we shall discover potential dementia praecox or constitutional inferiority as a condition underlying the psychosis or psychoneurosis. Inquiry into psychoses of various types and into alcoholism will frequently disclose an underlying constitutional deficiency. I believe this is being more and more realized, especially as regards alcoholism.

For the purpose of comparison, I call attention to Tables 3 and 4, taken from the 1916 report of the New York Neurological Institute.

While I realize that it is difficult to compare hospital cases with those from private practice, yet there may be some lesson to be drawn from a consideration of the cases from the New York Neurological Institute. Neurasthenia, psychasthenia and dementia praecox taken together constitute a large group of the dispensary cases—25 per cent in all. This does not differ greatly from my own percentage. It will be noted that the large number of 373 cases of neurasthenia are diagnosed in dispensary cases and fifty-seven in the house cases.

Despite all the efforts made to delimit hysteria and neurasthenia, these conditions remain and can hardly be made to disappear from diagnostic tables.

It seems that although we may eliminate in one direction, the cases will appear in some closely allied group. But these cases are here, whether we call them neurasthenia, psychasthenia, potential dementia praecox or constitutional inferiority, or something else.

These classifications are useful if they are not taken too seriously; if we bear in mind that every case is a law unto itself, and that there are all kinds of overlapping to be observed, and if we do not worry particularly because we cannot force a particular case into a given diagnostic grouping, for we ought not to even try to do so in all instances.

SUMMARY

In dealing with all the neuroses and psychoneuroses we must be on the sharp lookout to eliminate all sorts of organic disease, and we must examine and reexamine in order to do this, bearing in mind that by the most acute observers cases have been called hysteria which have afterward been seen by the same observers to be grossly organic—for instance, brain tumor.

Hysterical symptoms may appear not only as an expression of various organic diseases, but as a phenomenon of various psychoses and expressions of constitutional inferiority or of temperament. My main point in this paper is that, after having eliminated organic disease, we should examine into our case to determine as far as possible the original constitution and temperament of the patient, remembering that some of these cases are best designated as constitutional inferiority.

Westinghouse Building.

Suicide More Prevalent Among Men than Women.—Figures compiled by the Metropolitan Life Insurance Company show that suicide is more than twice as frequent as a cause of death among males than among females. This is true at all periods of life except at the ages 15 to 19. The same conditions are found to prevail among the white and the colored races. After early adolescence, the white female suicide rate remains practically stationary, never varying very much from about eleven per hundred thousand. On the other hand, the white male suicide rate increases with each age period. The rate is highest at the ages 65 to 74, when it is over eighty per hundred thousand. Suicide is a common cause of death, nearly five times as prevalent as at the age period 20 to 24.

THE TRAUMATIC NEUROSES

WITH SPECIAL REFERENCE TO THEIR
MEDICOLEGAL RELATIONS*

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The traumatic neuroses embrace all of the psychoneurotic syndromes which directly follow shock. Under this name one includes especially hysteria, neurasthenia and hypochondriasis that have immediately succeeded a trauma. It is generally agreed, therefore, that this heterogeneous term signifies no disease *sui generis*, but merely a mixture of functional symptoms which are ushered in through the influence of an accident. It does not exclude in the same person other disabilities, mainly surgical, that have resulted from the accident. It does not ignore the possible aggravation by the trauma of previously present cardiovascular-renal or other syndromes. It does not decide the question of dormant nervous symptoms forced into activity by the accident. Unfortunately, also, it does not differentiate between the functional psychoneuroses and brain disorders, like concussion of the brain, which evoke indefinite symptoms resulting from molecular or other definite physical changes.

Not long after 1888, when Oppenheim first used this term though Erichsen years before brought out similar views, it became generally accepted, even though not all were in harmony with his point of view that it represented a specific disease with molecular physical changes in the brain. In recent years, the desire for annuities and compensation for accidents has caused such a misuse of this diagnosis that many physicians have been won over to accept the contention that the traumatic neuroses are merely a collection of imaginative or ideogenous symptoms clustered around a lawsuit. Others again see in it a psychoneurosis which must have been present before, and which has nothing to do with the accident. Hellpach, in Germany, speaks of it as a folkepidemic resulting from their system of annuities. A. Brissaud, in France, coined the word "sinistrosis" to express the fixed determination of a person to secure compensation for having been in an accident, and in the Fourth Chamber of the Tribunal it has been ruled that an incapacity resulting from this obsession does not entitle a workman to ask for the allocation of an allowance (Collie). *Rentenhyserie* and *Begehrungsneurose* in Germany and litigation-hysteria in America are likewise used to express this idea. Moorehead¹ uses the word "traumasthenia."

But the same functional symptoms develop in persons who do not have accidents that involve compensation, and some individuals who after accidents develop a traumatic neurosis never desire and even refuse compensation. Also, notwithstanding a frequently repeated opinion to the contrary, a traumatic neurosis can develop in a person who, before an accident, was absolutely well. The termination of litigation does not always result in a total recovery. My experience, nevertheless, agrees with the experience of those who claim that a large part of the jury awards in our country represent a valuation of the exaggerated rather than the actual symptoms. The intense

* Read before the Section on Nervous and Mental Diseases at the Sixty-Eighth Annual Session of the American Medical Association, New York, June, 1917.

