

nervous exhaustion, it may recur irregularly for a considerable length of time until the causative condition can be removed.

I fear that I have delayed you already too long in the presentation of this rather complex and intricate subject. If I have been able to put before you a summary of the many interesting conditions which we are constantly meeting in practice and affording you an explanation of symptoms not wholly understood, I shall have accomplished the task I set out to perform.

5 West Fifty-fourth Street.

ABSTRACT OF DISCUSSION

SIR JAMES GRANT, Ottawa, Canada: I came here from Canada especially because I knew that Dr. Starr was to deliver an address at the opening of this Section of the American Medical Association. About twenty years ago I had the pleasure of addressing this Association at Newport, when no less a man than the great Bancroft, the historian, one of the finest intellects probably that this country ever produced, occupied the place of chairman. In looking around this great meeting to-day I was shocked to realize that many of my dear old friends whom I met on that former occasion had passed away. But in doing so they left a magnificent record scientifically in this great republic.

I have listened with pride and pleasure to the admirable address delivered by Dr. Starr on the nervous system. It is *multum in parvo*. Nothing seems to have escaped him. We know perfectly well that of all the structures of the human body there is none more complex in its organization, more difficult to define, more irregular as regards the distribution of nerve force, and sometimes nothing more latent as regards diseases, that affect it than the nervous system; but suffice it to say that the advances in the study of nervous and mental diseases made within a short time are so characteristic and so definite, and show such satisfactory progress in our profession, that I am sure that with the many masters here on the nervous system to-day it is unnecessary for me to occupy the time or the attention of the audience. But there is one fact that struck me to-day, and that is the reference to congestive action in centers of the nervous system. Coming as I do from a great manufacturing center, where thousands of people are constantly employed in the great lumber trade, I have time and again been amazed at the recoveries of some of these men under injuries to the brain and through the skull. I have seen large portions of the skull and of the brain tissue removed, and still the individual make a splendid recovery, contrary in every way to my experience; and in the investigation of these cases I found that the men who made those recoveries were men who had little or no education, men who perhaps could not write their own names. We know perfectly well that there is nothing that increases the vascularity, that excites the nerve centers to a greater degree, than excessive education. In fact, to-day many persons get their brains so crowded and crammed with information that the practical utility of the brain is in a large measure lessened, just the same as the usefulness in a field that has been over-cropt year after year. What we want now is practical information; and let me say this, that the ordinary individual who has no education whatever will stand three or four times the hammering of the skull and taking away of the brain tissue than the ordinary individual who is highly educated will. I merely wish to mention this fact to show what education does as regards storing up latent energy in nerve tissue, and how it guides and directs, in large measure, the development and the progress of disease.

Tonsillectomy.—There is less danger of injuring the deep tonsillar vessels if the pressure is made from inside with the instrument than when it is exerted on the outside. Hard tonsils with much connective tissue are better removed by a cold snare than by a sharp instrument, as less bleeding occurs. An hypertrophied lingual tonsil sometimes causes a heavy, sore feeling at the base of the tongue.—*American Journal of Surgery*.

Original Articles

THE CLINICAL STUDY OF A SERIES OF CASES OF INSANITY *

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Last summer we were enabled to make a systematic study of a series of patients admitted to the hospital from the middle of June to the middle of August. This study was undertaken without preconceived ideas, and included the cases in the regular order of their admission to the hospital. From this number sixty were selected in which we were able to get a fairly full history of the antecedents of the illness, and the conditions connected with its incidence.

After the patients came into the hospital they were placed under practically experimental conditions, as all of our patients are; but in addition we made a systematic study of the blood and stomach contents, as well as the urine, with the object of noting the relation between digestion and metabolism, and the mental condition, not from the laboratory point of view, but from the standpoint of the clinical bearing of this relation. That is, of what nature, and how extensive were these metabolic disturbances, as manifested in the perverted functioning of the vegetative organs, and what was the effect of this perverted functioning in determining the incidence of the mental aberration?

