TRAUMATIC NEURASTHENIA AND HYSTERIA.¹

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WHEN your Secretary asked me to read at this meeting a paper upon the functional disturbances of the nervous system following accidents, I promptly asked the privilege of changing the title to something more definite. Thanks to the new methods of research the old distinction between functional and organic diseases is fast disappearing, but, were it still maintained in its old-time definiteness, it is a question as to what or how many of the more obscure traumatic nervous affections should be classed under either heading. It was once thought that most of them were due to more or less pronounced changes in the spinal cord, such as we used to call organic, and later it was held by many that they were all of a functional character, but now the current of opinion (1) seems to tend to the belief that a part of them are due to organic changes, although the greater part are probably dependent upon those slighter changes which we call functional, and which can be detected, if at all, only by the recently discovered methods of staining.

Next to the old term of "spinal concussion," no name seems better calculated to add obscurity to the obscure than the new term of "traumatic neurosis." The word neurosis, of itself, is so often understood to mean functional nervous disease that it has a misleading significance. Traumatic neurosis, too, may designate certain cases of chorea, epilepsy, cephalalgia, or paralysis agitans, as well as hysteria and

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other obscure affections. It has added much to our ignorance of mental diseases, for example, to find that ætiology, symptoms, pathology, course, diagnosis, and prognosis have been studied from statistics of cases of amentia, general paralysis, mania, melancholia and paranoia all classed together and regarded almost as a single morbid entity, "insanity." The employment of the term "traumatic neurosis" is almost as confusing. It is only by a careful differentiation of the various affections, and a study of such disorder separately, that we can attain definite knowledge. It may still be impossible to draw a sharp boundary between hysteria and neurasthenia, as it is to draw one between tabes and parietic dementia; it is possible that in the future we may find that there are several distinct affections, all of which we now term hysteria; but, in spite of errors and ignorance, it is better to classify so far as we are able rather than to accept the vague and general term of traumatic neurosis.

Among the commoner traumatic affections of the nervous system, especially in cases where litigation is involved on account of claims for damages, are hysteria and neurasthenia. To determine this point I have classified two hundred cases of the more obscure traumatic nervous diseases seen in hospital and private practice. I have included all the litigation cases of traumatic nervous disease of whatever sort seen by me during that period, but I have not taken into account, among the non-litigation cases, those cases of injury to the peripheral nerves, meningeal hæmorrhage, fracture of the skull or spine, epilepsy, &c., where there was no doubt as to the nature of the trouble. As my object was primarily the study of the obscurer forms of nervous disease such omissions were justifiable, but the percentages here given are too great if we include all cases due to trauma.

Of these two hundred cases one hundred and three were not, so far as I know, the subjects of litigation, and a few of the ninety-seven litigation patients consulted me after all litigation was over simply for advice and treatment, and not to obtain my opinion for use in the settlement of their claims. Seventy cases were classed as hysteria and fifty as

neurasthenia, sixty per cent. of the whole. Of the litigation cases fifty were hysteric and twenty-one neurasthenic, eighty-one per cent. of the whole. Of the non-litigation cases twenty were hysteric, and twenty-nine neurasthenic, thirty-nine per cent. of the whole. The importance of these two affections is therefore evident.

Although injuries of the peripheral nerves and the spine or spinal cord are not uncommon in hospital practice, I have very rarely seen them—and my experience is shared by my colleagues in Boston—among the litigation cases. The only explanation that I can find of this is that, as the diagnosis and prognosis in such cases are usually plain, the opinion of a specialist in nervous diseases is seldom required, and the case, if the liability be admitted, is settled out of court.

The preponderance of neurasthenia in the litigation cases is not very great, and it may be due simply to chance, but the greater percentage of hysteria is another matter, and is worthy of consideration. It at once suggests and seems to strengthen the familiar plea that litigation and the desire for gain are important factors in the genesis of these so-called traumatic affections, producing, under the influence of suggestion, a set of symptoms, real perhaps in themselves, but not the result of the physical injury. Strümpell (2) has lately reiterated this plea with much emphasis. Having for some time urged that the chief factor in the production of "traumatic" or "accident neurosis" was psychical rather than physical, he now goes a step further and considers the chief psychical factor to be the ideas of personal gain which arise as a consequence of the accident. "Shall I obtain the accident pension? How much shall I get? How much am I injured in my working capacity?" With but a slight change in phraseology to suit the differences in our laws, these questions may be asked here. "Shall I get damages? How much shall I get? Shall I be able to earn anything afterwards?" We know well all the maleficent psychical influences which may attend these cases. The desire for gain, the necessity of putting the worst foot foremost, the depressing suggestions, the educating examina-