1. Moorehead: *Traumatic Surgery*, Philadelphia, W. B. Saunders Company, 1917.

contemplation of self resulting from the desire for compensation, the overzealous efforts of interested attorneys, physicians and friends to protract an abnormal mental attitude until the pending litigation is over, and the effort to win the sympathy of the jury by making the most of the litigant's ailments cannot tend toward a true picture of conditions. And since most psychoneurotic persons are unduly emotionally reactive, the affective factors which cluster around litigation and control the actions and social relations of the litigant are often vastly more disturbing to the nervous system than the initial shock of the accident.

IS THERE AN ORGANIC TYPE OF NEUROSIS?

Renewed interest in the traumatic neuroses, aside from the factor of litigation, has resulted from the present great war. Oppenheim² reaffirms and amplifies his point of view that after the trauma there is a definite reaction on physiologic functioning which may be either mechanical or physical in action. Either type of causative factor has the same effect on the nervous system. He says:

There is no doubt that the finer organization of the nervous tissue can be directly and indirectly injured, without the occurrence of hemorrhage, inflammation, degeneration and necrosis. I refer to finer physical occurrences. The influence of this overestimated impulse seems to me to be like the removal of a link in a chain, or of the displacement of molecules, or of an inhibition of tracts, a tearing apart of associated functioning parts, a diaschisis—in short, a condition which is not microscopically demonstrable, which does not represent definite alterations of nervous tissue but which in every case produces conduction inhibitions to motor impulses.

He cites the frequently found vasomotor-secretory-trophic disturbances as a further proof; likewise, the hyperthyroidism which often follows shock of an accident. His experience from the war neuroses has fixed more firmly than ever his belief that we are dealing in some of the traumatic neuroses with an overstimulation of the nervous system with a resultant altered function which is not hysterical, implying thereby a psychogenic origin, or neurasthenic, conveying thereby the idea of an exhaustion origin. His observations concerning reflex paralysis and the flaccid atonic paralysis of amnesic akinesia, differing from the hysterical type, its predilection for the left side, its constancy and often accompanying trophic disturbances represent a brilliant though unsuccessful attempt to isolate a syndrome peculiar to the traumatic neuroses. Regis,³ commenting on this question, records a sluggishness of gait not extending to paraplegia in the hind legs, among other symptoms observed in dogs that have been subjected to violent explosions. The dogs that died after three or four days did not have any discoverable microscopic lesions of nervous tissue. Sudden deaths under shell fire have been reported from the front without any injury having been received. They cannot, however, be used, as has been done by Farrar,⁴ in supporting the view of probable minute changes in the central nervous tissue. It is just as probable that myocardial and cardiovascular disease was the cause.

The war neuroses have, on the other hand, accentuated the views of those who see in the traumatic neuroses only a psychogenetic or ideogenous syn-

drome. Lewandowsky⁵ attacks Oppenheim's hypothesis, most drastically asserting that "a mechanical shock to the nervous system by way of sensory and sensorial tracts is unknown to physiology or pathology." In the discussion of Cassirer's paper before the Berlin Neurologic and Psychiatric Association, Feb. 14, 1916, not only Lewandowsky, but also Schuster, Bonhoeffer and Liepmann objected to Oppenheim's attempt to isolate in the traumatic neuroses a syndrome which was organically produced and, not therefore, hysteria.

Though working as an aurist in a base hospital, Wilson⁶ ventures on a hypothesis which presents the same line of reasoning as does Oppenheim. He speaks of three types which he encounters: (1) those with actual nerve deafness; (2) those who recovered hearing, but with fixed ideas of nerve deafness still remaining, and (3) malingersers. I quote the following from him:

The symptoms associated with loss of hearing from high explosives fall within the group of nerve diseases called traumatic neuroses. In many of our cases, there is a recognized physical trauma to the head or elsewhere received during the period of mental excitement. It is well recognized that traumatic neuroses are apt to occur under such conditions. There is unsteady equilibrium with vertigo. There is a concentric narrowing of the field of vision. In many of our cases, fields of anesthesia were present.

He sets up the following explanation:

1. At the synapses, there is a structural discontinuity of the nerves. 2. The results produced by impulses traveling in a nerve depend on the way the fiber ends and not on any differences in the impulses themselves. 3. At the synapses different physiologic systems come in touch with one another and so coordinate action in diverse systems is possible. 4. At the synapses, there is always a spread of nerve impulse and the greater the impulse the greater the spread.

With this basis, Wilson says, we are working on the following hypothesis:

As a result of high explosive with enormous and sudden pressure in the ear, there occurs a dissolution of the permanent auditory pathway and a spread of nerve impulses into the other adjacent pathways. The auditory impulse no longer reaches its goal, and deafness results. Such a dissolution may occur at any one or all synapses.

His reasoning, though conjectural, may be applied to many of the other symptoms of the traumatic neuroses, such as functional loss of vision, functional paralysis, etc. S. Meyer⁷ describes an apathy simulating dementia accompanied by deafness without any central labyrinthine disturbance which he speaks of as a functional inhibition of cerebral activity. This seems to be similar to the Wilson type of traumatic neuroses. Hysteria from shell shock he observed frequently. It was not, however, accompanied by deafness or any profound disturbance of hearing. These cases had nothing in common with his first group of patients, which he considered to be a special type of mental disturbance. It is not a pronounced apathy with a retrograde amnesia producing varied types of pseudodementia such as has been frequently observed in the traumatic neuroses, especially after catastrophes.