The data included are the family and personal history of the patient, the record of the onset of the mental disturbance, and the clinical study of the individual during the first month of his residence in the hospital. The effort has been made to put this study graphically into a table, including in each case an abstract of the findings, except the urinalysis; which is included under the general head of renal inadequacy. This inadequacy is determined by diminution in the amount of urine, and failure to excrete nitrogenous waste.

In the 60 cases included, 33 patients were men and 27 were women. Sixteen of the patients were under twenty-five years of age; 40 between twenty-five and fifty-five years; while 4 were fifty-five years old and over.

In 38 cases nutrition was seriously impaired; 35 patients suffered from insomnia; 49 were constipated; while in 49 cases there was some degree of renal inadequacy. Nine patients had some acute form of body disease; while 47 had some form and degree of chronic degenerative disease in the vegetative organs.

Of the acute disease conditions, there was 1 case of intestinal infection, 3 of urethritis in women, and 1 of gonorrhea in a man. There was one case of persistent headache, 1 case of typhoid fever, and 2 cases of pulmonary tuberculosis. Of the 27 women, 16 suffered from the effects of puerperal trauma, 11 had leucorrhea, 3 hemorrhoids, 2 chronic pelvic infection, 1 varicose veins, and 2 goiter.

The blood was examined at intervals of a week for the first four weeks of the residence of the patient, with the following general results: In 2 cases there was

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* Owing to lack of space, the very extensive table which forms part of this article has been omitted from THE JOURNAL. It appears in the author's reprints, however, a copy of which will be sent by the author or by THE JOURNAL on receipt of a two cent stamp, provided the request is received within six months.

erythrocythemia, in 1 case hemoglobinemia, in 10 cases relative lymphocytosis, in 5 cases absolute lymphocytosis, and in 1 case lymphocythemia. There was 1 case of eosinophilia, 1 case of leucopenia (a case of typhoid fever), 12 cases of absolute leucocytosis, and 6 cases of relative leucocytosis. We could not determine that there was any significance in the blood findings, except in the cases of acute body disease, and we were astonished to find anemia so infrequently. The nearest approach to a relational condition was in the cases in which vitality was markedly impaired. In these cases there was either a relative or an absolute lymphocytosis.

The stomach was emptied in each case the morning after admission, with apomorphin, and at intervals of a week for four weeks. A balanced ration was given instead of the ordinary test meal, so that we might know the functional capacity of the stomach under ordinary conditions.

In thirty-nine cases pepsin was either much diminished or absent, and lab was absent in eight cases. In forty-nine cases there was hypochlorhydria, and in two cases hyperchlorhydria. The acids of fermentation were present in forty-nine cases, usually lactic and butyric acids. Bacteria were present in forty-one cases, commonly the *Oppler-Boas* bacillus, and next in frequency the *Bacillus lactis aerogenes*. Mucus was increased in ten cases; while in one case all of the normal constituents of the gastric juice were absent, and in one case of delirium, at first, mucopurulent material only was obtained.

It is of interest to note that in the case in which there was complete absence of the constituents of the gastric juice, there was intense depression which had existed for some time, and in all of the cases in which pepsin and lab were absent there was marked depression, with self-depreciation or persecutory ideas. As the stimulus to gastric secretion is primarily emotional, it is not surprising that this function should be so considerably influenced by the mental condition of the individual; nor that the belief in poisoning or obstruction to the entrance of food into the stomach should so commonly be associated with uncomfortable gastric sensations, a foully coated tongue, chronic nasopharyngeal inflammation, and bad teeth. Further proof of the relation between the mental and physical condition was found in the effect of gastric lavage and the necessary medication in dissipating the ideas of poisoning and also relieving the intensity of the depression.

The urinalysis is not included in the table, except as to the statement of the result, and the condition of the kidneys. In all of the cases in which the urine was reduced below 1,000 c.c., the nitrogen output below 15 gm., and chloride below 5 gm., we believe renal inadequacy to be present. We have not found albumin and casts to have much significance with relation to the functional capacity of the kidneys, except in so far as the presence of albumin might interfere with the osmosis of organic salts, and thus intensify the edemic intoxication. We have noted, also, that there is a definite coincidence between the return of the kidney function to normal and improvement in the mental condition.

