritation (convulsions, increased reflex excitability) in several extremities may be connected with the effect of vio-

lence exerted on the corresponding part of the skull.

Besides the brain diseases mentioned with certain anatomical basis we see many mental disorders occur without definite anatomical changes after trauma. Thus in so-called simple psychosis, a melancholia, one of the forms of paranoia, a severe trauma is sometimes given as a cause in the history. The psychosis then in no way differs from the other like clinical pictures due to other etiological factors. The trauma here is merely an exciting cause for the appearance of the psychosis, for which the ground has long been prepared by other pernicious agencies, *e. g.*, a degenerate constitution or prior diseases. In many cases the appearance of the mental disorder might be due to weakness in consequence of severe hemorrhage (*e. g.* in operative procedures) or long continued debilitating confinement in bed after complicated or infected wounds of all kinds.

The so-called "*traumatic neuroses and neuropsychoses,*" *i. e.* severe, nervous and psychical disorders following an effect of violence, still demand the greatest consideration among the "tramatic mental disorders," scientifically as well as practically in which the brain does not need to show significant anatomical changes explaining the symptoms of the disease. The etiology and clinical manifestation of the traumatic neurosis, whose cardinal contingent is formed by the accident neuroses has for more than a decade given rise to an active conflict of opinions and an extensive literature. L. Bruns' masterly presentation, which we will follow in the cardinal points, gives an excellent review of the present state of the question. This disease may occur after accidents of the most diverse sort in the clinical form of hysteria, neurasthenia and hypochondria, to which of the real psychoses melancholia and paranoia are associated, these forms are rarely met with pure and isolated, they are usually combined and pass into each other. This blending of hetereogeneous forms of nervous and physical disease into a clinical type is characteristic of the traumatic or accident neuroses. But further, in spite of this multiplicity of symptoms we find definite signs recur in almost every case, which give the disease type a special stamp. First

of all the severe symptoms have no relation to the insignificant injury, to which the patient tries nevertheless to refer almost all his troubles. So it is that still more than in pure, non-traumatic hysteria the tendency to exaggerate (rarely complete simulation) of the symptoms exists, that frequently all attempts to bring the patient to a co-ordinated activity fail from lack of energy in overcoming his actual or fancied pains, that finally in severe cases his querulent form of paranoia results. The latter traits are especially characteristic of the *accident neuroses strictly*, *i. e.*, those cases which according to our laws of liability justify the patient in receiving an indemnity for the whole or part of the time while unable to work. With respect to the more definite clinical symptomatology and differential diagnosis from simulation, the paper of Bruns is referred to.

With respect to the etiological connection of the disease with the injury sustained, its natural consequences are to be considered at least; it may at most be a physical concussion, which in a few cases produces perhaps finer anatomical changes in the central nervous system, its envelopes or its vascular system. Still in the majority of cases psychical factors are prominent. then primarily "the shock sustained, the solicitude about life and health, the carrying on of the business, the existence of the family" (Bruns); finally the desire to obtain damages and the incident conflicts with competitors, courts and expert opinions play an essential part in the origin and continuance of the purely psychical part of the disorders. A remark by Prince is interesting, that traumas sustained in games (foot ball, etc.) never result in neuroses, evidently because every player is prepared to sustain an injury and claims for damages can only be raised in the rarest cases. It is to be mentioned that it is in many cases of accident psychoses a matter of individuals not perfectly intact psychically, but the basis is often prepared for by predisposing factors; degenerative constitution, enfeeblement by alcoholism, lues, poor nutrition, irregular mode of life. The following case is an illustration:

A laborer (glazier) in setting a window fell backward

from the height of about 1 metre, striking his occiput on a beam; he went home and complained of no special pain. After two days a state of intense frenzy appeared, which rendered immediate admission to the hospital and isolation imperative. The patient refused food, constantly crept about the floor, presented active persecutory ideas and died on the fifth day after the fall from heart failure. The autopsy showed old chronic inflammation of the pia, brain atrophy, external and internal hydrocephalus and recent minute hemorrhages, otherwise no signs of a trauma. It was subsequently learned that the patient had drank heavily and recently showed impaired memory. The chief expert (A. Cramer) must conclude that probably a chronic brain change due to alcohol, which still was not dangerous to life, existed, but that the trauma was to blame for the fatal illness and the widow therefore is to have her insurance.

The traumatic neuroses and psychoses are then a disease type well characterized in its clinical symptoms and of very definite etiology. But the real cause of origin, the effect of violence, is in a certain measure merely the first link in a chain of other etiological factors, which are of much greater significance for the occurrence of the disease. Accordingly the prognosis and therapy are only slightly dependent on the treatment of the injury and relief of the physical disturbances caused by it; the treatment rather of the other etiological factors above indicated, the adjustment of the claims for indemnity, the physical influence in the sense of a strengthening of the energy, etc,, are to be considered.

We occasionally see, as A. Cramer has especially shown, a *traumatic insanity* may occur after more severe or milder effects of violence, which is well characterized by a rapid loss of intelligence, occurrence of changes in character, ethical defects and often intolerance to alcohol, so that the demands for indemnity may be entirely wanting. It is often a matter of severe damage to the brain, if not always at once demonstrable, and may finally result clinically and anatomically in a disease type similar to paresis.

It is to be briefly stated that traumatic injuries are then to

be regarded merely as the sole and direct cause of mental disorders, when they simultaneously cause disturbances of the brain demonstrable in the clinical picture. Whereas they are often the indirect or exciting causes of organic as well as functional mental derangements, in which still the clinical course or autopsy findings present nothing evidential of the traumatic etiology. One form, the accident psychoses, is attended by symptoms which are characteristic of the traumatic origin; but the trauma is necessarily not the sole and most important cause of the mental disorder.

II. TOXIC PERNICIOUS FACTORS.

1. Exogenic Poisonings.—By the intoxication psychoses is represented the type of mental disorders occurring after the single or continued use of medicines or stimulants, in which the etiological connection between the external pernicious agent and the form of clinical manifestation may be the best recognized. For it is a matter of quite well known and appreciable causes whose mode of action may be studied experimentally; further the pernicious factor to be considered often produces an anatomically demonstrable, milder or severer change in the elements of the central nervous system.

The most familiar example is the *acute or chronic poisoning by alcohol,* which is manifested rather in well characterized clinical disease types. As such we recognize in *acute* alcoholic intoxication, *intoxication* and especially *pathological intoxication* of the inebriate, in the *chronic* poisoning of delirium tremens, *alcoholic epilepsy* as paroxysmal disease, *alcoholic paranoia* and *alcoholic paresis* as mental disorders of longer duration. Besides there is according to recent investigators (Bonhöffer) *"Korsakow's"* (polyneurotic) *psychosis.* This is not the place to go into the symptomatology of this form; it may be found in every handbook on psychiatry. Only the following is to be stated: As the names indicate, these states are similar to mental disorders of other etiology (epilepsy, paranoia, paresis), it is differentiated from these by certain attributes in the clinical picture and in the prognosis, which are to be met with in

every case and may point to the alcoholic origin, e. g. the familiar visionary false sensations of the patient with delirium tremens, the jealous delirium of the alcoholic paranoiac, etc. We have here then the instance, where a pernicious factor acting on the body from without causes a mental disorder of a definite clinical character; it may be recognized from the course of this mental disorder and from several symptoms—in many cases at least—the etiological factor, the alcoholic poisoning. Further, in a part of these psychoses at least, organic changes of grosser or finer sort in the central nervous system are always found, which recur in every case and are in a certain measure characteristic under definite conditions. Thus chronic inflammatory processes of the dura and pia of definite arrangement, diffuse brain atrophy, the state of the vessels and glia permit with some certainty the conclusion that it is a matter of the consequences of chronic alcoholism; still if acute processes in the ganglion cells and nerve fibres, as well as capillary hemorrhages exist, the conclusion is justified, that a delirium tremens has preceded. (Bonhöffer.) It is certain at least, that in alcoholic mental disorders frequent and severe organic changes in the central nervous system may be more often demonstrated, than in purely functional psychoses of a similar course, but of other etiology.

If the alcoholic psychoses are examples of mental disorders, which arise primarily by exogenic pernicious factors acting on the body, a number of circumstances are to be considered, which show how far such an etiological conception may be carried. For we do not know why from the same pernicious factor, chronic alcoholic poisoning, one individual has a mental disorder similar to paranoia, another paretic symptoms, but the third perhaps only severe somatic derangements. Equally unclear is it why in a chronic alcoholic a delirious state or one accompanied by epileptic seizures suddenly appears. That besides the duration and severity of the poisoning, exciting causes also—somatic diseases, particularly of infectious sort, traumas—co-operate is certain; but what role these factors play, whether they perhaps cause a disorder of metabolism and thus produce

an autointoxication of the organism (Bonhöffer), we can only presume. That then as well in the occurrence of an alcoholic psychosis as in respect to its special variety besides the severity and duration of the poisoning, a large number of individual factors is of significance, is unquestionable.

Under certain conditions alcohol plays the role of the *agent provocateur*, which causes the outbreak of the disease on the ground prepared by other factors, as in the following case: a man of 26 had a severe concussion of the brain when 8 years old, later typhoid fever and other diseases and since this time has been less capable mentally than formerly, but not an inebriate. On the Emperor's birthday an extreme alcoholic excess; 3 days later a psychical disorder appeared with marked excitement, false sensations and confusion.