The shock hypothesis of Monakow which he calls "diaschisis" seems to me to be a valuable conception.

5. Lewandowsky: *Ztschr. f. d. ges. Neurol. u. Psychiat.*, 1915, **11**, 703; 1915, **12**, 434-439.

6. Wilson: *The Effects of High Explosives on the Ear*, *Brit. Med. Jour.*, 1917, p. 353.

7. Meyer, S.: *The Nervous Symptoms Following Shell Shock*, *Ztschr. f. d. ges. Neurol. u. Psychiat.*, 1916, *Orig.*, **33**, 353.

2. Oppenheim, H.: *Die Neurosen nach Kriegsverletzungen*, Berlin, S. Karger, 1916; *Neurol. Centralbl.*, 1915, **34**, 514.

3. Regis: *Boston Med. and Surg. Jour.*, 1916, **175**, 22.

4. Farrar: *War and the Neuroses*, *Am. Jour. Insan.*, 1917, **73**, 716.

It resembles, but goes farther than the idea of nerve circuits. It is well recognized that any catastrophic event may stop the brain from receiving any information. Diaschisis, therefore, results, not merely after hemorrhage or thrombosis, as Monakow brought out, through a primarily disturbed brain, but secondarily through a failure of the sensorial pathways to properly influence the brain centers.

AN EXPLANATION OF THE PSYCHONEUROSES

We start, therefore, with the assumption that an acute stoppage of cerebral activity may result after trauma. This need not be structural in origin any more than a syncopal attack premises structural brain changes. But it must be of such a degree that the individual cannot adjust himself to it. This disordered situation brings emotional reactions and its motor responses. If the brain adjusts itself, the emotions subside gradually; if not, the attempt to do so increases the emotional reaction. Such emotional reactions represent the strongest drainings of energy to which the nervous system can be subjected. An emotional complex thus produced by an accident nullifies all efforts of the body to adjust itself, acting similarly to emotional reactions produced by various psychogenic determinants. The body vainly tries to secure an adjustment. The glandular secretory organs work overtime. And there results from their overstimulation the same nonintegrations as are produced by the overactivity of these organs from other causes. An ideogenous factor now stepping into play establishes a vicious circle. It is especially an acute and intense emotion, which in not allowing any time for readjustment, quickly drains off neural energy. It cannot be replenished if any factor connected with the accident prevents, whether it be primitive fear, or desire for compensation, or other wish factors.

Such a draining of energy is probably similar in result to the overactivity of cells which in diaschisis produces a physiologic stoppage of function. This is transient if the cells can replenish their energetic substances; permanent, if they become damaged, or if the synaptic connections cannot become reestablished (Sherrington). This draining of energy is typified especially by the clinical syndrome of complete asthenia and need not be marked by any emotional stage. As a rule, however, the ideogenous factors are present from the beginning to exercise their influence on the nervous system, especially the autonomic nervous system. Bivalency of origin is, therefore, generally noted in the traumatic neuroses. The line between stimulation and overstimulation on the physiologic side is hard to establish; likewise we cannot easily differentiate the negative from the positive side of an emotion, a euphoria from a dysphoria, etc. The discrepancies in points of view are due often to the observer overvaluing one valency and neglecting to give the other its proper perspective. Endocrine neurasthenia exemplifies this confusion. Entities should not be raised up which tend to ignore the unity of the entire nervous system.

Once established, emotions functionate and keep up their harmful influence in many ways. "Fixation of neuroses" and shirking and habit reflexes or substitutions are the result. Unconscious wish factors often determine them. And more often the brain defends itself from its enemy by suppressing the content of the emotion. Submerged, it may continue dynamically active and influence the reactions of the individual by

surrogations, projections, introversions, etc. But in all these mental processes the cerebral cortex is activated since it represents the adjuster mechanism of the afferent neurokinesis (Dearborn⁸). Pawlow's conditioned reflex studies help us to understand how these psychokinetic equivalents act. And also Adler's⁹ organic inferiority conception with the psychic factors it involves is likewise a fingerpost on the road to a complete understanding of the psychoneuroses.

SOME ATTEMPTS AT CLASSIFICATION

Grasset¹⁰ groups the psychoneuroses under: (1) the sensory motor (motor sensitive) psychoneuroses; (2) the sensorimotor (motorsensorial) psychoneuroses, and (3) emotional and psychic psychoneuroses.

1. The classical hysterical traumatism or traumatic neuroses. Here we find apparent disability from paralysis, paresis or contractures, anesthesia of the various functional types, psychosplanchnic syndromes, circulatory, respiratory or digestive and neurasthenic syndromes.

2. Sensorimotor psychoneuroses. Under this title are included those psychoneuroses in which symptoms on the part of the special senses predominate: visual symptoms, aural symptoms, disturbances of speech and writing of a functional type and various mimicries.

3. Emotional and psychic psychoneuroses. He places here "persons with hyperalgesia and hyperesthesia whose hysterogenic zones generate emotion but no other disability. They are, he says, not only *angogènes* (hysterogenic) but *angoissantes* (terrifying). They evince the mimic phenomena of emotion—tremble, perspire, shriek, attempt to flee, etc."