tions, the worry of litigation, the gloomy prognostications, the law's delay, and, sometimes, the total lack of proper medical treatment during the whole period of litigation put the patient into the worst possible condition and aggravate every symptom. It is no wonder then, that we ask if the physical injury has had anything to do with the subsequent trouble.

Although the whole subject of the so-called "traumatic neuroses" has been much discussed in England, France and Germany, it has awakened very little interest, apparently, south of the Alps (3). If, then, there are no laws in Italy whereby an injured person may recover damages, it may be, granting the truth of the hypothesis, that litigation is the important factor, that the cases are rare in that country, and that, therefore, little attention has been paid to the subject. In answer to my inquiry I have learned from Dr. Seppilli that there are no special laws in Italy relating to railway accidents. When accidents do occur (which is only very seldom the case) the railway companies indemnify, according to the cases, the persons or families for the damages received. The physicians of the company, however, must give their judgment upon the case.

In spite of all this I am disposed to doubt Strümpell's dictum, and to lay much less stress upon these ideas of personal gain and the maleficent psychical influences above referred to in the genesis of the hysterical or neurasthenic symptoms. In the first place, precisely similar conditions have developed in the non-litigation cases, where all these factors are absent; and, in the second place, the symptoms have developed almost immediately after the accident in many of the litigation cases, before these factors could be brought into account. When the symptoms follow immediately upon a period of unconsciousness, profound surgical shock, or marked mental confusion, it is hardly credible to suppose that the first idea to come with the regaining of consciousness is "Shall I get damages?" even though the lawyer's "runner" has reached the scene of the accident before the ambulance. That these factors may have a very bad influence in aggravating or prolonging the disease is

readily conceivable and most probable, but they certainly do not always create it.

I have just referred to the similarity between the litigation and the non-litigation cases. To determine this more accurately I have carefully tabulated the symptoms presented by these two classes of cases, both of hysteria and of neurasthenia. The relative frequency of the symptoms in the two classes of cases was about the same, and the rarer symptoms, observed perhaps in a single case, occurred now in one class and now in the other, as chance ordained. A comparison of individual cases in the two classes showed no striking differences. In other words, from the evidence presented by these hundred and twenty cases of hysteria and neurasthenia, seventy-nine of which were litigation cases and forty-one of which were not, I can find no symptoms which would warrant a diagnosis of "litigation hysteria" or "litigation neurasthenia," as distinct from "traumatic" hysteria or neurasthenia, and no essential difference between the two classes of cases, with one exception. In many, but not in all, litigation cases the patients have dwelt upon and have worried over the prospective law-suit. Worry and the dwelling upon certain ideas are, however, common in neurasthenia and hysteria, no matter what the cause, and in these cases the law-suit has merely furnished the special subject for worry.

It is a fact, however, that these non-litigation cases of hysteria, but not of neurasthenia, have been, as a rule, of a less severe type and have progressed more favourably than the litigation cases. This may be due to the absence of those injurious psychical influences attending litigation, to which I have already referred, and the more prompt inauguration of systematic treatment, but there are other factors which I believe have exercised a marked influence upon the severity of the manifestations.

That hysteria and neurasthenia may be due solely to psychical causes is a well-accepted fact. Even in traumatic cases the physical injury may be insignificant and the psychical shock the only factor. I have seen, for example, a marked somnambulant state develop from spraying the throat.

In emphasising the psychical factor, however, I believe that Strümpell and others have gone to an extreme, and have not given due weight to the physical injury. In order to estimate the importance of such physical injuries, and to find some reason why the percentage of hysterical cases should be so much greater in the litigation than in the non-litigation cases, I have studied the nature of the accident in these hundred and twenty cases.