Among the predisposing causes hereditary taint and the degenerative constitution are surely of the greatest importance. According to Kerr 50%, according to Lewis 46% of all chronic alcoholics have hereditary taint. The so-called *homogeneous taint* seems to be especially important, in so far as chronic alcoholism of the parents produces particularly often a great intolerance of the children to alcohol and thus causes the appearance of alcoholic psychoses; but all possible psychoses and neuroses may occur in the immediate or more remote descendants of alcoholics. W. Strohmayer, who has recently investigated these conditions on the basis of careful individual statistics, thus comes to the conclusion, "that alcohol has a direct toxic effect on the spermatozoa of the parent." The alcoholic psychoses will occur the most readily, where the abnormal constitution produced by pernicious factors in the progenitors and lowered power of resistance of the central nervous system are objectively manifested in symptoms of somatic, nervous or psychical sort, in the so-called signs of degeneration. It is well known, that degenerates, i. e. those individuals, who present a large number of these signs of degeneration, particularly the mental, may often present states of intense excitement, confusion or disordered consciousness after a moderate amount of alcohol. In the etiology of these pa-

thological derangements or consciousness after acute alcohol poisoning, the predisposing factors, especially the degenerative constitution, which is to be demonstrated by the signs mentioned, play a prominent part, which is practically important, when it is a matter of demonstrating the tolerance of an individual, e. g. for expert legal opinion (A. Cramer.)

The long habituation of mankind to alcohol and its great prevalence perhaps explains in part the fact, that the alcoholic psychoses represent quite uniform disease types recurring in each case.

This is less the case in other toxic psychoses. Those of them, which in respect to their origin from long continued use of the poison, may be compared with the consequences of chronic alcoholic poisoning (morphinism, cocainism), in their symptoms have several characteristic traits, which differentiates them from the alcoholic psychoses; but only in rare instances would it be possible to make the diagnosis from the psychical condition alone, without considering the prior history and other circumstances (e. g. injection scars). Still less is this the cases in the mental disorders occurring after acute poisoning, which may in fact be accompanied by all possible symptoms, and not permit a conclusion as to the fundamental toxic agent. With respect to the *pathologico-anatomical* phase, changes in the central nervous system are found after the majority of severe acute and sub-acute poisonings, and these are particularly demonstrable experimentally (Nissl); but it has been shown that they have nothing characteristic of the special kind of poison, that many of these changes are found after other pernicious factors. As little certain, free from exception and etiologically characteristic are the changes induced by *chronic* poisonings. The mental disorders occurring after chronic lead poisoning, which many times occurs in the form of paresis or epilepsy, perhaps form an exception—irrespective of chronic alcoholism. Here sometimes a quite severe, conspicuous lesion in form of sclerosis of the posterior columns of the spinal cord, atrophy and sclerosis of the cortex, degeneration of the ganglion cells (Ceni) is to

be found. But the same question arises again, why the same pernicious factor and acting equally strong produces in some cases such severe changes in the brain substance with psychical disorders, while in others it is confined to the peripheral nerves or the organs of the body. The lead psychoses, as Jones shows, are not clinically uniform. Similar differences characterize the disease types recently described occurring after carbon bisulphide (Köster Laudenheimer): Laudenheimer has shown that of a number of workers in rubber, who were subjected to the same pernicious factor (carbon bisulphide poisoning in the vulcanizing room), a part became affected with purely somatic, a part with nervous symptoms and another part with severe psychoses, chiefly depressive hypochondriacal forms; the latter are almost without exception tainted individuals, while in the purely somatic and nervous diseases a degenerative condition could be demonstrated only in a few cases. This fact throws an interesting light on the etiology of the toxic psychoses and L. may, supported by it, express the opinion, "that those laborers who have vulcanized 2 months *without* becoming insane, will presumably remain psychically well." Besides the carbon bisulphide psychoses are in part maniacal, in part depressive, in part stuporous states, which are differentiated by many peculiarities and especially by symptoms of organic nervous diseases from the corresponding form of psychical disease, of other etiology, but these differences are not so marked (it is a matter of tainted persons), that the diagnosis can be made from the cause of origin without knowledge of the anamnesis; furthermore, we do not know why from the same causes of poisoning different clinical disease types occur.

2. *Endogenic poisonings.* Effects of poison are to be considered in many infectious diseases; it is a matter of the bacterial toxines. Still the psychoses arising thus are to be discussed in a special section. However this is the place to speak of another process of poisoning, the so-called *autointoxication*, i. e. the poisoning of the organism by products of its own metabolism pathologically changed in some way. As the process of autointoxication became

known not so very long ago, it was natural to use it to explain such vague points as the pathogenesis of many psychoses. In fact many factors, particularly clinical points of view, point to the similarity of several mental disorders to the type of severe intoxications. In others the autointoxication will have to be regarded at least as an intermediate link in the etiological chain, then a factor, which, caused by another pernicious agent, produces the psychosis on the ground already prepared. In most acute and in many chronic mental disorders the question of an autointoxication as a cause has been argued.

Still if the assumption of an autointoxication as the basis of psychical disorders shall be more than a probable hypothesis in many cases, it must be required that the origin of the questionable poison be shown in a certain organ of the body, and again the poison be demonstrated somewhere in the organism, either at its present point of action in the brain, in the blood or among the excretory products. The first condition is fulfilled in a certain measure in the psychoses, which occur in consequence of severe organic diseases (kidneys, liver, thyroid glands, chronic gastro-intestinal diseases), while we are still unclear as to the sort of poison thus arising. How far the assumption of an autointoxication psychosis is justified, will be shown in the discussion of the several organic diseases. In other cases where without knowledge of a definite local disease an autointoxication is assumed, the demonstration of the poison thus induced has as yet met with little success. Pathological urinary products occurring in these conditions have often been referred to, primarily *acetone* (Wagner, v. Jaureg, etc.) Still according to recent experimental investigations acetone of itself alone does not cause poisoning. Its occurrence in the urine under the conditions named seems to indicate merely that disorders of metabolism are present. Further, whether these disorders are primary and the brain action altered by their product, or whether they, like the psychoses, are merely the *result* of a third unknown factor, is still an open question. But it is certain, that in many cases other pernicious agents affecting the central nervous

system play a part, primarily the degenerative constitution or the cooperation of many unfavorable circumstances, e. g. debilitating diseases, poor nutrition, certain ages, like puberty, are especially subject to psychical derangements. Thus Kraepelin states, that in the mental disorder named by him dementia praecox, in which a connection with autointoxication is not excluded, hereditary taint is found in 70% of all the cases. It is then a matter here of a central nervous system deranged in its foundation and development, which at the time of puberty has not equaled the demands on it and so failed.

The so-called intoxication psychoses present the following:

A poison acting from without or formed in the body may produce a temporary or permanent mental disorder, and whose clinical picture is uniform in many cases and permits a conclusion as to the cause. Besides organic changes in the central nervous system caused by the action of the poison are often found of a sort not characteristic. Besides the effect of the poison as such other pernicious factors, like hereditary taint, enfeeblement of the body by disease, etc., are to be considered; these facts explain in part, that the same poison may produce different mental disorders according to quality, intensity and duration.

III. INFECTIOUS DISEASES

Closely following the intoxication psychoses according to our present pathogenetic conception are *the physical disorders occurring with or in consequence of infectious diseases.* It is here a matter of an acute exogenic pernicious agent, which may result in the occurrence of mental disorders of longer or shorter duration in an individual previously apparently intact mentally. These conditions may occur in almost every infectious disease, if the reports of literature are perused and personal observations remembered. But some of them seem to be followed especially frequent by psychical disorders. According to a compilation by Althaus of about 460 infectious psychoses described in literature

Influenza	occurred	in	113	cases
Rheumatism	"	"	96	"
Typhoid	"	"	87	"
Pneumonia	"	"	43	"
Variola	"	"	41	"
Cholera	"	"	19	"
Scarlatina	"	"	16	"
Erysipelas	"	"	11	"

One will be inclined to ascribe the frequency of the influenza psychoses primarily to the great prevalence of influenza epidemics in the last two decades. However Althaus intimates that this cannot be the only cause, for otherwise measles which are a much more prevalent infectious disease, might be implicated in a still higher degree. In this respect it may be said that measles represent a virus so long affecting civilized mankind, that it no longer leads to severe psychical derangements owing to the long habituation. Whereas influenza has recently occurred in severe extensive epidemics and pandemics, and presents in its other manifestations more severe symptoms almost annually, are evidence that a habituation to this infectious virus has not yet occurred.

With respect to the clinical form of the psychical disorders occurring in infectious diseases, brief states of simple psychical depression and stupor, then states of confusion and clouding of consciousness with and without active false sensations and delusions, symptoms, which are very commonly found in the so-called exhaustion psychoses, to which Raecke recently refers; but further forms of typical psychoses of the character of acute confusion, simple and hypochondriacal melancholia, even paresis are met with. *The form of the psychosis does not seem to be characteristic of the special sort of infection*; all sorts of mental derangements have been ascribed to almost every infectious disease. The duration of the psychosis, its course, termination and connection in point of time with the infectious disease attending it vary greatly. Still from the latter point of view the conditions to be considered may be grouped in a measure.