Cimbal¹¹ argues for a more practical classification which will indicate clearly the condition found on examination. (a) Acute nervous irritation is not, he says, a traumatic neurosis. (b) Acute nervous exhaustion is not neurasthenia, inasmuch as it is not developmental and does not deal with constitutional inferiors.

4. Asthenia describes a general exhaustion more clearly than does neurasthenia. Hysteria is too vague and should be divided into fright neuroses, repression neuroses (*verdrängungsneurosen*), inhibitory neuroses (*hemmungsneurosen*), congenital irritability, moods, psychic spasms and displacements (*verschobenheitszuständen*).

5. He separates from the war neuroses also two organic types of neuroses: (a) concussion neuroses of the brain with disturbances of ocular movements, of the visual fields, of audition and of coordination; (b) a cerebral compression type occurring from shell shock with spastic hemiparesis without ankle clonus or a Babinski reflex, but with a positive Oppenheim sign. These must not be called hysteria.

From the Italian war front the observations of Bennati¹² are worthy of comment. He considers that the war neuroses are conditioned by two factors, namely, the numerous catastrophic occurrences and extreme exhaustion, producing structural changes, after the hypothesis of Edinger. Other observers conclude, however, that exhaustion is not as important

8. Dearborn: Affective Physiology, Med. Rec., New York, April 8, 1916.

9. Adler, cited by Mayer, E. E.: Am. Jour. Insan., 1914, 70, 661.

10. Grasset: Les Psychoneuroses de guerre, Presse méd., 1915, 14, 105.

11. Cimbal: Neurol. Centralbl., 1915, 34, 710.

12. Bennati: La Etiologia determinata nella nervosi traumatica di guerra, Riv. sper. di Frenat., 1916, 42, 49.

etiologically as was formerly assumed. In fact, Bonhoeffer¹³ expresses great doubt as to whether we are justified in holding to our older conceptions of an exhaustion psychosis.

Farrar⁴ concludes that among other things:

1. The reactive group is made up essentially of psychoneuroses which may be divided into (a) anticipatory, and (b) trench neuroses.

2. The type of trench neuroses is the condition called "shell shock," which consists of a transitory concussion syndrome followed by a more or less protracted neurotic phase.

3. Trench neuroses occur usually in unwounded soldiers. There is no satisfactory evidence that trauma plays a part in their causation. There are well qualified observers who hold that, as a result of contemporary military experience, the concept of the so-called traumatic neuroses should be abolished.

4. The drift of opinion is unmistakably toward the psychogenic basis of war neuroses of all types, including shell shock. Even in the initial stage marked by a twilight state of some duration, there is evidence that the psychogenetic element may have as great, if not a greater, rôle than the item of mechanical shock, although this is more important.

Regis¹⁴ considers three groups of emotionally produced psychoses:

1. Oneirism with morbid dreams which is akin to the second stage of hypnotism and which increases to hallucinatory oneirism.

2. Mental confusion types, with obtusion, disorientation, agitation or torpor.

3. Amnesia types: (a) The amnesia of cranial traumatism is lacunar, retrograde, antegrade and actual. (b) Battle amnesia is complete with terrifying hallucinations. Regis does not refer to hereditary types, but to emotionally predisposed, impressionable persons. He is in accord with our contention that the neuropathic and psychopathic cannot be separated.

INCIDENCE AND RECOVERABILITY

Because of the various interpretations as to what constitutes a traumatic neurosis, as to how much is due to accident and how much is due to predisposition, and because of the varied laws for compensation, statistical prognoses have only a relative value. Naegeli,¹⁵ a Swiss, states that 93 per cent. return to work after an adjustment. His statistics are at variance with those of others. Returning to work does not necessarily mean a return to health. According to recent statistics (Birnbaum¹⁶) of psychoneurotics in the German army, 9.5 per cent. were returned to active service, 35 per cent. were able to do garrison duty and 55.5 per cent. had to be returned home. Wimmer¹⁷ comments on the increase of neuroses since the German pension system went into effect, and considers that the law and not the individual should be blamed. Sachs¹⁸ favors no compensation, and considers that there would be no bad prognoses were no gain attached to the claim of disability. Billström¹⁹ admits that a traumatic neurosis without damages involved has a better prognosis and presents less severe symp-

toms than a traumatic neurosis in which pecuniary damages are applied for. He considers the prognosis worse among the lower classes and among alcoholic types, and finds that a second accident is always worse than the first. Meltzer²⁰ asserts that an annuity or compensation and accident go hand in hand. He cites Brand's observations of the Austrian pension system established in 1895 to the effect that from 1885 through 1894 no cases of traumatic neurosis following accident were described, whereas from 1895 through 1904, there were forty-six cases. Laudenheimer²¹ divides psychoneuroses among the soldiers into five varieties: (1) depressive-anxiety neurosis, (2) neurasthenia, (3) hysteroid, (4) epileptoid, and (5) psychopathic types. He finds that patients with hysteria were without predisposition and were most severely injured soldiers (shell explosions, etc.). The first class became again fit for service, and 60 per cent. of the second class returned to the front. We cannot follow such attempts at prognostic classifications. Each case must be judged by itself, as endogenous and exogenous determining influences vary considerably independently of the diagnosis.