Of the fifty litigation cases of hysteria here classified, seven were due to collisions of street-cars, seven to being thrown from a carriage, seven to falls on getting on or off the cars, six to railway accidents (in four cases of a grave character), six to electrical shocks, five to elevator accidents, three to falls, and two to blows on the head. Of the twenty non-litigation cases, six were due to falls, four to being thrown from a carriage, two to blows on the head, and two to blows on the arms. Of the fifty litigation cases, eighteen received severe physical injuries and two severe electrical shocks, while sixteen received moderate physical injuries and two moderate electrical shocks; in five cases there was a fracture of some bone. Of the twenty non-litigation cases two received severe, and ten moderate, physical injuries; in no case were any bones broken. From the nature of these accidents, as thus hastily outlined, it may be inferred, and the inference will be confirmed by detailed study, that the psychical factors of fear, horror, excitement and the like, were much greater in the accidents of the first class than in those of the second. In the majority of the non-litigation cases the accidents were of a simple character, unattended with any special terror or scenes of distress; in the litigation cases alarming features were not uncommon.

Turning now to the cases of neurasthenia, I have found that the severity of the symptoms has been, on the average, about the same in the two classes of cases. Of the twenty-nine litigation cases, six were due to railway accidents (in five cases of a grave character), five to falls on getting on or off cars, five to falls, four to blows on the head, and three to being thrown from a carriage. Of the twenty-one non-litigation cases twelve were due to falls, two to being thrown from a carriage, two to blows on the head, and two to strain.

Of the twenty-nine litigation cases eight received severe and nine moderate physical injuries, and one a moderate electrical shock; in three cases bones were broken. Of the twenty-one non-litigation cases four received severe physical injuries, one a severe electrical shock, and eleven moderate physical injuries; in three cases bones were broken.

From these facts it seems possible that, apart from any questions of litigation or suggestions arising from the desire of gain, there were reasons why there should be a larger number of cases of hysteria in the litigation series, and why they should be of greater severity. Litigation and the desire for gain are also present in the neurasthenic cases, but the severity of the accidents was about equal in the two classes, and we find a corresponding equality in the number and severity of the cases. The only conclusion, therefore, to which we can come is that litigation and the desire for gain play only a subordinate part in the genesis of these morbid conditions, and that the physical as well as the psychical shock of the accident is a very important factor.

I have already said that psychical shock alone may produce hysteria or neurasthenia—a fact repeatedly demonstrated by the researches of Guinon (4), Janet (5), and Breuer and Freud (6). The question naturally arises, can physical shock alone act as a cause? A satisfactory answer cannot be given. Even in the simplest accident, a fall on the ice, a strain in lifting, or a sharp blow on the arm against a piece of furniture, there may be some element of fear or apprehension to arouse a strain of morbid mental conditions. When a man is rendered unconscious by a sudden blow on the head, and later has no memory of the accident, it may be that, in the interval “between the saddle and the ground” on which the theologians once laid stress, there was some suggestion of future evil which hypnotism might reveal. One of my colleagues, a young physician, who in his hospital life had become somewhat familiar with accidents and scenes of distress, has suffered for a year and a half from neurasthenia, the result of a serious railway accident in which several persons were injured. He felt a jerk, lost consciousness for a second, and recovered his senses

to find himself standing in the aisle of the car facing to the rear, while the car next behind was crashing into the one he was in. He was uninjured and spent some time at the scene of the accident caring for the wounded. He stated that he was not frightened at all, and doubted whether there was any period of momentary fright of which he was not conscious. The sensation was exactly as if he had been struck a very heavy blow in the back of the neck with a sledge hammer. Such a statement from a trained observer I believe to be of some importance in deciding the question, and my own belief is that in a part of the cases the psychical shock, although it can not be wholly excluded, is distinctly a subordinate factor in the genesis of the trouble.

Of the other factors in the ætiology it is hardly necessary to say very much. With regard to age four of the cases of hysteria were under twenty, one fourteen, two sixteen, and one (the only litigation case) eighteen. Three neurasthenics, all of them litigation cases, were under twenty, one seven, one fourteen, and one seventeen. Women are much more subject to these affections than men. Thirty-eight men out of one hundred and thirty-seven (twenty-eight per cent.) had hysteria, and twenty-seven (nineteen per cent.) had neurasthenia. Thirty-two women out of sixty-three (fifty-one per cent.) had hysteria, and twenty-three (thirty-six per cent.) had neurasthenia. Thirty-seven out of forty litigation cases and eighteen out of twenty-three non-litigation cases among women had one or the other of these affections. A neuro-pathic heredity, upon which the French especially have laid much stress, I have found to be of minor importance. I have obtained a history of a questionable heredity (nervous disease, tuberculosis, &c.) in eight cases of hysteria and seven of neurasthenia. A previous history of poor health was elicited in twelve cases of hysteria and ten of neurasthenia. A history of previous syphilis or of abuse of alcohol was only rarely obtained. Many of the litigation patients, however, might be disposed to conceal any hereditary or pre-existing weaknesses.