We find first in all possible mild and severe infectious

diseases at their onset and at the height of the febrile elevation of temperature quite transitory states, which vary from simple malaise, mild psychical fatigue or irritability to slight or marked confusion and stupor, often with active false sensations. These long known *febrile deliria* seem to have no relation to the special sort of infectious disease producing the fever; they may occur in all febrile diseases of milder or severer grade.

2. We meet with similar conditions, but of longer duration and approximating more definite psychical disease types, which have been called *infection deliria* by Kraepelin. Besides exaltation intensely anxious depression occurs here. Marked disorientation, disconnected or extremely accelerated ideation (incoherence and flight of ideas) with the tendency to unstable false sensations and delusions are often found. These infection deliria may be independent of the height of the fever in non-febrile patients at any stage of the fundamental disease. In many infectious diseases the psychical disorder is so inserted in the course, that it is in a certain measure typical of one of its stages, as in the prodromal stage of smallpox and in several stages of typhoid. In typhoid such marked psychical disease types may be so prominent that the whole disease appears more as an acute psychosis, until the other somatic symptoms and the further course of the trouble permit the diagnosis of the fundamental disease. The somatic symptoms may be occasionally wanting entirely, as in the case of Deiters (typhoid initial delirium) and Audemard. Friedländer gives a very good compilation of all neuroses and psychoses observed after typhoid.

3. We finally observed a number of mental disorders varying greatly in form and severity, which appear sooner or later *after* the termination of the real infectious disease; Althaus called them *postfebrile psychoses*. The forms described by Kraepelin as postinfectious states of enfeeblement belong here, a part of them correspond to the psychical condition of normal convalescence from a severe disease and appear as mild exhaustion, depression and irritability; but further pronounced forms of severe psychical exhaustion

resembling acute paranoia and acute stuporous conditions are observed. Finally I might include in this group of postfebrile psychoses all that described in literature as the occurrences of psychoses following infectious diseases. Thus there are nearly all forms of psychoses from mania and melancholia to the forms of acute and chronic paranoia and paresis even. The multiplicity of these psychical disorders corresponds to the lax connection in point of time with the fundamental disease. According to the conception of several observers psychoses which occur after many months, are charged to the account of prior infectious diseases. Althaus on the basis of his statistics includes all those mental disorders which occur in convalescence or within the next six months, provided that in the meantime no other important cause has acted, and that certain symptoms point during this whole time to a disorder of the mental equilibrium.

4. Finally to be mentioned that, according to many observations, in the course of existing psychoses, usually chronic, changes in the type of the psychical disease, in part favorable, in part unfavorable, may be produced by intercurrent infectious diseases. Such improvements are observed especially from pneumonia, typhoid, streptococcus invasion (erysipelas, phlegmon, e. g. in the cases of Azemar). It has even been attempted to effect an improvement in the psychical disease type in protracted psychoses with a tendency to chronicity by subcutaneous injection of streptococcus cultures (Catala) or inoculation with erysipelas. Haslett reports of the favorable effect of rheumatism and smallpox on the course of chronic psychoses, particularly melancholias; vaccination should thus be favorable. According to my opinion I must dispute the latter fact; all (about 450) patients of the Gottinger hospital were vaccinated in 1900 and 1901 owing to threatened smallpox; in no single case have I been able to perceive a change in the psychical picture traceable to it.

It may be quite often observed that in the course of a chronic psychosis, particularly paranoia, an intercurrent infectious disease is the exciting factor of a new attack, from which

a further advancement of the disease dates. A patient with chronic paranoia about 25 years old was always well and had active systematized delusions. One afternoon he complained of vertigo; the physical examination revealed a mild bronchitis and elevation of temperature. In spite of the slight physical symptoms the patient spent several days in bed, did not speak, refused food. After a few days the fever ceased; the patient became somewhat more active, claimed to have had pains in the lumbar and dorsal region, and got up. But this time he remained in a stuporous condition and paroxysmally presented marked katatonic symptoms; negativism, cataleptic condition of the extremities and automatic character in his talk and actions.

If we now examine the *etiological* connection of the psychical conditions described with the infectious diseases accompanying or preceding them, the following is shown: for the forms known as febrile and infectious deliria the physical disease is doubtless the direct and cardinal cause. We see these disorders come and go with the infectious disease. This is true of a part of the postfebrile psychoses, particularly when they occur in convalescence, or when signs of a disordered psychical equilibrium are observed after the termination of the infectious disease, before the appearance of the psychical disorder. It is equally clear that we have to consider the *pathogenesis* in these cases. In febrile deliria the elevated temperature, but then the accelerated heart's action and the entire metabolism might supply the pernicious factor. But the specific poison of the infection and its direct effect on the central nervous system is primarily to be considered here, and especially in infection deliria. That the infection poisons primarily damage the nervous system and the peripheral as well as the central has been known for a long time from clinical and pathologico-anatomical observations, as from experimental investigations. Here only the postdiptheric palsies of the peripheral nerves, familiar to every practitioner, need to be mentioned; that they belong to the earliest and most constant effects of the diphtheria poison is shown by the fact, that after introduction of the serum treatment, which

has greatly lessened the number of fatal cases of diphtheria, it has become *no* more rare. (Woollacott). But in diphtheria, as well as in other severe infectious diseases and in other febrile states anatomically demonstrable diseases of the spinal cord (posterior columns, ganglia of the anterior horns), of the medulla oblongata (hemorrhage into the gray nucleus), of the cortex (cell and fibre degenerations) are found. (See the papers of Nissl and his pupils, also of Alt, Binswanger, Juliusberger and Mayer, Heilbronner and others). Still we are not in position to judge the pathological and differential diagnostic significance of these changes in the nerve elements; but we may explain a part of the clinical manifestations, first of all the incoherence in association, the spontaneous false sensations by these focal disease processes located in the cortex and subcortical regions. We will then have to consider here, similarly as in the toxic psychoses, a direct organic damage of the central nervous system by infectious diseases.

In many cases the psychical derangements are doubtless caused by a direct infection of the central organ by the specific micro-organisms of the fundamental diseases. It is then a matter of a meningitis or encephalitis produced by the micro-organisms of pneumonia, anthrax, erysipelas, influenza. In typhoid a form with marked cerebral symptoms has long been recognized as so-called "meningio-typhoid", and Stadthagen has demonstrated in similar cases the typhoid bacilli in the encephalitic foci. Audemard goes so far that he regards a large number of conditions occurring as acute amentia ("confusion mentale") for manifestations of a "cerebral typhoid", supported by the fact, that in the cases the Weidal serum reaction positively occurs; he believes that it is a matter of an accumulation of the typhoid bacilli in the lymph canals of the cerebral vessels. But if it is considered that the Weidal reaction shows positive results very long after typhoid has occurred, other physical symptoms especially, must be required in the course of a psychical disease to be able to call it typhoid. Also in group 4 the changes occurring in the course of a chronic psychosis under the influence of an infectious dis-

ease must be regarded as a direct effect of the toxine (or as Azemar thinks, the antitoxine formed by the body) on the brain.

We may then unconditionally designate for the forms previously mentioned as chief etiological factor the fundamental infectious disease, which has produced, in part by its micro-organisms, but more often by its toxine, some, often anatomically demonstrable changes in the central nervous system. Whereas in the majority of postfebrile and postinfectious psychosis the connection with the fundamental infectious disease is much more lax. Many of these mental disorders clinically approximate the picture of psychosis of other origin; their course and termination are often wholly independent of the physical disease; they are often more unfavorable prognostically than the psychical disorders occurring before convalescence. For a part of these cases the exhaustion from the prior disease is certainly to be considered a causative factor, which in some infections, e. g. in typhoid, attains a very high degree. But in many other cases a careful analysis of all facts of the history of the preceding infectious disease only the exciting cause can be seen, which had given the impulse to the outbreak of the psychosis; other psychical factors, like the interruption of the usual mode of life and the occupation, the worry of the relatives and the patient himself about the restoration to health, may play a part. The cases of general paresis following infectious diseases will have to be so understood especially, that the brain disease was prepared for and the toxic or infectious irritation only caused the outbreak of the functional disorders or hastened their occurrence. A genuine paresis arising solely from an infectious disease I do not consider probable.

Also in other postinfectious psychoses besides the cause derived from the infectious disease, doubtless numerous other factors cooperate, which must be comprised under the term predisposition. According to a compilation by Althaus predisposing factors of all kinds are found e.g. in 70% of all influenza psychoses.

How an accumulation of such predisposing factors

sometimes prepares the ground for an infection psychosis, without the prognosis of the single psychical affection being absolutely unfavorable, is shown by the following example of a girl of 21:

(a) *Heredity:* father and two of his sisters had melancholia; a brother of the father died by suicide, another attempted suicide; the daughter of one of these brothers was insane. The patient's mother was very "nervous," the mother's father insane. A sister of the patient is "nervous."

(b) *Individual pernicious factors:* as a child patient had hip joint disease, typhoid at 9, later chlorosis and chronic gastric and intestinal troubles.

(c) *Predisposing causes:* in the winter of 1899-1900 strenuous preparation for the teachers' examination, then leaving home, living in a strange pension. Examination in February 1900, which was successfully passed.

(d) *Outbreak of the disease:* following the examination *influenza*, during the convalescence the psychical trouble appeared, at first in form of maniacal, sexually colored excitement, then marked depression with refusal of food and persistent suicidal attempts. Recovery in six months.