We need hardly call attention to the fact that where pension and compensation not involved, physicians would not bother to comment on the traumatic origin of a neurosis. Writers often quote Zingerle,²² who reports on the Messina earthquake that he did not find a single case of traumatic neurosis after the shock. Also Bianchi examined, immediately after its occurrence, 500 persons who were in this great catastrophe and found no traumatic neurosis, yet Neri²³ observed many psychoneurotics among the survivors. Stierlin,²⁴ three months afterward, examined 226 victims, and 20 per cent. of them had various objective symptoms of traumatic neurosis. He found also that they had no psychoneurotic symptoms before the earthquake and no history of predisposition. This period of latency, giving the mind time to develop the fright and fear factors of the episode, is considered important by him in the etiology and prognosis. Yet, in his report of the catastrophe, he enumerates many who immediately developed a psychogenetic (traumatic) neurosis from the intense fear state engendered and in whom idogenous factors seemingly had no chance to develop.

Dercum²⁵ considers that only hysteria—an innate state—is embraced under traumatic neurosis, that the symptoms owe their origin to suggestion, that trauma unconnected with fright plays no rôle, and that in hysteria evoked by an accident and not involving litigation, the interval between accident and hysteria is unusually short, the symptoms rarely pronounced, and these, as a rule, fade and disappear spontaneously or readily under the suggestion of treatment; unless indeed, the treatment and the attitude of the physician and others is such as to confirm the belief in injury.

Suggestion by the physician is not, however, always the producer of anesthesia as Dercum, following Babinski, maintains. Accidents to railway employees do result in traumatic hysteria without litigation or compensation being involved, as I have personally observed, and postlitigation results of traumatic hysteria without other complicating disease are not

13. Bonhoeffer: *Allg. Ztschr. f. Psychiat.*, ref. *Ztschr. f. d. ges. Neurol. u. Psychiat.*, ref., 1916, **13**, 3.

14. Regis: *Psychic and Neuropsychic Affections of the War*, Boston Med. and Surg. Jour., 1916, **175**, No. 22.

15. Naegeli: *Cor.-Bl. f. Schweiz. Aerzte*, 1910, No. 2.

16. Birnbaum: *Ztschr. f. d. ges. Neurol. u. Psychiat.*, 1916, **12**, No. 4, 326.

17. Wimmer: *Deutsche Ztschr. unf. H. Krankheiten*, 1913, **49**, 133.

18. Sachs: *Unfallsneurosen*, Breslau, 1909.

19. Billström: *Berl. Klin.*, 1914, **26**, 1.

20. Meltzer: *Aerztl. Sachverst. Ztg.*, 1914, **20**, 19.

21. Laudenheimer: *München. med. Wchnschr.*, 1915, No. 38.

22. Zingerle: *Monatschr. f. Unfallheilk.*, 1911, No. 9.

23. Neri: *Rev. Neurol.*, 1909.

24. *Deutsch. med. Wchnschr.*, 1916, No. 1, p. 6; *The Medical Result of the Catastrophes of Courriers, Haemm, Valparaiso and Messina*, Berlin, 1909.

25. Dercum: *Hysteria and Accident Compensation*, Philadelphia, G. T. Bissel Company, 1916.

always favorable. But it is true that the plaintiff rarely submits himself to treatment and that the symptoms often disappear after litigation is terminated. We do not agree that the type of hysterical disability found in the traumatic neuroses is always accompanied by the so-called character anomalies of congenital hysteria. They often were previously normal, and it is only guesswork to assume that a previous neuropathy existed.

However, we are in accord with his general indictment of the pernicious influences of litigation, and recognize that a large number of claimants for damages are obsessed with the desire for a large monetary compensation. We also agree that the German system of pensions or annuities makes traumatic hysteria a more hopeless malady than with us, since a permanent dysphoria tends to be produced; but in our system the long months of waiting for monetary recompense serves to fix the neuroses almost equally as much.

MEDICOLEGAL CONSIDERATIONS

The right to recover damages for injury due to the negligence of others is incontestable. The increase of industrial machinery and the growth of rapid transportation have filled our courts with suits to recover enormous damages for minor injuries. Street railway corporations yearly pay out from 5 to 10 per cent. of their gross receipts in settlement of claims growing out of accidents. Many attorneys and a few physicians devote practically all their time to this kind of work. Unconscious malingering, manufactured symptoms, exaggeration of those really present, false interpretations of those present, are daily encountered in our courts. Unjust awards result on the part of a bewildered jury.

1. Our method of jury trials in which biased opinions carry as much weight as do more careful, if not more competent ones, are unfair. How to remedy it is not, however, clear. A jury of physicians is unobtainable, and even if it were, would simply multiply the number of physicians in the employ of legal firms and corporations, and the better element of the profession could not be induced to serve. A commission of physicians to report to the judge, whose charge to the jury would be based on their findings, would not secure any betterment. I am convinced that a commission on which each side has appointed a representative, and the court a third member, also fails for obvious reasons to give good service. As Sir James Stephen, K.C., says in his "History of Criminal Law": "The judge and the jury alike are and ought to be, instructed only by witnesses publicly testifying in open court on oath."

2. Since our common law permits each side in litigation to secure as many experts as they desire, the legal firms which specialize in accident cases and others, also, by employing physicians on contingent fees, sometimes unduly large, have always at their call physicians who, sharpened by experience, give their testimony the proper bias to influence the jury. This conspiracy of interests is reprehensible.