Traumatic hysteria and traumatic neurasthenia have many symptoms in common, so that the designation of the

former affection as hystero-neurasthenia is not unwarranted, and the boundary between the two affections is not very distinct. Headache, nervousness and irritability, depression, insomnia, vertigo, failure of memory and mental power, pain in the back and limbs, paræsthesia, palpitation, dyspnœa, a rapid pulse, loss of appetite, dyspepsia, constipation, diminished endurance, inability for physical or mental application, general muscular weakness, and exaggerated knee-jerks, are common to both.

Of the symptoms common to the two affections a few are worthy of note on account of their objective value. In over one-half of the hysteric cases, and in over one-third of the neurasthenic cases the knee-jerk was distinctly exaggerated, being often attended with the patellar twitch and front-tap contraction, and very rarely with a spurious ankle clonus.

In a large majority of the cases, both of hysteria and neurasthenia, there was a decided increase in the rapidity of the pulse, it being over eighty and frequently weak, irregular or intermittent. Congestion, coldness of the extremities, flushing, excessive or localized sweating, and other vasomotor disorders were not uncommon, but œdema was rare and cardiac murmurs and enlargement of the heart were exceptional. In a very few cases there was an abnormally slow pulse.

Mannkopf's test, the increase in the rapidity of pulse on pressure upon an alleged tender region, I have found of distinct value. Instead of an increased rapidity the pulse may become weaker or irregular under such conditions. In forty-five out of forty-nine cases the test has given definite information, but when there was other conclusive evidence of the disease this test, on account of its painful character, was not employed. Not only is it of value as a test of tenderness, but it is also a test of muscular effort. When a patient executes a slight movement, lifting the leg, closing the hand, stooping forwards, only by an apparently great effort, if we find that the pulse is materially quickened we have proof that the effort really was great. Flushing of the face and an outbreak of sweat may also be noted under such conditions. The test may also be used for analgesia. If the

pulse rises in consequence of a painful stimulus in a healthy area and does not rise when the same stimulus is applied to the alleged analgesic area, we have proof of the genuineness of the analgesia.

The chief distinction, so far as our present knowledge goes, between neurasthenia and hysteria is to be made by the detection of the various hysterical stigmata.

Of the various hysterical stigmata pronounced amnesia, after the initial period of amnesia due to shock, or pronounced aboulia was distinctly rare. An enfeeblement of the will power and a failure of memory corresponding to the general asthenic condition can hardly be classed as distinctly hysterical. Hallucinations of sight and hearing, temporary delirium, and temporary confusion were occasionally met with both in hysterical and neurasthenic cases, usually in the period immediately following the accident. Attacks of one sort or another were noted in sixteen cases, twelve of the litigation cases and four non-litigation cases. In none of these cases did these attacks manifest the typical features of the "grand attack" in its four stages, but occasionally they were severe enough to show the *arc de cercle* or other striking phenomena. In no case could I detect any hysterogenous zones. Hemiplegia was noted in twenty-five cases, menoplegia in ten, and paraplegia in one, contractures in five, tremor in twenty-four, ataxia in eight, mutism in three, and somnambulism in one.

The most frequent stigmata were those in the sensory domain. Hypoæsthenia was noted in sixty-four per cent. of the cases, analgesia in forty-nine per cent., and distinct anæsthesia in twenty per cent. Thermoanæsthesia was less often sought for, but was noted in seven out of thirteen cases. Many patients, fifty-seven, complained of numbness or other abnormal sensations, chiefly in the affected area (7).