According to all reports and observations the *age* of the individual affected seems to be of essential influence. *Psychoses of childhood* especially follow infectious disease very often. Kalischer reports a severe maniacal excitement, which occurred in a three year old girl with taint in the third week after influenza; Kuhn mentions two diphtheria psychoses in equally tainted children. It is clear that the childish brain in itself less resistive reacts the most readily to the damage of an infection by a psychical derangement. We also know that these pernicious factors, the earlier in life they affect the brain, the more severe and persistent are their consequences on it and the mental action. An age which likewise plays an important part in the occurrence of psychosis on the basis of infectious diseases, is *puberty* with its increased demands on the individual's physical and psychical functions.

Here belongs the following case: a girl well developed,

not tainted, twelve years old, had a severe influenza in January 1901 and made a slow recovery. About four weeks later convulsive seizures occurred, of which a few were of a unilateral character and caused temporary paralysis of the face and arm on the same side; besides frequent vomiting. Admission to the Clinic followed the diagnosis of encephalitis. The seizures became more and more of a hysterical character; but psychical derangements, states of excitement, smearing with feces, etc. simultaneously appeared, which rendered admission to the insane hospital imperative. During the whole time there was no fever; whereas the patient had a tapeworm, was very anemic and had a marked systolic (anemic) heart murmur. After removal of the tapeworm, with the administration of iron and good food the psychical condition improved slowly and with more frequent relapses. Convulsions no longer occurred, but an awkwardness in simple movements of the arms often appeared, which resembled ataxia. Here evidently an anemia due to the rapid growth existed, which perhaps was increased by the tapeworm. The influenza might readily have caused encephalitic foci in the poorly nourished brain, in consequence of which at first occurred the epileptiform convulsions, later the psychical derangements. That the latter are of a hysterical character does not preclude their origin from slight organic brain changes, but explains their persistency and the more frequent relapses.

In conclusion it is to be said of the infection psychoses:

Infectious diseases of all sorts may be accompanied or followed by psychical disorders of longer or shorter duration, which are differentiated according to their relation in point of time to the fundamental diseases, as febrile deliria, infection deliria and postinfection psychoses.

A part of them are in close etiological connection with the fundamental trouble, in so far as elevation of temperature, acceleration of metabolism, but primarily the living infection virus or the infection toxines directly damage the brain. These cases often depend in their course and termination on the fundamental trouble.

In many others, particularly the postinfection psychoses,

the infectious disease is often merely an exciting factor for the psychosis already latent.

Most infectious diseases arise on a ground prepared by predisposition of some sort.

The clinical picture of the infection psychoses resembles that of the exhaustion psychoses (Raecke); whereas in most cases there is nothing characteristic of the special kind of the fundamental disease.

It is shown by these considerations that in all acute psychical derangements, particularly of childhood, the possibility of a fundamental infectious disease has to be thought of, and that the course and prognosis of these disorders are the more favorable, as the more rapid the recovery from the fundamental disease, and the more energetic a proper invigoration of the patient in convalescence are effected and sequelae of the infection prevented.

To be continued.

SOME REMARKS ON THE PATHOLOGY OF EPILEPSY.

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UP to the present time the pathology of epilepsy has not been definitely determined. Theories and hypotheses have been advanced and have come to us from various sources and from different writers, but in summing up their observations we can derive but the partial conception of the pathological condition of the arterioles of the cerebral cortex.

The fact that contraction of the cerebral arteriole takes place during seizures does not fathom in any sense of the word the entire pathology. Each successive stage has a separate one. Heretofore, no one has ever taken the trouble to scientifically work out, through observations of the different stages of epilepsy, the exact mental phenomena.

Among animals the most common type to suffer from epileptic conditions are cats. They exhibit all the symptoms in successive stages that a human under the same circumstances would. Of course cats, as a rule, take the amb litory form, but not always; however, the initial pathological condition is the same in any form, namely: arteriole contraction, though to a greater or less degree, depending upon the severity.

To get at the foundation and fundamental principles of

this obscure pathology we must necessarily secure the brains of animals during a seizure, which is easily done, although a different brain is quite necessary for each successive step, to show separately and distinctly the different pathological changes that are brought about during this mental phenomenon throughout all stages of the disease and the separate classifications of the same. For instance, in grand mal there is a great amount of fluid in the ventricles and naturally more pressure and vaso-motor disturbance, hence a more severe sezure than in petit mal.

The essential feature *qui generis*, in the pathology of epilepsy, all other features being subsidiary or organically causal, is in the alternating state, irritation and paralysis of the vaso-motor mechanism of the brain and allied nervous system, but chiefly the brain.

Epilepsy itself is a functional vaso-motor disease, an alternating vaso-motor condition of transitory paresis or paralysis and irritation, the irritation causing contraction of the arteriole supply of the convulsive area involved and the extreme ventricular dilations, caused by excess of cerebro-spinal fluid in them,, producing the coma and comatose symptoms.

A trauma or a blood toxine (auto-toxine or chemical like alcohol, camphor, etc.) or a peripheral irritation, intra or extra intestinal, tapeworm, lumbricoid fistula in ano, etc., causes first a paralyzing impression on the vaso-motor mechanism of the brain blood supply or on the heart (cardiac epilepsy) causing the excessive pouring out of the cerebro-spinal fluid into the perivascular spaces and ventricles of the brain.

The distended ventricles or perivascular spaces by pressure give rise to the precursory aura, visual, auditory, gustatory and other sensory forms, according to the part first feeling the pressure before coma comes on from excessive pressure.

The excessive pressure with the coma or comatose states irritates the vaso-motor centers of the brain, causing arteriole contraction and spasm of psycho-motor centers and of parapsychic centers of the gray cortex, causing psychic

epilepsy (vertiginous epilepsy.) This arteriole contraction, the result of primary distention and the excess of cerebro-spinal fluid in the ventricles, cause the shutting off of the excessive cerebro-spinal secretion and the return of the brain to its normal state after a period of more or less prolonged of sleep, according to the degree of vaso-motor anaemia induced, the absorption and redistribution of the excessive fluid of the ventricles beginning again with the arteriole contraction which, after the ventricular distention and in consequence of it, first took place.

The cause of the spasmodic paroxysm is also the cause of the removal of the first cause of the epileptic condition, viz., the vaso-motor paresis and consequent pouring out in excess of the interventricular and perivascular space fluid into their natural receptacles in the brain. Whatever condition of the organism may cause first a paresis or paralysis of the vaso-motor mechanism so as to permit excessive filling of the ventricles to the point of such degree of distention as will bring vaso-motor irritation of the brain arterioles, will develop an epileptic or other convulsion.

A trauma, a toxicity of the blood, a peripheral irritation apparently transmitted from the surface or from an internal organ will do the same (gastric, uterine, rectal, etc.) The recurrency which characterizes epilepsy is due to a peculiar morbid vaso-motor impressibility acquired by frequent repetitions of the cause and by hereditary impressibility.

All facts in pathology sustain this view and need not be detailed. No epileptic brain where death came in the status has ever been found with undistended ventricles, and all known causes of epilepsy have produced this state of brain. Inebriety, general paralysis, cephalic traumatism, toxic influence organically generated or taken from the animal, vegetable or mineral kingdom, and psychic influences have produced this state and phenomena, alternating of the vaso-motor nervous system whenever epilepsy or epeltoid symptoms have resulted.

Petit mal is a lesser vaso-motor paresis and lesser arteriole contraction involving the area of consciousness.

Jacksonian epilepsy is the same, involving one or a limited number of psycho-motor centers. In petit mal the attack stops short of the psycho-motor region and profound unconsciousness.

The inherent or predisposing tendency of arteriole contraction found in grand mal is greatly lessened in petit mal, for the seizure falls short of the psycho-motor area, the inhibitory centers lose their identity, and partial or complete paresis ensues inversely as the profoundness of the seizure and vaso-motor constriction which inhibits the arteriole blood supply to the brain, thus ushering in the paroxysm, and the succeeding vaso-motor relaxation which finally suffuses the brain. The symptoms vary according to the difference in successive involvement of area. For instance, the difference in the aurae as the different centers are touched by the malady in the beginning of the attack, and so also do the symptoms of Jacksonian epilepsy appear differently, according as the different centers are attacked by vaso-motor constriction. Jacksonian epilepsy is a limited psycho-motor epilepsy without involvement of other psychic areas of the brain, so in order to show the pathological changes in tissue of the vaso-motor nerve centers, it has been necessary to select specimens that show the condition of each tissue change during a seizure throughout the whole category of epilepsy.

The coarse or gross pathological anatomy, as I have mentioned before, may be any lesion that would alter the vaso-motor movements, aneurismal, embolic or thromboid, or traumatic pressure.

In presenting this paper it has been my purpose to show that each epileptic stage has a distinct pathology, and the entire category or classification of epilepsy, including the psychical varieties, has one common pathology or gross structural change, and that this structural change, whether idiopathic or organic, has to do largely with the movements of the centrifugal and centripetal mental forces as we find them in the psychical equivalence of epilepsy, dual consciousness, obliviousness and allied states of mental eclampsia.