A change of law, which would give only the court the right to call experts is impossible to secure, and even if brought about, would not prevent the use of politics by those interested in securing the appointment of the "right kind" of physician. If it were possible to create a law which would have the compensation of all experts a matter of court record, by making it a

part of the expenses of the trial, some improvement over present methods would, however, be attained.

3. Jury awards with us seem to place a premium on exaggeration, and a proper staging of the dramatic possibilities of the client secures an increased verdict. Awaiting for years a settlement nullifies all efforts to bring a claimant for damages back to usefulness, and the psychic effects of not desiring health, together with the bringing on of postural spasms and contractions through fixed positions, often in themselves do much harm. The German system of an indemnity of two thirds of a person's wages after the fourteenth week does not remove these factors. The Danish system of a cash settlement is different from ours in that physicians, not juries, judge the matter, and they accord the claimant a small daily amount until nine months have elapsed when they decide on his compensation, and one and a half years later give a further and final settlement if he has not recovered.

One great suggestive influence in litigation is the blanket indictment of complaints introduced by the attorney. The averment in it that John Doe is a hopeless nervous wreck is read by the plaintiff before he signs it, and the cooperation of a physician who agrees to the truth of such a statement helps to fix this idea in the plaintiff's mind.

4. Working, however, with our present methods I would suggest that all court testimony of physicians be placed on file by their county societies. Publicity would tend to stop a certain class of medical testimony. It would not prevent ignorant or mistaken testimony, but bought testimony and substituted diagnoses would be less likely to be offered.

5. A physician finds great difficulty in securing an opportunity properly to examine a claimant for damages if he is not retained by the claimant's side. The examination may be requested at the attorney's office in the presence of a "runner" who cooperates in the examination. The plaintiff's physician is utilized to suggest both to the plaintiff and to his colleague; and a second examination is often refused. Sir John Collie²⁶ did a great service in England when he insisted that he be given the opportunity for examination without the presence of "runners" and friends, and, if it was an ambulatory case at his office, where he had at hand all instruments of precision. He secured a legal decision, which was affirmed by the higher courts, that a "solicitor's office is not in ordinary circumstances a proper place at which to hold a medical examination of a workman."

6. Medicolegal opinions should never be based on subjective symptoms, and only objective symptoms should be utilized or permitted in making a diagnosis in court. The subjective symptoms are not based on actual facts. They are not the findings of the physician, and they cause the physician to be unduly influenced. I have known physicians to base a diagnosis of epilepsy on the spasms and spells of somnambulism that were manufactured for him; or to base a diagnosis on unconsciousness supposed to have followed an accident which later was shown never to have taken place, or to diagnose "brain abscess from trauma" from a subjective vertigo and head pain and a bradycardia which was familial. Such mistaken judgments would be avoidable if the physician dealt only with facts.

7. Hypothetic questions will continue to be given. Distorted medical facts, exclusion of important symp-

26. Collie, Sir John: Malingering, London, Edward Arnold, 1913.

toms, and overemphasis of minor ones make them generally of no value.

If the physician has examined the injured person, he should refuse to answer any hypothetical questions unless they included his objective findings, and his answer should be predicated on them. If the injured person could be examined, and the physician has not done so, the court would probably refuse to permit him to render an opinion. The physician should also insist that the symptoms which are the direct result of the accident should be separated from those which are not or probably are not due to the trauma. Probabilities and possibilities in prognoses should also be definitely separated in any opinion rendered. The law does not require physicians to assume that medicine is an exact science, and honest physicians often do themselves harm in court by being too positive. Often, however, positive statements dishonestly offered secure a bigger verdict for the claimant. Positive prognoses in traumatic neuroses are generally impossible unless the physician has personal knowledge of all medical, familial and social factors. He should, therefore, never give opinions based on hurried examinations or imperfect knowledge of environmental factors.

I am aware that the expert is required to accept as true the evidence of the witnesses incorporated in the hypothetical question. But he is permitted to qualify his answer in order to make it plain that he can have no expert opinion on evidence which does not agree with his objective findings, and he should never be satisfied with categorical answers.

8. No statistics concerning prognosis should carry much weight in court because of the personal equation of the nature of the accident and the social status of the patient, and the different groupings found in statistics and variations in the laws of different countries. The future of each psychoneurotic patient must be determined separately by studying his social habits, age, nature of work, intelligence, emotional complexes, etc., as well as the kind of accident and diagnosis offered. In court, since much of this evidence is not in the hands of the expert, his opinion is to that extent defective. But more defective still is the opinion rendered on the appearance of the patient, subjective symptoms and the sympathies aroused by the litigation. In general, however, the physician is not truthful who renders an opinion that a traumatic neurosis is never a recoverable disease.

9. Perhaps, since the postlitigation results are often so radically different from what is claimed, interested corporations should work to secure a law giving them the privilege of an examination at any future time. The results of such reexamination, if it was revealed that the compensation was based on false claims, should empower the court to reopen the case. I was once interested, for instance, as a witness against a claimant for damages because of inability to use his arm. His physicians testified to a brachial plexus paralysis. I denied this because of no objective findings. The same day after being awarded damages he was using his arm, but the court refused to reopen the proceedings.