In a few of the cases presenting other hysterical stigmata no disturbances of the cutaneous sensibility were manifest, but in most of these cases the examination was hurried and the opportunity for prolonged observation was lacking. Of course, in rare cases hysteria may occur without any disturbances of cutaneous sensibility or any contracture of the

visual field (8). In a considerable number of cases the loss of tactile sensibility was very slight. The patient could feel the slightest touch upon the affected area of the skin, but it was not felt quite so distinctly as on the corresponding healthy area. It required careful examination to detect the difference, so that in many cases it might be readily overlooked. In some very severe cases there was only this slight difference. In some cases the affected side is distinctly colder to the touch, especially in the hand or foot, and the patients complain of an increased sensitiveness to cold. Further valuable information, as confirming the genuineness of the sensory disturbance, is afforded by the condition of the cutaneous reflexes. The plantar reflex is frequently diminished or lost on the anæsthetic side, and the other reflexes sometimes show a similar change. Rosenbach long ago held that the abdominal reflex was not affected in cutaneous anæsthesia, unlike the other skin reflexes, but this is incorrect, as in no less than four cases it was diminished or lost on the affected side, and in one case it was diminished on one side when the plantar reflexes remained equal. The knee-jerks, too, often show an inequality, but this seems to have less relation to the side affected. It is rather more apt to be exaggerated on the affected side, as seen in eight cases, but in five cases it was exaggerated on the sound side.

As is well known analgesia may be present when the cutaneous sensibility is normal, so that many cases may be stated to show normal sensibility merely from lack of thorough examination. I have found the best test for sensibility to pain to be by means of the faradic current, applying Erb's cutaneous electrode to different regions of the skin, and measuring the strength of the current required to produce pain by Edelmann's faradimeter. A current of fifteen to twenty volts will usually cause pain in normal areas, while pain will be felt in analgesic areas only with a current of from thirty-five to eighty volts.

With regard to the distribution of these disturbances of cutaneous sensibility, in forty-two cases one side of the body was affected, but in many of these cases the area of anæ-

thesia was not sharply defined nor did it affect the complete half of the body; the face was often exempt, the anæsthesia did not reach fully to the median line, and there were some areas on the affected side where sensation was as good as on the healthy side. In eight cases the anæsthesia was confined to a single limb. In two cases the legs alone were affected. In six cases both sides of the body were affected. In one case the anæsthesia was very variable, now occurring in irregularly distributed areas, now affecting nearly one-half of the body, and, a day or two later, shifting to the other side. In a part of the cases the special senses were affected on the anæsthetic side, in some cases only one or two of the senses, and in others they were unaffected. A diminution in the sense of smell on one side was noted more frequently than of the other special senses. Achromatopsia or dyschromatopsia was noted in a few cases, but was not observed in others.

Contraction of the visual field was noted in forty-four cases, but in no case of examination with the perimeter was a normal field found, and in several cases examined in other ways, where the field was apparently normal, the perimeter subsequently showed some contraction, so that it is fair to suppose that contraction of the field is one of the most common sensory stigmata. In only a few cases, however, was the contraction marked, usually the field extending to about forty degrees on the nasal side and seventy on the temporal. The "shifting type" of field, although often sought for, was only rarely found. Reversal of the colour fields, also, was only rarely noted.

In accepting these stigmata as the distinctive symptoms of hysteria as opposed to neurasthenia, we are not free from the possibility of error. In the first place the stigmata may not appear until some time after the injury. In a case at present under observation the visual fields were normal, the cutaneous sensibility unimpaired and there were no motor symptoms five months after the injury; the only possible stigma was a loss of smell on one side. Two months later, however, contraction of the visual fields with peripheral exhaustion ("shifting type") had developed, with right

hypoesthesia and analgesia, and these symptoms have persisted, with others, for nearly a year and a half. Furthermore, with the progress of hysteria, an existing anaesthesia or hypoesthesia may wholly disappear, leaving behind only a slight analgesia which may readily escape notice unless careful electrical measurements be made; and finally, all disturbances of cutaneous sensibility may be wholly wanting. In some of these cases the visual field may remain contracted, but in others it may enlarge to normal. It may thus happen that, in ignorance of past conditions or of the future development of the case, we may regard a case as simply neurasthenic that in the past or in the future had shown or will show clear evidences of hysteria. Whether a contraction of the visual field, without any other stigmata, is sufficient to warrant a diagnosis of hysteria, is still open to question. Charcot (9), on the one hand, holds that it does not occur in uncomplicated neurasthenia, but Wilbrand and Sanger (10), on the other hand, whose work on the visual field is of great value, and also Lowenfeld (11), claim that it may occur in such cases. In four cases which I have classed as neurasthenic, there was some contraction of the field without other stigmata of hysteria, and in the absence of other stigmata I have not ventured to class the cases as hysterical. It is true, however, that in non-traumatic neurasthenia I have not yet found contraction of the visual fields, but a careful perimetric examination was only rarely made.