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MIXOSCOPIC ADOLESCENT SURVIVALS IN ART, LITERATURE AND PSEUDO-ETHICS.*

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WHERE is a phase of mixoscopia in literature which becomes in both sexes as a kind of pose in the spirit that makes the country man paint the town red, in what he believes to be city fashion? It is the forced impudence of a bashful man with the niceness of a nasty mind. This appears in the so-called American female poet of passion, Ella Wheeler Wilcox. The passionateness on which she seems to pride herself is, remarks Ridpath,† really less poetic as well as less womanly than her calmer song. When she writes thus for instance, she strikes an obviously false note:

> She touches my cheek, and I quiver—
> I tremble with exquisite pains;
> She sighs—like an overcharged river,
> My blood rushes on through my veins.
> She smiles—and in mad tiger fashion,
> As a she-tiger fondles her own,
> I clasp her with fierceness and passion,
> And kiss her with shudder and groan.

*Continued from the August *Alienist and Neurologist.*

†Ridpath Library of Universal Literature.

This is not the passion of Rossetti or Browning, no even of Gautier and Baudelaire; it is a woman's crude imitation of these.

The same element appears in the certain discussions of the relations of obscene literature. Much of this appears in the discussion of that great source of modern literature, the Decameron. This sort of cant, the offspring of ignorance and innate coarseness, appears in works on Diseases of Society, by men who ignored all that is humorous and beautiful in the Decameron, to settle with gloating on what is coarse. In contrast with these appear the pure-minded Macaulay. Before he was 15, Morrison remarks,* we find him recommending his mother to read Boccaccio and weighing him against Chaucer, to whom he infinitely prefers him. The same preference is exhibited by Hazlitt, who remarks of Boccaccio, that of him he cannot express half his admiration. His story of the Hawk, Hazlitt could read and think of from day to day, just as he would look at a picture of Titian's. Hazlitt sees like Macaulay, the literary beauties of necessity and does not settle on the coarsenesss which a course mind would instinctively do. This course side has prevented the mind which denounced the alleged pornographic from seeing even the humor of what to-day told in negro dialect, would appear purely intensely ludicrous. That there has been an immense change in the point or view since even the early 18th century, is apparent in the anecdote told by Sir Walter Scott of his great grand aunt, Mrs. Keith of Ravelstone, a daughter of Sir John Swinton, of Swinton, who lived with unabated vigor of intellect at a very advanced age. She was very fond of reading and enjoyed it to the last of her very long life. Once when Sir Walter Scott and she were alone, she asked him if he had ever seen Mrs. Behn's novels; he admitted the charge. She then asked whether he could get her a sight of them. He said with some hesitation that he believed he could, but that he believed she would like neither the manners nor the language, which approached too near that of Charles II's

*Life of Macaulay.

time to be quite proper reading. "Nevertheless," said the good old lady, "I remember them being so much admired and being so much interested in them myself, that I wish to look at them again." So Sir Walter Scott sent the volumes to his gay old grand aunt. The next time he saw her she gave him back the volumes wrapped up with this remark: "Take back your bonny Mrs. Behn, and if you will take my advice, put her in the fire, for I found it impossible to get through the very first novel," but "is it not," she remarked, "a very odd thing that I, an old woman of 80 and upwards, sitting alone, feel ashamed to read a book which, 60 years ago, I have heard read aloud for the amusement of large circles, consisting of the first and most creditable society in London." Although Mrs. Behn contains much that is coarse in itself, and was written to suit a very mixoscopic minded society, still, it is obvious that a great cant had been undergone by society between the close of the 17th and the beginning of the 19th century. After Mrs. Keith's experience it is hardly astonishing to learn what is reported as to the Decameron by Dunlop.

There are few works, remarks Dunlop,† which have had an equal influence on literature with the Decameron of Boccaccio. Even in England its effects were powerful. From it Chaucer adopted the notion of the frame in which he has enclosed his tales and the general manner of his stories, while in some instances he has merely verified the novel of the Italian. In 1566 William Painter‡ printed many of Boccaccio's in English. This first translation contained 60 novels, and it was soon followed by another volume comprehending thirty-four additional tales. These are the pages of which Shakespeare made so much use. According to Burton§, one of the great amusements of the 17th century English was reading Boccaccio aloud; an entertainment of which the effects were speedily visible in the literature of the country. The first English translation

†History of Fiction.
‡Palace of Pleasure.
§Anatomy of Melancholy.

however did not appear till 1620. In France Boccaccio found early and illustrious imitators. In his own country he brought his native language to perfection and gave stability to a mode of composition which before his time had only existed in a rude state in Italy. He collected the current tales of the age, which he decorated with new circumstances and delivered in a style which has no parallel for elegance, naiveté and grace. Hence his popularity was unbounded and his imitators more numerous than those of any other author recorded in the annals of literature.

The conception which Ridpath criticises in Ella Wheeler Wilcox, is the attempted enjoyment of the coarse aspect of any erotic feeling which is fostered by a certain raining. Madame Roland* has presented a v \ ure of the anguish produced in an innocent girl by the notion of the sinfulness of erotic dreams. She menstruated first at 14. Before this, "she writes," I had sometimes been awakened from the deepest sleep in a surprising manner. Imagination played no part; I exercised it on too many serious subjects, and my timorous conscience preserved it from amusement with other subjects, so it could not represent what I could not allow it to seek to understand. But an extraordinary effervescence aroused my senses in the heat of repose, and by virtue of my excellent constitution, operated by itself a purification which was as strange to me as its cause. The first feeling which resulted was, I know not why, a sort of fear. I had observed in my "Philotee" that we are not allowed to obtain any pleasure from our bodies except in lawful marriage. What I had experienced could be called a pleasure. I was then guilty, and in a class of offenses which caused the most shame and sorrow, since it was that which was most displeasing to the Spotless Lamb. There was great agitation in my poor heart, prayers and mortifications. How could I avoid it? For indeed, I had not foreseen it, but at the instant when I experienced it, I had not taken the trouble to prevent it. My watchfulness became extreme. I scrupulously avoided positions which I found specially exposed me to

*Memoires Particulieres.

the accident. My restlessness became so great that at last I was able to awake before the catastrophe. When I was not in time to prevent it, I would jump out of bed with naked feet on to the polished floor, and with crossed arms pray to the Saviour to preserve me from the wiles of the devil. I would then impose some penance on myself, and I have carried out to the letter what the prophet King probably only transmitted to us as a figure of Oriental speech, "mixing ashes with my bread, and watering it with my tears."

That such training could rapidly develop into the mixoscopic states of the hysteric which underlie so much sexual incompatability, is very apparent. As Gilles de Tourette* carefully warns his readers, it must not be too hastily assumed from the prevalence of nocturnal auto-erotic phenomena in hysterical women, that such women are necessarily sexual and libidinous in excess. The disorder is in them psychic, and not physical, and they usually receive sexual approaches with indifference and repugnance, because their sexual centres are anesthetic or hyperesthetic. During the period of sexual activity they seek much more the care and delicate attention of men than the genital act, which they often only tolerate. "Many households, began under the happiest auspices—the bride all the more apt to believe that she loves her betrothed in virtue of her suggestibility, easily exalted, perhaps at the expense of the senses—becomes hells on earth. The sexual act has for the hysterical woman more than one disillusion; she cannot understand it; it inspires her with insurmountable repugnance." This coarseness of view underlies much of the coarseness of the hysteric charges. The coarseness has undoubtedly something sadistic of the type that delights in soiling what others regard as charming or beautiful. To a considerable extent this feeling crops up in the prior settlement of social questions like prostitution, where certain social jurists take a delight in charging the conditions up to alleged seduction or to training in a class of literature that very rarely reaches the class it is supposed

*Havelock Ellis, Psychology of Sex, II 135.

to influence. The large majority of this class are women of the hysteric type in whom crime of the confidence operator type has taken the line of least resistance. The percentage of inverts among them is about as great as it is among the social jurists who discuss sexual topics from such a priori standpoint.

(*To be continued.*)

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EDITORIAL.

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

THE PSYCHIATRY OF THE CONVALESCENT. His Literature and Recreation.—A daily newspaper of literary ability and wit, the *St. Louis Republic*, editorially discusses the subject of literature for convalescents, taking its cue from a medical journal, and making comment as follows:

For the convalescent the *British Medical Journal* describes literature which cheers but does not inebriate, and advises against authors "whose style like that of George Meredith, puts a constant strain on the misunderstanding of the reader, or like that of Mr. Maurice Hewlett, irritates by its artificial glitter, or, like that of Marie Corelli, annoys by its frothy impertinence."

It seems almost superfluous to add that Mr. Bernard Shaw ought not to be taken during convalescence, his cynicism being almost overpowering to a man in full strength, and his tartness requiring the most robust of stomachs for its assimmilation.

Nor would anything sidesplitting, like Mr. Henry James, for instance, be a good dose for a patient recovering from a laparotomy.

But a good many innocuous novelists may be discovered on this side of the water if the entire English diet proves unsuitable.

This subject is important. The hospitals for the insane, such as are rightly managed psychiatrically, scan all the literature sent to the patients, as they regulate the character of preaching and other chapel services. The right mental food not overtaken, not harrowing, emotionally unduly agitative brain-disturbing or brain-fatiguing, is essential to promote and not retard convalescence or producing relapse as food for physical nutrition in hospitals for both the rational and the irrational.

Books, magazines, newspapers and all current literature should be prescribed as a part of treatment and with the same precautions as the selections of the medical and recreational prescription.

And all our hospitals need more thought for the diversion and entertainment for the days of convalescence than is generally given to the subject by the hospital management of the day, as a rule. When pain has gone and sleep has become fully reestablished, nutrition is doing its recuperative rebuilding work and the long, long weary days of waiting for the official fiat of freedom to go back to the well and vigorous world have come, convalescence is hastened by right reading and recreative materials and methods. The psychiatry of the convalescent needs further attention.