10. The need for a more elastic system governing accident compensation is plain. The medical profession must purge itself of some of its mistaken policies, and be more exact in its diagnoses, before we can expect the legal profession to better our position in the courts. The physicians and surgeons in Leeds, England, who consult before the trial and make it an

organization matter that a member shall give full and impartial testimony, have solved much of the problem. Let us hope that our medical societies may at no distant time establish similar standards of honor and professional conduct.

Jenkin's Arcade Building.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRs. FRY, DILLER AND MAYER

DR. H. T. PATRICK, Chicago: I make a diagnosis of neurasthenia less frequently than Dr. Diller in his second thousand cases. Many cases are too abnormal to be explained simply by fatigue. In some there is constitutional inferiority; in some a decidedly abnormal state of the emotions. Thus we get into something beyond neurasthenia. I make a diagnosis of hysteria infrequently and that of psychasthenia frequently. I think my indeterminate cases would show a higher proportion.

DR. D. S. BOOTH, St. Louis: These patients with so-called traumatic neurasthenia present a puzzling variation, one day in court appearing grave, and several weeks, or possibly days, later, perfectly well. To do justice to these patients we must give them far more attention than we do. These cases should be considered and pronounced on by experts, who alone should give expert testimony. I remember the testimony of a local general practitioner that had more weight with the jury than that given by imported "paid experts." The patient had had Bell's palsy, and the physician contended that it was due to a hemorrhage into the brain. His knowledge of the nervous system is indicated by his testimony that "the third, fourth, fifth, sixth and seventh cranial nerves came out onto the face in the temporal region." Publicity should be given to the testimony of physicians in these cases and, possibly, as asserted by the author of this paper, the evidence should be presented to the local county medical society and then published, so that more careful statements in court would result.

DR. ALFRED GORDON, Philadelphia: Dr. Mayer presented the subject in a most excellent way, with one exception, and that is as to the question of subjective symptoms. If, for example, a woman is injured in a street car and has no objective manifestations, yet cannot sleep, is in a constant state of fear and anxiety, is restless and depressed, is it fair to assume that there is nothing the matter with her simply because there are no external evidences of injury? There are cases in which long after settlement the persons are still sufferers. This is the experience of every impartial observer. I don't think it will be fair, generally speaking, to deny compensation only because there are no objective symptoms.

DR. A. W. IVES, Detroit: Even if there are no objective symptoms, we ought not to refuse to appear in court. There are cases with practically no objective symptoms which have gone on from bad to worse, even after receiving compensation. Compensation by no means always effects a cure. Many persons, after being well compensated, remain psychasthenics all their lives.

DR. D. I. WOLFSTEIN, Cincinnati: My experience tells me that there is a general neurasthenia on a purely physical basis; cases in which there is not the slightest ground for suspecting either a constitutional inferiority or any abnormal mental state. Many apparently perfectly well balanced people mentally, who up to a given time were also physically capable, and who felt no other than physiologic fatigue, are suddenly surprised and saddened beyond measure by the discovery that they can no longer work as before, or find the same *joie de vivre*. Pathologic fatigue has supervened, and that is the prime factor in neurasthenia simplex. There is such a type, and it is, in my opinion, due to some as yet undiscovered toxic factor. Dr. Diller has called our attention to his physical state after what might be called a strenuous day in the life of a Pittsburgh neurologist. This I should not term neurasthenia, but a perfectly earned physiologic fatigue. What is characteristic of neurasthenics is their inverse type; they are tired when the day begins; wake up tired, and as the day progresses, brighten up, so that they feel best in the evening, or at night. They hate to see a new day begin.

In regard to the traumatic neuroses, certainly there is a group of cases wherein damage has followed, even though no sign of organic change has been found. On the other hand, we may not always pay too much attention to the organic signs. Many persons get large awards because there is restriction of the visual field, or because one can stick pins into them. Nothing is more misleading than the disturbances of motion and sensation which may appear and disappear in the neuroses. It is a difficult question and each case must be individually judged.

DR. TOM WILLIAMS, Washington, D. C.: The discussion has misled as regards what Dr. Mayer states concerning subjective and objective symptoms. We need to differentiate etiologically by determining if psychogenetic factors are present or not. Although it is not simply a medicolegal problem, yet in the District of Columbia no compensation can be given unless there is proved physical injury. It is not unusual now for the plaintiff's and defendant's physicians and lawyers to agree to refer a case for impartial neurologic survey and abide by the referee's adjudication. The best procedure could be settled by general medical opinion. So I suggest that Dr. Mayer embody his ideas in the form of a resolution, either that the testimony of physicians be drawn up and filed with their respective medical societies, or that physicians should only appear in court and testify after consultation over the case, as in Leeds, England.

DR. A. L. SKOOG, Kansas City, Mo.: There is one type of neurasthenia that is not, properly speaking, neurasthenia. This is in the individual with lowered vital functions due to alcoholism in the parents or prenatal influence. I have seen a number of cases in which one could trace the etiology to heredity. One can find neurasthenia and disturbance of the nervous system covering short or long periods. In laboratories there are tests for activity of the tissues, such as the biometer to measure carbon dioxid elimination. Carbon dioxid is found to be given off by the nerve cells and fibers at a comparatively greater rate than from other tissues. This fact may be utilized partially to account for the neurasthenic syndrome.