We are debarred from information as to neurologic conditions obtained through the cooperation of the patient, so that we are able to note only what information may be obtained by direct observation. It so happened that there was no gross nervous disease present in any of the cases included in this study. There was

tremor present in the tongue, facial muscles, or limbs in forty-six cases; the pupils were dilated in forty-eight cases. These, as well as the other phenomena observed, apparently had no special significance, but were dependent on the general physical condition of the patient, and disappeared as he improved. The superficial reflexes were diminished or absent in thirty-one cases, and exaggerated in three cases. The knee-jerk was exaggerated in twenty-five cases, and diminished or absent in fourteen cases. It was of interest to note, as is the rule in our experience, the association of diminished or absent superficial reflexes with exaggerated knee-jerk, but we have not noted the converse of this association.

Some years ago I made the following statement with regard to heredity with relation to insanity, and as further experience has confirmed the conclusions therein expressed, I can not do better than to quote from it here, with the necessary additions to make them applicable to this paper:

The definition of heredity with relation to insanity is as much involved by difference of opinion as to its significance as is the definition of insanity. The common conception of this relation is that the insanity is not the result of hereditary conditions, unless the immediate progenitors or collateral relatives of the individual have been insane. The equation is not so simple, however.

It is a reasonable assumption that there is no family whose history, if carefully scrutinized for three generations, will not disclose considerable evidence of mental aberration!

Besides, the parents of the insane individual may be sound mentally, but the victims of some constitutional disease that will affect adversely the development of the child. In consonance with the results of recent discoveries in biologic chemistry, we may believe that there is a limitation of the potentiality in the different parts of the organism in each individual, and that this limitation applies to the capacity of the organism as a whole to meet the conditions in the environment.

We know from observation, both clinical and general, that this potentiality is seldom equal in all parts of the organism. So that, while the individual may have been able to meet the conditions in the environment in which he was born and grew up, he would not be equally capable to meet the conditions in an environment differing materially from his own. If this is true of the apparently normal individual, how much more is it true of the individual who for any reason is not uniformly developed, or whose capacity is limited.

The history of insanity among the immigrant population of the northwest is an excellent illustration of this contention. In recent years there has been a great deal of assisted emigration from northern, eastern and southern Europe, and a large number of these immigrants become insane within a comparatively short time after settling in this country. These people, never very vigorous mentally, have, while living under a paternal government, in the care of a parental church, and with a fixed social status, lived their lives without evidence of mental aberration sufficient to attract attention. In this country, however, under the stimulus of social and industrial competition, with political license and absence of parental religious restraint, they break down mentally, because of their inherent incapacity, and rapidly become demented. Again, when, as is now so frequently done, these people are returned to their native country by the government, they take up their lives where they left off in coming to America, and get along as they did before.

There is further illustration in the phenomena of senility: the irregular manner in which its processes are usually manifested, and the frequency of its premature appearance, both

physical and mental. It follows, then, that this insanity or limitation of potentiality, which may manifest itself in instability, incapacity, or defect in any part of the organism, must have its origin in an inherent incompleteness that handicaps the individual from the beginning of his existence. Following the law of degenerative processes, those parts of the organism that are latest in the order of development and most complicated in their structure and function will be the first to be limited in their capacity and to show the evidence of lessened potentiality. For this reason, no matter what the nature of the incapacity in the parents, in the offspring the potentiality of the nervous system is, other things being equal, most likely to be limited. The recognition of hereditary influence has, therefore, to take into consideration the transmutation of form in the transmission from one generation to the other of those recessive conditions that are commonly called diathetic. That is, any condition that produces somatic degenerative changes in the organism of the parent may be manifested in brain degeneration or mental aberration in the offspring. Thus the children of the syphilitic, alcoholic, gouty or tuberculous, may be, and commonly are, the victims of degenerative disease in the nervous system and insanity. So that while, as generally understood, the children of the victims of these diathetic conditions who become insane, do not directly inherit the tendency, practically they do, by the transmutation of the diathetic condition between parent and child.