LEGAL RESPONSIBILITY IN MATERNAL HATREDS OF CHILDREN.—The recent conviction of Mrs. Estelle Townsend Smith in Richmond, Virginia, of causing the death of her five-year old son through neglect and cruelty, presents some interesting psychologic features. The mother eloped with her husband and when the child was born, fancied it would grow up an idiot and saw signs of mental defect in every movement. As the baby grew, so did the mother's hatred for it. So intense was this, that the father, who was acquitted at the trial, became imbued with his wife's ideas. The child was frequently driven into the cold during the winter and thrown into freezing water. Then the father punished it. When the child died, necropsy showed the body lacerated with blows. The points psychologically raised by this trial are the possible in-

fluence of folklore beliefs as to changelings, the possible influence of the survival of pregnancy, mental disorders and morbid hatreds, the possibile cruelty which is so often shown by the relatives of the insane toward them, and the possible cruelty which results in a hysteric disappointed in some desire. The coincidence of the father in the mother's belief does not demonstrate the sanity of this, since frequently delusions of the insane are accepted by sane people as correct and even acted upon, as witness the many human sacrifices offered by fanatical religious sects. The influence of folklore belief as to changelings sometimes affects even the so-called higher circles of society, in countries where financial revolutions place the semi-cultured in position to dictate.

About ten years ago a Clonmel Irish peasant was convicted of killing his wife by burning an evil spirit, into whom his wife had been changed by an attack of typhoid fever. About the same time, a Hungarian family in Pennsylvania killed a deformed child as an offspring of th devil. The frequency of brutality toward idiotic and insane children by their parents indicates the influence of this old belief. It must be remembered that but 40 years since an English Lord Chancellor spoke contemptuously in a judicial declaration of the medical theory that insanity was a disease, or morbid manifestation. To a certain extent, while not expressed in the old demonologic terms, the belief still obtains that the insane have a quasi-responsibility for their state and for their actions. This leads to the brutalities of their relatives, which have so often cropped up in State Board of Charity investigation into the state of the insane at home in Pennsylvania and elsewhere. Mrs. Smith would come under any of these categories. The possibility of a morbid mental state surviving pregnancy must be in justice taken into account, albeit no evidence has been produced therefor. Even among carnivora and rodentia, nervous disturbances from pregnancy are to be found. Mental disturbances dependent on puerperal states over-ride natural instincts. Some bitches, remarks Mayhew, the veterinarian, cannot be induced to suckle the pups they have

borne, and others, no less frequently, eat their progeny. The disposition to desert or destroy their young, seems to prevail among the parentage of this world. In the female dog maternal instinct is most powerful, but unite certain conditions of the animal's body, the natural impulse seems to be perverted and she takes the life she would else have perished to preserve. Through a process of dissociation, as Harriet Alexander has pointed out, (Medicine 1904) ideas entering consciousness through the suspicional route of the puerperal mental state often remain after disappearance of that state. There are, however, conditions of hatred displayed by the mother toward her offspring, which cannot be considered as of this origin. The hatred shown by the mother of the poet Savage, throughout his life, was peculiarly malignant, yet her responsibility therefor cannot be questioned. It was the product of a disappointment which his birth occasioned, and for which she held him responsible. Judging from the general trend of the evidence in the Smith case, the mental state of Mrs. Smith seems similar to that of the mother of Savage. If she felt such a hatred, recognized, as she seems to have done, its legal significance, and could refrain from cruelty when there was danger of discovery, her responsibility must be regarded as full and complete. K.

SOME PERNICIOUS MEDICINES.—Albert E. Leach, chemist, says in the *Pharmaceutical Journal*, anent the results of analyses of various patent medicines, recently made by the State of Massachusetts.

"In one case a five-dollar package consisted of two bottles of liquid, yielding respectively 41.1 and 28.2 per cent. of alcohol by volume, together with a small bottle of pills containing nux vomica and coated with a very thin layer of gold foil. In another case twelve powders in a box and sold for $1 were found to contain ammonium chloride and milk sugar, but were free from gold and alkaloids which were stated to be present. Many 'tonics' and 'bitters' are sold in the United States for a similar purpose, bearing various attractive recommendations, a few of which

are here quoted: 'purely vegetable, recommended for inebriates,' this liquor contained no less than 41.6 per cent. of alcohol; 'entirely free from alcoholic stimulant,' yielded 25.6 per cent. of alcohol; 'sulfur bitters contains no alcochol,' this preparation actually contained 29.5 per cent. but was free from sulfur; 'a non-intoxicating stimulant; whisky without its sting,' gave 28.2 per cent. of alcohol; and 'liquid beef tonic, recommended for the treatment of alcoholic habit,' contained 26.5 per cent. of alcohol. Next to this type of fraud comes the class of diabetic flours or wheaten glutens. Of 11 samples examined starch was present in all, the lowest yield being 10 per cent., two others under 20 per cent., two between 50 and 60 per cent., and six between 60 and 70 per cent. One sample containing 59 per cent. of starch was described by the proprietor as 'protein in its purest form.' The price for these flours varied from 11 to 50 cents per pound. Taking cigarettes next, the—— brand of Medicated Cinnamon Cigarettes, purporting to contain no tobacco, were actually found to contain a large proportion, together with cassia and other aromatic herbs. . . . The report contains a list of hair restorers, some of them well known in this country, giving the amount of lead present. In the 12 articles analyzed the percentage varied from .3 to 2.32. Nine toilet preparations were found to contain mercuric chlorid or some other poisonous salt of mercury in proportions varying from 1 to 15 grains per ounce. In one case a six-ounce bottle contained no less than 47 grains of corrosive sublimate. Some of these preparations have already found a ready market in this country and doubtless others will follow in due course. The advertising managers of many of our most widely circulated newspapers and magazines will accord them a cordial reception, with the result that the public, with simple faith in what they read, will buy them as eagerly as they have done in the past. It is surely time that some official control was exercised over this growing evil."

THE RESIGNATION OF DR. LANE FROM THE BOSTON INSANE HOSPITAL.—The resignation of Dr. Edward B. Lane,

who for nearly twenty years has occupied the position of superintendent of the Boston Insane Hospital, comes as a severe blow to those who have the best interests of the institution at heart. The daily papers have announced that Dr. Lane resigned to enter private practice. This is only a partial statement of the case, and one apparently inspired by a desire to conceal the real ground of the resignation.

It is understood that Dr. Lane felt that his resignation was morally forced upon him by the action of the Board of Trustees. Up to the present time it has been the rule at this hospital, as at similar institutions, that the superintendent, who is held responsible for the proper administration of the institution, should select his assistants subject to the approval of the trustees. The trustees of the Boston Insane Hospital have seen fit to change this rule and no longer require the nomination of the superintendent in making such appointments. Acting under this new rule, they made an appointment which did not meet with the approval of Dr. Lane.

It is unnecessary to speculate upon the motives which may have inspired this action. To the members of the medical profession who know Dr. Lane's ability, and the conscientiousness which he has brought to the performance of his duties, the knowledge that his judgment was at variance with that of the trustees is sufficient ground for deciding that the trustees made a mistake. No one can help feeling that a matter which is serious enough to demand a resignation was, in Dr. Lane's judgment, one that vitally concerned the proper administration of the institution and the welfare of the unfortunate patients. Under such circumstances Dr. Lane has taken the only step open to him as an honorable member of the profession with a high ideal of his duty to those intrusted to his care.

Thus saith the *Boston Medical and Surgical Journal*, to which we respond "amen" in behalf of the good and honor of the profession and the welfare of the patients. One responsible head controlling all influences environing the victim of insanity, subject only to the deliberation and decision of a Board of Trustees by and with the professional advice of

a competent, responsible head. All psychiatric experience shows this method of government to give the best results.

DR. WILLIAM T. COUNCILMAN, Professor of Pathology at Harvard Medical School, has been elected Professor of Medicine at Johns Hopkins, to succeed Dr. William Osler. Dr. Councilman, it will be remembered, was formerly associated with Dr. Osler at Hopkins, but left the latter institution in 1892 to accept his present position.

THE FIFTEENTH INTERNATIONAL MEDICAL CONGRESS will be held at Lisbon in 1906. At a meeting of the American National Committee, at St. Louis last September, the following officers were appointed to represent the Congress: Ramon Guiteras, Secretary; Executive Committee: Frank Billings, M. D., William Osler, M. D., Frederick Shattuck, M. D., Abram Jacobi, M. D., and J. H. Musser, M. D., Chairman. Any communications regarding the presentation of papers at this Congress can be sent to Miguel Bombarda, Secretary at Lisbon; or to Dr. Ramon, Guiteras, Secretary, for this country.

UNDER FALSE PRETENSES.—If a poor fellow in the distressful extreme of poverty and misadventure gets your money under some false pretense, you cry out against the crime with righteous indignation. But when through the public press all sorts of falsely pretending quacks get the people's money, the aiding and abetting of the publisher of these charlatan confidence men are screened and excused on the overdone specious plea of the freedom of the press. Before us is an advertisement in the *Strand Magazine* "promising absolute cure at your own home of eyes affected with any trouble whatever," coupled with the false alarm caution, "if you see spots or strings *beware of delay, for delay means blindness!*" And this alarming, untrue advertisement comes from Chicago.