DR. M. S. WOODBURY, Clifton Springs, N. Y.: The type of diagnosis that will direct us to etiology is what we are looking for. I have used as a general classification for practical purposes, (1) fatigue neuroses; (2) affective psychoneuroses, that is, those secondary to psychic trauma; (3) secondary psychoneuroses, with physical foundation, such as infection, thyroid disease, gastro-intestinal states, etc. These types may occur in combination. The main point is that, admitting that most of them are secondary compels us to name the elements which in our judgment are primary.

DR. C. R. WOODSON, St. Joseph, Mo.: Many of these cases of neurasthenia are honestly such. The patients are especially susceptible to suggestion, and the suggestions of the attorney will, in the end, make confirmed neurasthenics. For many of these people adjustment of damages is the best remedy. In regard to symptoms, there is no difference in the symptoms of ordinary and traumatic neurasthenia. The symptoms in traumatic cases are long drawn out. The neurasthenic loses initiative, and takes less and less interest in things, accentuating every ache or pain, hypersensitive, wanting in everything that makes life pleasant, and with mind centering constantly on self.

DR. GEORGE A. MOLEEN, Denver: I should make a distinction between fatigue as such and neurasthenia as such. One speaker mentioned fatigue in the morning, which decreased toward night. A high blood tension will conform to this type of syndrome. The second type is usually deficient in hemoglobin content. Many conditions associated with high blood pressure or anemia, therefore, establish fatigue on the slightest stress. The increase of the hydrogen-ion content will increase fatigue, as is the case in a high altitude, where the subject is not able to do the same amount of work as he can in a low altitude.

DR. BERNARD SACHS, New York: Dr. Diller's tables impress us with the fact that we have made some improvement. Twenty-five years ago we did not know much about dementia praecox and we did not know about psychasthenia. We are

diminishing the cases of neurasthenia, but we still use that title for patients who develop all sorts of neurotic symptoms on the basis of exhaustion—mental rather than muscular or physical.

Dr. Mayer gives us an important medicolegal problem, in view of the compensation laws. We are going to have plenty of trouble if we include the traumatic cases, and we must decide seriously our position when we have to give testimony. The subjective symptoms may be as genuine as the objective, but one can never give testimony that there is an organic lesion, based on subjective symptoms. Often I refuse to give an opinion until the patient is brought to the hospital and kept there, especially where the nature of epileptoid or hysterical attacks is to be determined. It is not the question of indemnity that troubles workmen so much as the fear that the accident will interfere with the ability to work and to earn a livelihood. Sometimes this fear disappears, but often it remains as a distressing symptom. We must be careful about the stand we take.

DR. THEODORE DILLER, Pittsburgh: There is another diagnosis which I sometimes make which should have been included in the table, and that is asthenia or atonia, to indicate general lack of vital tone. I feel that profound hysteria and dementia praecox are very much the same at the bottom. I have abandoned attempting to differentiate the diagnosis in many of these cases.

DR. E. E. MAYER, Pittsburgh: In answer to Dr. Gordon's inquiry I believe he misunderstands my conception of the objective symptoms, though I thought it was the common one. I thought that the definite evidences of abnormal functioning of the autonomic nervous system—the tachycardia, dilated pupil, the dermatography, the fibrillary tremors and also the signs of motor and nerve irritability—which we find are objective signs. The physician personally observes what is objective. The same is true on the mental side. Dr. Williams has expressed this aspect clearly. If I personally observe delirium, a phobia, etc., it is objective. But how can a physician in a medicolegal case make a positive diagnosis and prognosis for the court on symptoms told to him? What right has he to have an opinion in court concerning reported fatigue, sleeplessness, headache, dizziness, roaring in the head, etc., unless he has objective symptoms to back up an opinion? And did Dr. Gordon or anyone else ever see a so-called neurasthenia which, if an actual one, did not present such objective symptoms?

Much of neurasthenia is asthenia. The entire body is involved, not only the nervous system, and generally too the nervous deficit is not even primary. Constitutional inferiority and maldevelopmental types are different from an acutely arising exhaustion due to either endocrinal or toxic factors. If we speak of asthenia or nerve imbalance, or use some similar expression, we never forget that we have not made a diagnosis, and that we must ferret out the origin. This applies to hysteria too. If we could only drop the word! Inhibition or substitution or situational neuroses, psychogenia, functional neuroses, even psychoneurosis would serve better. Then there are the occupational neuroses. Why did not Dr. Diller mention them separately from his neurasthenic type? At Clifton Springs Sanitarium, for instance, I notice they classify more occupational neuroses than they do of any other type of psychoneuroses. Why, I don't understand. Writer's cramp, for instance, is not ordinary neurasthenia. I know Dr. Diller sees such cases. Where does he group them and why?

Typhus Fever in Turkey.—Typhus fever in 1915 caused the death of some 200,000 to 300,000 people in Turkey. The government, instead of cooperating with foreign medical missions as the Serbian government did in a similar emergency, sent their own physicians to cope with the disease, and of these several hundred took the disease and died. In the Erzerum region, where, on a conservative estimate, between 60,000 and 100,000 died, soap, water and fuel were almost impossible to obtain during the epidemic. Three of our American board physicians in Asia Minor gave their lives to this disease.—A. R. Hoover, M.D., *The Survey*.