Contracture of the visual field, by itself, may undoubtedly occur in various affections. I have noted it in cases of brain tumours without as well as with optic neuritis, in the early stages of optic atrophy with as regular an outline as in hysteria (contrary to Charcot's statement (12) as to the fields in tabes), in spinal sclerosis, in tobacco amblyopia, in oculomotor paralysis, in melancholia, and rarely in epilepsy, not as a transitory phenomenon following the attack (13), and in other cases where the idea of hysteria was not entertained. This fact, however, is well recognized, and it has been fully demonstrated by the researches of Wilbrand and Sanger.

When, in a given case, we find disturbances of the cu-

taneous sensibility, not following the distribution of the peripheral sensory nerve areas or the spinal root areas, associated with contracture of the visual field, are we justified in assuming that the case is one of hysteria? If the sensory disturbance affect one half of the body the probability of hysteria seems greatest. Patrick (14) has laid considerable stress upon a sharply defined boundary of the anæsthetic area as characteristic of hysteria. This may be the case, and in a very few cases it was noted, but in the great majority of cases, including many that were undoubtedly cases of hysteria, this sharp outline did not exist. Charcot (15) has claimed distinctly that in hysteria alone do we find profound hemianæsthesia involving the special senses, and Gilles de la Tourette (16), following Charcot's teachings, holds that hemianæsthesia is due either to a capsular lesion or to hysteria. Of course, instead of a capsular lesion there may be a focal lesion elsewhere in the sensory tract. The wider knowledge of hysteria, due to the investigations of the French neurologists, have rendered the conclusions of Thomsen and Oppenheim (17) somewhat unsatisfactory, and further investigations are desirable. If in alcoholism, lead poisoning, multiple sclerosis or epilepsy, we find hemianæsthesia with contracted fields it may often be true that there is a coexisting hysteria, but it is scarcely logical to claim that all such cases are probably hysterical (18), or boldly to assert with Souques (19) that because the patient presents these stigmata he is therefore hysterical. It is not long since it was held that hysteria and syringomyelia were very often associated, because the sensory disturbances in syringomyelia did not follow the regular spinal distribution, but later inquiry has shown that the distribution of anæsthesia in lesions of the cord itself is very different from that in lesions of the spinal roots. It is not at all improbable that careful research will prove that hemianæsthesia is not pathognomonic of hysteria. In migraine I have occasionally heard patients complain of a subjective feeling of numbness over one half of the body during the attack, and Dr. J. J. Putnam tells us that he has noted an actual diminution of sensibility on one side during an attack of supraorbital

neuralgia. I have also seen hypoesthesia over one half of the back in a case of mitral disease and phthisis. Hemianesthesia in focal lesions of the brain is, of course, not uncommon. Not long ago I saw for a few moments only a man who had had epileptic seizures in childhood. Three years before he was thrown from a wagon in a collision with a railway train, and after that he was no longer able to do hard work. Two years later the fits returned. When I saw him he had atrophic paralysis of the right shoulder and upper arm, tremor of the hands, exaggerated knee-jerks, and right hemianesthesia. Not long after he died of pneumonia. The autopsy showed a very peculiar and extreme atrophy of the brain cortex, of unknown origin, involving the whole left ascending parietal convolution and the upper part of the right ascending parietal, but not extending beyond those convolutions.

It becomes a question, therefore, which is still undetermined as to whether we can regard even hemianesthesia as indicative of hysteria. The implication of the special senses, sometimes noted in hysterical hemianesthesia, is by no means decisive. In a part of the cases there was a distinct diminution of all the special senses on the anesthetic side, with dyschromatopsia; in others the difference was very slight, affecting one sense only, especially the sense of smell; in other cases still, which were clearly hysterical, the special senses were wholly unaffected, or, if affected at all, difficulty was due to some local disturbance, a refractive error, old middle-ear disease, or an occluded nostril. In certain cases, too, the colour sense was perfectly normal, and the colour fields showed no special change. In a few instances the colour fields were reversed. This study of the colour fields which, I regret to say, was undertaken in only a few cases, confirms the conclusions of Mitchell and De Schweinitz (20), who found that a reversal of the colour fields was only rarely seen. It is clear, however, that the absence of disturbance of the special senses cannot exclude hysteria, in cases where there is a cutaneous hemianesthesia, and, even, if such disturbance be noted, we must be sure that it is not due to local causes.