If *muscae volitantes* presaged blindness the sight of all mankind would have been penumbrated or totally eclipsed long before the saving advent of this wonderful sight restorer.

The methods of the quacks in the public prints succeed well with those who have psychic motes and blind spots in their mental vision and they are not few in the world.

THE WISTAR INSTITUTE OF ANATOMY AND BIOLOGY, corner Woodland Ave. and 36th St., Philadelphia, Pa. Milton J. Greenman, director calls our and your attention to the aid and encouragement offered by the Wistar Institute of Anatomy and Biology, for the advancement of anatomical science in America. The character and facilities of the Institute are set forth in a general announcement (Bulletin of the Wistar Institute No. 1) before us. It desires to enlist your co-operation, reader of the *Alienist and Neurologist*.

The work of the Institute will deal in part with the larger problems in anatomical science, questions which will require collective and co-operative investigation by many individuals. But the work will by no means be restricted to such problems, as any worthy investigation in anatomy, no matter how narrow the field, will receive encouragement. It is the desire and aim of the Institute that no person, capable of doing work of a high order in anatomy, should be deprived of the privilege by lack of material that may be used in his own laboratory or the want of the facilities which are offered by the institute in Philadelphia.

Anatomical investigators are cordially invited to cooperate in making this beneficent foundation, of the greatest possible service to its object. Aid can be rendered by bringing to the attention of the Institute through its Director, or through any member of the Advisory Board, the unsolved problems in the different fields of anatomy, as suggested by the experience of teachers and by physicians and surgeons in their practical work.

If the investigators of anatomy in our country, whether they be teachers, physicians or surgeons, will make use of this Institute, giving their advice and encouragement, the management believes and think it certainly must become a a prolific source of yet greater anatomical knowledge than

Investigations at the Institute will be especially directed to neurology. But there is no desire on the part of the Institute or of the advisory Board to limit the work to this field. The advancement of anatomical knowledge is the real purpose of the Institute and the chief concern of the Advisory Board, hence research in any branch of anatomy will receive the greatest possible encouragement and support.

If you have an investigation under way or in view and need material or facilities, and will communicate with the Director of the Wistar Institute or some member of the Advisory Board, we are assured, that wherever possible, aid will be rendered.

In closing the Committee urge parties interested to give this matter attention, and to join them in helping to make the Wistar Institute a potent force in advancing anatomical science. It reiterates with emphasis the fact that the Institute offers its aid and facilities in the most liberal spirit, both for individual and for collective investigation, and assures all again that its purpose is to foster research and to assist in placing anatomy in America upon such a strong and dignified basis that it shall be worthy of our country, and contribute its share towards meeting the needs of mankind.

This worthy appeal of a worthy cause in medicine is signed by Simon H. Gage, Cornell University, Ithaca, N. Y.; George A. Piersol, University of Pennsylvania, Philadelphia, Pa.; G. Carl Huber, University of Michigan, Ann Arbor, Mich.; Committee of the Advisory Board "On the Relations of the Wistar Institute to American Anatomists."

AN ENGLISH RAILWAY SIGNAL MAN ON AN ENGLISH RAILWAY—The Great Northern—goes insane at his post from overwork and insomnia, the common cause of railway disasters in this country, with perhaps, in some instances intemperance and dissolute habits superadded, though the latter is exceedingly rare, the men being too continuously employed and too greatly fatigued for anything but sleep after coming off duty.

This man is reported to have gone insane, religiously, in his box. Fortunately he had set all the danger signals before leaving his post, saying, God had commanded him, in a visit, to go out and preach the gospel. A dozen trains were stopped, but a new man soon replaced him, as can always be done, and new rolling stock can replace the collision-destroyed cars, but the company can not replace ruined minds and lives of its overworked employees, or the lives and limbs damaged or destroyed of railway accident victims of overworked men, and an eight-hour shift is the only safety for railway service.

When a better knowledge of the psychology and psychopathology of over brain strain and the disastrous unprofitableness of the latter shall find a working lodgment in the grey matter of our railroad managers and owners to regulate and balance works and schemes of gain for workmen, as well as corporation treasuries, then human machinery will begiven a chance for repair, as well as the inanimate mechanisms of corporate transportation and commerce.

Humanity to railroad men, especially eight-hour reliefs, and better pay for skilled service, with time for rest and sleep and vigorous neural repair, even an annual monthly vacation included, is in the true interests of thrift and avarice, as well as in the line of health, efficiency of service, and this gives us hope for the good time coming physiologically, with enlightenment to railroads, railroad employees and all of the victims of the present too bad management among the traveling public as well as employees.

IT IS A LITTLE REMARKABLE that in these enlightened days the reporters on some northwestern newspapers should be so afraid of tautology that they are compelled to call surgeons "saw-bones," and dentists "tooth-carpenters." Such expressions show a very low order of reportorial talent, and a slip-shod policy on the part of the editors whose duty it is to revise the copy of immature reporters.—*Med. Sent.*

These embryonic reportorial terms are on a par with "dock" and such little-headed reportorial features are never still born.—Ed.

WHERE THE NEWSPAPERS DO PUBLIC HARM.—The *St. Louis Medical Review* under the above caption, referring to a local newspaper publishing a London dispatch announcing that a "London humanitarian" has "discovered wonderful healing properties in opium," and has opened an establishment where the "victims of asthma and incipient consumption can take three curative whiffs from the opium pipe," promising to "personally see that no one takes more than three whiffs which he finds to be necessary for relief," asks of what earthly good can come from publishing such stuff? and says truly: It is not in any proper sense 'news;' "It subserves no public interest. It appeals to no legitimate object for which the newspaper exists. On the other hand, it is capable of doing by suggestion infinite harm to thousands of human beings. *The Review* asks if the Press is not in sympathy with the efforts of the best element of modern society to rid itself of alcoholic excess, drug addictions, etc." and if so, "why does the Press go out of its way to spread a piece of twaddle that will likely give rise in thousands to the idea that if they smoke opium they will get rid of their ailments; an idea that will result in ninety per cent of additions to the ignoble army of opium slaves?"

The hysteric neurotic newsopath, seeking with frenzied avidity marvelous romances of life masquerading in the guise of truth, is in the ranks of the guild of the pen and scissors as well as elsewhere among human callings. Why not a newsopath as well as an erotopath, kleptopath, psychopath, etc. Among the neuropathic world morbid sensationalism belongs to psychopathy as well as the world, and psychopathy amuses the world as much as it misleads.

Our friend of the *Medical Review* should bear in mind that the hysteric neurotic newsopath is among the news-gathering fraternity as those of his kind are elsewhere among the once strenuous, seeking with and "taking notes"

of the marvelous romance.

NATURE OR DRUGS.—A city daily paper intelligently discussing the value of fresh air as a preventive of the prevailing cerebro-spinal meningitis, erroneously thinks:

"Medical science is slow to acknowledge the healing power of nature and the benefits of a natural life. Fifty years ago some doctors held that nature had no healing power of itself over any disease once acquired. Drugs were considered the source of security. But as the goodness of nature becomes better understood the goodness of drugs becomes doubtful. Who is so bold as to say that drugs will not in time be entirely discarded."

This is neither a just nor a true statement. Long before this newspaper or any other daily newspaper had been born and the freedom of the Press had been mentioned as a dogma of civilization, old medical men of the past were appealing in practice to the *vis medicatrix naturae*, and the intelligent physician of our day sustains the vital powers of resistance against the distinctive tendencies of *materies morbi* by involving to the full all the faces of Nature—fresh air, sunlight, natural mineral baths, electricity and rest—The Finsen violet, X-Ray, the constant, interrupted static currents, heat and cold, are all elements appealed to daily and hourly in modern medical practice, along with other aid from Nature's laboratory for vital recuperation and resistance. These forces of Nature develop mineral and vegetable products, from which elements and forces of potency are abstracted by enlightened chemistry and biological research. It is through the lower forms of animal life and from the vegetable and other kingdoms and forces of Nature operated upon light, moisture and heat plus a seed, that potencies are germinated that as certainly influence man's organism for upbuilding development and support as the direct air and sunlight. The *fons et origo* of man's existence, his fecundation an evolution *ex ori in utero* are in the dark for nine moons and the sunlight and fresh air come into his being secondary to the sperm, the ovum and the blood and the foetus evolved into the infant

spends the greater part of its first six months *post partem* in shaded, balmy, nourishing and developing sleep. Fresh air and periods of sunlight and darkness are essential to normal life, but they will never enable medical science to dispense with other of Nature's therapeutic aids.

Newspaper therapeutics, though heroic and confident, is not always the wisest practice, though coming often from "mouths" and pens in other matters "of wisest censure."

Newspapers should take the beam of the patent medicine ad. from their pages before preaching therapeutics to doctors of medicine, and "so mote it be for the welfare of the people."

AMERICAN MEDICAL ASSOCIATION JOURNAL, ETC.—The *California State Medical Journal*—being an official organ of a State Society that has adopted the reorganization—speaks with remarkable temerity as to the business management of the *Journal of the American Medical Association*. Among other things, it points out that the Association members pay into its treasury something like $40,000 a year more than it needs—enough to enable the trustees to provide for not only the best journal in the country, but also one which does not, in every issue, make a laughing stock of the "principles of ethics." Nearly every issue tends to debauch the mind of some members; it recommends to them to make use of or prescribe secret remedies. It uses about $15,000 of the dues paid in by members to help in its work of "promoting the use ot secret remedies." The trustees of the A. M. A. are responsible. "Their contention, that it is not possible to determine which ads. are ethical and which are not, is simply absurd, puerile and idiotic. Let them answer these simple questions: Is it a medicine? Is the composition of this stuff known to the doctor who is asked to prescribe or use it? Are the advertising statements made within the truth? Is it advertised to the laity?"—*The Virginia Medical Semi-Monthly*.