In twenty-four cases no history could be obtained of constitutional conditions present in parents or near relatives, but this does not prove that, in these cases, there was no constitutional disease! To quote Maudsley: "A man may be ever so conscientious and upright, but when it comes to his family history he will lie with perfect equanimity." Besides, a great many of our patients know nothing about their families, nor would they recognize the evidence of instability or defect as such. In 9 cases there was a history of alcoholism, in 8 cases, a history of cancer, in 13 cases, of insanity, in 14 cases, of phthisis, in 2 cases, of rheumatism; while in 8 cases one or both parents were neurotic. In some of the cases there was a history of both insanity and phthisis, and in 1 case insanity, phthisis, and cancer. In 1 case a member of the family in the same generation had cancer; in 10 cases a brother or sister was insane; while in 5 cases the concurrent disease was phthisis. It is worthy of note that there was one more case with an heredity of phthisis than there was with an heredity of insanity; also, that in the majority of those cases in which a brother or sister was insane, the family history was that of tuberculosis rather than of insanity. In 1895 I read a paper before the American Neurological Association in which this relation of insanity with phthisis was treated of in detail. The conclusions then expressed have been amply confirmed by the observations of the past fourteen years.

In 43 cases there was auditory hallucination, in 18 cases visual hallucination. In 10 cases there was gustatory, in 2 olfactory, and in 6 cases tactile hallucination. In 8 of the cases either delirium or dementia prevented us from determining the form of sense perversion. In 1 case there was both visual and tactual hallucination, in 12 cases visual and auditory, in 1 case visual and gustatory, in 1 case visual, gustatory and tactual, and in 1 case visual, auditory, and gustatory hallucination. In 1 case there was auditory, gustatory, and olfactory, in 6 cases auditory and gustatory, and in 2 cases auditory and tactual hallucination.

In 51 cases there was present the belief in persecution, and in 7 cases the ideas were self-depreciatory. In 11 cases religiosity was dominant; in 9 cases there were grandiose ideas; while in 8 cases the dominant condition was confusion. In some of the cases persecutory and depreciatory ideas alternated, and in others persecutory

and grandiose ideas; their presence was determined by what the patient saw and heard, and their definition depended on the extent of the confusion present, or the degree of dementia. Religiosity was practically always present to some extent, and in two of the cases religiosity was the only apparent manifestation of aberration. Forty-three of the patients were depressed, and in forty-two cases dementia was sufficiently advanced to destroy the capacity for attention, direction, and control. In all of the cases confusion was so marked as to make the mental processes incoherent. In 5 cases agitation was marked, in 25 cases furtive suspicion was dominant; 6 patients were more or less disturbed, 3 were stupid, 5 were exalted, and 2 delirious. Four patients were imbecile. In the history of the onset of mental aberration in all the cases included in this study, it was evident that confusion was the first manifestation, accompanied by suspicion, dread, and fear. In those cases in which there was marked mental defect or previous loss of mental capacity, there was the furtive suspicion of the animal, with explosive outbreaks of violence, or the disposition toward purposeless flight and seclusion. In our experience these manifestations divide the insane into two general classes. Every insane person either resents actively the supposed attitude of his friends or the community toward him, or else he tries to escape from his untoward surroundings, or to hide away from apprehended danger. Among those of the same intellectual status as our patients, this attitude is natural and universal. It requires a considerable amount of intelligence and degree of cultivation to overcome the inherent suspicion that is a dominant characteristic of human nature. This suspicion is shown in social and business relations, and self-consciousness prompts the individual to attribute to his associates and competitors both motives and intentions which his lack of capacity or confidence make him anticipate; for incapacity is the parent of self-consciousness, suspicion and fear. Again, ordinary social intercourse is made up of personal comment and aspersion, either of the intentions or of the conduct of others. The narrow routine of life, in the small communities from which our patients come, tends to shut out everything but the personal. Even in their reading, outside of melodramatic fiction, and the narration of the personal affairs of the conspicuously wealthy or notorious, they do not go beyond the most personal form of biography; nor do their crude mental processes rise above the simplest ratiocination. Therefore, they are easily confused, fall back on the belief in the occult for relief, or on the anticipation of the supernatural. The victims of mental incapacity, without regard to their intellectual status, will select books that stimulate introspection and minister to their morbid egotism; so that even in their religious reading they are more interested in the lamentations of Jeremiah or the denunciations of Isaiah than they are in the Beatitudes or the Gospel of St. John.

Further, we have found, in the history of these people, that their beliefs with regard to their environment excited neither surprise nor comment in the family, or among the neighbors and friends, until these beliefs were translated into aggressive interference with the convenience or welfare of others, by acts of violence toward person or property, the disposition toward seclusion, inability or refusal to work, or the development of bodily habits that made personal care necessary. All that differentiated these manifestations, in the mind of the community, from ordinary criminal acts, or the in-

evidence of disease, was their persistence without regard to motive, and the absence of apparent physical disorder. The converse of these connotations in the community mind is shown by the frequent commitment to hospitals for the insane of patients ill with typhoid fever, pneumonia, and sometimes acute tuberculosis, because the noise and motion accompanying the delirium have obscured the evidence of the physical condition, or attracted attention away from it.

Among the patients included in this study four were so defective as to be imbecile, and their mental disorder was manifested by incapacity, furtive suspicion, and explosive violence. In three men there was mental reduction and sexual gluttony, and two of these men, who were alcoholics, had the characteristic belief in marital infidelity; also gustatory and olfactory hallucination, dependent on indigestion and constipation, and resulting in ideas of poisoning. In two cases there was aggressive religiosity, the loss of control manifesting itself in attempts to impress on others by violence the militant commands of the Deity. In two cases there was religiosity with exaltation, accompanied by beatific visions, the things seen being suggested by the morbid egotism of the individual, but always in consonance with the conditions in the environment, and the nature of the experiences of those living under similar social conditions, and with like intellectual capacity. In four cases there was religiosity with self-depreciatory ideas, resulting from pietistic comparison, and denunciation by the Deity. These cases were suicidal also. In ten cases the deterioration was so rapid that there was incapacity, suspicion and fear only, without defined or expressed aberration. In thirteen cases the persecutory ideas led to aggressive resentment toward those to whom the voices heard and the acts anticipated were attributed. In twenty-two cases, on the contrary, the voices heard and the things seen prompted seclusion instead. Here, too, those experiences, communal, and individual, that connoted anticipated sources of danger or deprivation, would suggest the manifestations of aberrant mental activity. As our general experience conforms to these special observations, it would appear obvious that the insanity present in these individuals can not be said to have a special form apart from their natural intellectual processes, unless it is implied that the relatives and friends of the individual, without regard to the conditions in the community environment, have a definite form of mental endowment. The history of the individual in these cases, especially from the period of puberty, showed limitation of mental capacity, and the manifestations of mental disorder were determined by the degree and extent of this incapacity, in consonance with the conditions in the community environment. The prime factor in the outbreak was, in each case, mental reduction to the point at which control of the activities manifested in conduct was lost.

The careful study of these cases, clinically, shows that somatic conditions, which interfered with the general physical welfare of the individual, were the determining causes of the deterioration that resulted in the insanity; and the extent and permanence of these changes was the factor on which the result in each case depended. Broadly speaking, so long as the processes of anabolism and katabolism are near their proper relation, the imperfectly developed higher functions of the brain are sufficiently well performed to maintain the relations of the individual with his environment; but with the incidence of the conditions of physical deterior-

ation, the processes of katabolism gradually dominate, and degeneration begins. We are too prone to think of degeneration as a result rather than as a process, and to ignore the fact that this process involves disturbance of the equilibrium between nutrition and waste; also that the process, as affecting nutrition, is primarily quantitative, and that the process may be confined for a long time to deterioration in functional capacity, without morphologic change. To illustrate, the process of arteriosclerosis, with the resulting loss of elasticity in the vessel wall, particularly in the non-anastomosing and poorly supported vessels of the cerebral cortex, interferes very materially with the quantity of blood going to the brain, while this same process in the splanchnic area interferes equally with the functions of the vegetative organs, so that assimilation and elimination are interfered with. It has been our observation, and was very apparent in the history of the cases included in this study, that these somatic changes and the interference with the vegetative functions were always antecedent to the mental disorder. In other words, the brain was not only poorly nourished, but there was chronic intoxication also.