Look into this Friend Simmons and Gentlemen Trustees.—Ed.

YELLOW FEVER AT PANAMA.—According to an Associated Press correspondent, Secretary of War W. H. Taft says that yellow fever was giving the most trouble on the Isthmus of Panama.

A recent report of the U. S. Pub. Health and Marine Hospital Service also shows that there were 27 new cases of yellow fever, with eight deaths in the canal zone for the period from January 1, to February 14, 1905. For so small a territory, with the government in absolute sanitary control, this does not strike us as being entirely satisfactory.

PANAMA CIRCUMLOCUTION.—Dr. Reed's Report on Panama Medical Service. An instance in point occurred a few days before my departure from Ancon: A woman in the insane department was delivered of a child; her condition was such that she could not nurse her offspring; the nurse applied to major La Garde for a rubber nipple and a nursing bottle; he had none—the requisition of last September had not yet been filled; he made out a requisition, took it to Colonel Gorgas for indorsement, then to Mr. Tobey, chief of the bureau of materials and supplies for another indorsement, then to a clerk to have it copied and engrossed; then a messenger was permitted to go to a drug store and buy a nursing bottle and a nipple, which finally reached the infant two days after the necessity for their use had arisen. The articles ought to have cost not more than 30 cents, but counting the money value of the time of the nurse, of Major La Garde, of his clerical help, of Colonel Gorgas, of Mr. Tobey, of Mr. Tobey's clerks, of the messenger, the cost to the Government of the United States was in the neighborhood of $6.75—all due to the penny-wise-and-pound-foolish policy of the commission, more especially of Mr. Grunsky.

SELECTIONS.

CLINICAL NEUROLOGY.

THE CONDITION OF THE VASOMOTOR NEURONS IN "SHOCK."—(*From the Laboratory of Physiology in the Harvard Medical School.*) Injuries to peripheral tissues may at times be followed by a condition termed "shock," characterized by a great fall in blood pressure, sinking of the body temperature, weak and often irregular heart beats and lessening of the normal irritability of the nervous system. Such symptoms may also be called forth by the direct mechanical injury of the nerve cells which maintain these several functions, but this should be distinguished from shock. In shock the primary injury lies outside these nerve cells.

The symptoms which characterize shock have often been ascribed to a depression of the vasoconstrictor nervous system. Each of the nerve chains which constitute the vasoconstrictor nervous system has three neurons. The cell body of the first lies in the bulb; its axis cylinder process ends in the spinal cord or in the bulb itself, in physiological contact with the second neuron. The cell body of the second neuron lies in the cord or bulb, but its axis cylinder process leaves the cord and ends in physiological contact with a sympathetic cell. The sympathetic cell is the third neuron. Its axis cylinder process ends in the wall of a blood vessel.

The bulbar cells, or first neurons, affect the blood vessels only through the second and third neurons. Consequently, if stimuli which pass through afferent nerves to the bulbar cells call forth a normal change in the caliber of the blood vessels, the condition of all three neurons must be normal.

Whether any significance is to be attached to the changes in the thymus gland at times observed in connection with asthenic bulbar paralysis can not as yet be determined. Comparable alterations have been found also in connection with another disorder of the muscles, namely, progressive muscular dystrophy. In cases in which they are not apparent, it is possible tnat functional disturbance may merely be unattended with structural alteration. Further, it may be that the changes described in the muscles may be secondary to the abnormalities on the part of the thymus gland. We have here at least a basis for more extended observation.—*Jour. A. M. A.*

NEUROTHERAPY.

STOKES-ADAMS' SYNDROME.—Foley (*Boston Medical and Surgical Journal*, August 31, 1905) gives a brief resume of the literature on the subject together with a detailed report of two cases. He says the condition may be of either cardiac or nervous origin, characterized by vertigo, syncope, loss of consciousness, and low pulse—pseudo-apoplexy. Both of his cases exhibited a marked reduction in the pulse rate, the one varying from 16 to 42 beats per minute, and the other 20 to 52 beats. Rest is the essential factor in the treatment. Diet, tonics and regulation of exercise are sometimes important. During the paroxysm, ammonia and the nitrates are beneficial agents. Atropin may advantageously be given subcutaneously. A recumbent posture favors an increased cerebral blood supply. In one of his patients, attacks were prevented by the patient getting on his hands and knees, allowing his head to hang down.

THE RADIANT LIGHT BATH IN ARTERIO-SCLEROSIS.—Crothers' apparatus consists of a small room lined with tin and strung over with 100 incandescent lights of 32 candle-power, the patient remaining therein for from 5 to 10 minutes. He considers the beneficial influence to be principally due to light, as the heat of the room rarely ex-

ceeds 115° F. The influence is particularly apparent by a marked sedative effect exerted upon the irritable nervous system.

Arterio-sclerosis is a condition accompanied by deposits in the walls of the arteries and loss of contractile power whereby the circulation of the blood and osmosis are interfered with. The condition usually results from excessive nerve strain, faulty living, and senile change. The therapeutical indications, therefore, would be stimulation of nutrition and visceral function.

Two cases are reported of men who had gotten into a condition of excessive nerve debility which had reached the stage of mental aberration and was accompanied by marked evidence of sclerosis, excessively rapid and irregular heart action, etc., which he subjected to this treatment combined with general mechanical vibratory stimulation and the static breeze; in both cases the relief of the conditions was marked and rapid. Crothers then suspended the light treatment, keeping up the vibratory and static applications, whereupon the symptoms reappeared. They disappeared again when the light applications were resumed, and did not reappear when the static and vibratory applications were discontinued, the light treatments being persisted in. This is considered to be evidence that the beneficial effects were due exclusively to the electric light baths. Both patients recovered entirely under their continued use.

Crothers considers that this therapeutic modality "seems by its mild effects to be more impressive than the arc light, used for the same purpose," and states that further observations along this line have given him a new confidence that some particular force from this source is imparted to the body, antagonizing diseased action and restoring functional activities.—*Archives of Physiological Therapy for Journal of Advanced Therapeutics.*

PSYCHIATRY.

NERVOUS AND MENTAL DISEASE AMONG THE JEWS.—While among Englishmen the number of insane is 3,050 per 1,000,000, and among Scotchmen 3,400, the number among the Jews equals 3,900. Servi found one lunatic to every 391 Jews in Italy. Mayr states that to each 10,000 Christians in Germany there are 8.6 insane, while among the Jews the number reaches 16.1. In Bavaria the proportion is still greater, 9.8 among the Christians and 25.2 among the jews. Rjazansky (*'Vratchebnaja Gazeta,'* No. 19, 1902) gives his experience of ten years' practice in a small town, Dagd, with a population made up of 1,014 Jews and 328 Christians. The Jews comprise 190 families, and among them he noticed 47 cases of nervous and mental diseases, while on the other hand not a single case of mental unbalance occurred among the Christians. Of course these statistics are too insignificant to enable us to generalize, but they strikingly corroborate the more extensive observations of other authors. There is every reason to believe that the nervous strain under which the Jews have lived and still live in European countries, aided by the intensification of predisposition by close intermarriage, is accountable for the prevalence of insanity in this race.—*Jacobs, in The Medical Record.*

NEUROPROGNOSIS.

BRAIN INJURIES.—D. C. Peyton points out the indications for operative interference in cases of brain injuries. He holds that surgery is called for when there is evidence of hemorrhage or symptoms of compression, either from hemorrhage, depressed bone, or the presence of a foreign body, and emphasizes his opinion that in cases with symptoms of serious brain injury the danger to the patient of an exploratory opening with the observance of the highest degree of aseptic technic, is infinitely less than the unreasonable delay that is frequently permitted while waiting for definite diagnostic symptoms. He urges the importance o

the surgeon watching the symptoms very closely from the beginning until he can assure himself that no injury has occurred within the cranial walls. Two cases are reported, one of gunshot wound with extensive comminution of bone, in which the fragments were removed and the wound cleansed by irrigation with normal salt solution, followed by recovery, and the second, of fracture of the base, terminating fatally.—*Jour. A. M. A.*

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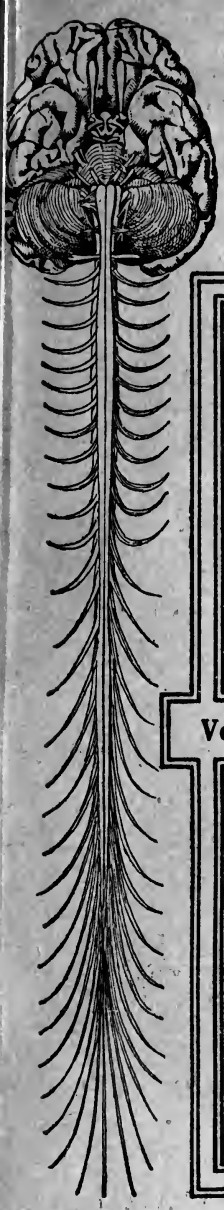

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