Just as the development of the nervous system is in the direction of the integration of functions that are simple, direct, and unrelated, into the complex, indirect, and correlated, so in its degeneration there is disintegration toward the direct, simple, and unrelated; and this disintegration is primarily functional, and morphologic later only. The result is shown first with relation to vegetative function, is motor incidentally only, and may show no evidence of prehensile or locomotor involvement at all; or at most so far only as coordination is involved, because the functions of direction and control are alone disturbed. So, too, in disintegration in the so-called higher functions of the brain, incoordination comes first, and may be the only manifestation, as confusion; but if the degenerative process goes further, it follows the regular sequence of failure in relation, direction, and control. As the result of the first there is confusion, and of the second, perversion of the special sense function; while the sequence to this confusion and perversion is the failure to correlate the impressions from the environment. That is, there is the inability to adapt internal to external relations.

ABSTRACT OF DISCUSSION

DR. T. DILLER, Pittsburg: This paper recalls to my mind one which I presented to the American Neurological Association a few years ago in which I took the position that we make a mistake in speaking of mental diseases and physical diseases. There is only one kind of disease in my opinion and we should look at it in this way, namely, physical disease. Physical disease expresses itself in manifold ways. There are sensory, motor, and glandular diseases of various sorts and expressions, and among the expressions of physical disease are mental symptoms. Indeed I would venture the broad general assertion that there is no disease of any importance which does not have some mental expression. That is true in fevers and in all the ordinary painful affections; and most of these things of course we do not call insanity. When the mental symptoms are prolonged or profound and pass beyond a certain arbitrary line which each man erects for himself, more or less, we say that the individual is insane; and when the mental symptoms become sufficiently profound we must adopt certain practical measures and the law must step in. While it is not true in the case of most neurologists, yet in the eyes of the general public, and too often of the general practitioner, a broad distinction is made between so-called mental and physical disease. This view should be combated. Dr. Tomlinson has been doing original and splendid work. He has been teaching the doctrine that all disease is physical.

I would like to speak of a thing that I have thought of, and which I have come to believe in more and more firmly as time passes, and that is the necessity of teaching and studying this subject in a concrete way, namely, by psychopathic wards—not at a great distance from the city, not in connection with an ordinary insane asylum, but in intimate association with an ordinary general hospital. I feel sure that there ought to be a psychopathic ward in connection with every great university hospital, and in this ward disease should be studied in exactly the way that Dr. Tomlinson has pointed out. There is a psychopathic ward in Pittsburg, in connection with St. Francis Hospital. In many ways it is not ideal, but we are trying to work along the lines indicated. St. Francis is one, I think, of only two or three similar general hospitals in the United States providing a psychopathic ward.

Dr. H. A. TOMLINSON, St. Peter: Since coming to Atlantic City I had the opportunity to discuss with a medical friend a case in which he went into the most minute details of the mental condition of the patient from the standpoint of modern German metaphysics, and he wondered why there had been no improvement in the condition of the patient. I discussed the case from the standpoint described in my paper, and found that there was well-defined evidence, not only in the heredity of the patient, but in the personal history, of the presence of physical conditions sufficient to determine the grafting of mental disturbance on an unstable nervous system; as well as the signs of chronic intoxication, the persistence of which would preclude recovery. I firmly believe that if we are going to deal with insanity successfully, we must give up this futile dallying with metaphysics, and recognize that we are dealing with the general organism.

TRAUMATIC NEUROSIS

WITH REPORT OF CASES *

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Since the days of Erickson there have been repeated efforts to establish traumatic neurosis as a particular type of disease until at present it is fairly generally accepted, although not uniformly interpreted. Erickson failed to separate the organic and functional cases, and it was not until Oppenheim and Strumpell and others studied the question that the organic conditions were eliminated. Traumatic neurosis is a generic term, and, when speaking of a particular case, we should designate hysterical form, neurasthenic form, psychic form, or mixed form. Such a disposition is made of the term dementia præcox with its different forms. It occurs to me that the difficulty in the use of this term arises out of the fact that the name is based on etiology in conflict with a terminology enforced by the clinical symptoms. This difficulty is particularly frequently encountered in the nomenclature of nervous and mental diseases; however indefinite the term may be, whenever it is used, we usually think of a functional disorder and the possibility of a legal aspect of the case as well as a medical. This dual feature of these neuroses has forced them into a position of considerable importance in the practice of law as well as of medicine. Daily physicians are called on to examine such cases, either when litigation is probable or already involved, and it is in relation to the medicolegal aspect that a serious problem exists for a successful solution. Unfortunately, the legal profession and the medical entertain some opposing views concerning such cases. The objective and subjective symptomatology seems to be the ground of contention between the

legal minds and the medical. The law insists on recognizing the objective symptoms only, while the physician, recognizing the importance of these, also makes important use of subjective symptoms, real and unreal, in his diagnosis. It seems to me that the error committed here lies in the fact that all subjective symptoms are stricken out of evidence, without regard to the discriminating skill of the physician, simply because of the possibility of all or part of them being assumed. It is true that it is difficult for attorneys to understand how diseases may exist without a gross organic lesion; therefore, they are loath to regard a functional disorder as a real disease and look on them with a great deal of suspicion. Even when the physician maintains that a disease exists, if an organic foundation can not be discovered, the lawyer will look on the assertion with considerable doubt. Indeed, it is this possibility of fraud on the part of the patient, the attorney and the physician that has given such prominence to these traumatic cases. Fraud is exhibited on the part of the patient by malingering for the purpose of gain. Frequently it has occurred that attorneys cautiously aid and abet these endeavors, and also must we admit the fact that physicians are not too careful sometimes and persuade themselves to join or cooperate in these fraudulent attempts. The whole situation, it seems to me, is very much entangled and it too frequently happens that worthy persons fail to be properly compensated, and the unworthy ones recover damages unjustly.

How can this problem be solved so that each case is more surely to receive justice? Can we point to the German regulation of these matters and say that is the solution? I do not believe that the German system of insurance against accident is a perfect solution of the problem involved in this question, and yet it is a great improvement over no system at all, as in America. It seems to me that the great advantage of the German system lies in the fact that it has not the features which invite investigation. The disadvantage in this system is that it does create an inviting field for malingering and also establishes a means for the development of neuroses. It is fairly well recognized that the results of an accident are encouraged to become far more serious and pronounced by the prospect of a recompense or an allowance. Admitting this weakness in the German law, I still maintain that it is far better than the present loose and confusing methods pursued in the United States.

I hope that the three cases I am reporting carry with them sufficient interest and importance to warrant their record. The first is an example of traumatic neurosis (hysterical form), diagnosed as an organic case originally, the patient operated on for brain abscess, and the case later diagnosed as hysteria, which it proved to be. The patient became entirely well after having recovered damages from the city in which her accident occurred.

The second case is one of neurosis (hysterical form) in which is manifest a rather fragmentary dissociation of the personality. Usually when there is trauma there is also shock, psychical or physical or both, and, inasmuch as there is hysteria in cases of dissociated personality, we can expect trauma and its attending effects to be a fruitful cause of such conditions.

The third case represents a psychosis in which the head injury could be reasonably regarded as the cause. Of course, the fact that the patient had dissipated considerably should not be regarded as less than a contributing factor. There are remarkably few cases of insanity, comparatively, in which heredity, severe illness, dissua-

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