If it be a question whether the disturbances of cutaneous sensibility which affect one half of the body can be regarded as an absolute indication of hysteria, the doubt becomes still greater when we have to deal with the cases, sixteen in number, where the disturbance affected one limb, both legs, or much of the body. The segmental character of anæsthesia affecting one limb, in the gauntlet, sleeve or stocking type, once thought characteristic of hysteria, is now known to occur in syringomyelia and other affections of the cord. Only a few days ago I observed such an anæsthesia of the foot and lower part of the leg, in almost precisely the area covered by a sock, in a typical case of tabes, and the boundary was as well defined as is often seen in hysteria. When the anæsthesia effects the legs alone, or most markedly, and gradually grows less as it goes up the body, fading away without any definite boundary into areas of normal sensitiveness, the hysterical nature of the disturbance is certainly questionable.

On the whole, therefore, it seems probable that the majority of cases which present disturbances of the cutaneous sensibility and contracted visual fields are hysterical; but, where these symptoms exist without the corroborative proof of other hysterical stigmata, it is doubtful whether we can assume that the case must therefore be hysterical, and it is a distinct begging of the question to claim, when a patient is clearly suffering from some other disease, that hysteria must also be present because he has hemianæsthesia and contracted fields. It is undoubtedly true that many of the symptoms which were once thought to be absolute evidence against hysteria, such as ankle clonus, facial or oculomotor paralysis, immobile pupils, incontinence of urine, and even reaction of degeneration, are said to occur in hysteria (21). Nevertheless, in spite of the great advances made in our knowledge by the French, I am disposed to agree with Rumpf (22) that the concept of hysteria has been extended to cover a much wider field than is justifiable. Souques has criticised very sharply the views of Buzzard (23) regarding the simulation of hysteria by organic disease, but it is nevertheless true that there are cases of disseminated or

diffuse sclerosis where, for a considerable period, the symptoms may seem simply those of hysteria or neurasthenia, and where it is a very difficult matter to determine whether we have to do with hysteria or a slowly progressive sclerosis. The data furnished by clinical examination may be throughout the whole course of the disease quite inconclusive, and we may have only that general impression, so impossible to describe in words yet of such value in estimating the condition before us, that the case is one of progressive structural disease of the central nervous system.

Before leaving the consideration of these various symptoms presented by neurasthenic and hysterical patients, a word must be said as to the hypothesis recently advanced by Strümpell in his remarkable article that many of them, including anæsthesia, contracted fields, exaggerated knee-jerks and an excitable pulse, are due simply to suggestion. Oppenheim's (24) answer that, in a large number of the cases, many of these symptoms are not evident except upon very careful examination, agrees fully with my own experience, and I have found in many cases that the patients had no idea that such symptoms existed. It is true that by suggestion we can often excite or remove symptoms in hysterical cases. If, however, a certain number of persons are subjected to accidents of a similar character, and, as a result, they all become nervous and suggestible, and are all subjected to examinations of a similar character, why should some present anæsthesias, contractures, paralyses and contracted fields, and others present none of these symptoms? Or, if, as Mendel claims (25), the æsthesiometer and perimeter, and careful and repeated examinations suggest and develop these hysterical stigmata, why, in a well-conducted clinique where all patients are thoroughly examined, or in the private practice of men who habitually make thorough examinations, should not these symptoms be more common?

We are not yet in a position to say why one patient becomes hysterical, and another neurasthenic, as a result of an injury, but it is certainly more reasonable to seek the difference in the patient's previous condition or in factors connected with the accident itself than in the events which

follow some time later after some indications of disease have already appeared, and it is most unreasonable to ascribe these symptoms simply to the ordinary methods of examination.

The prognosis of these two affections still remains uncertain, and our judgment in any given case is liable to error. I have made some effort to collect definite statistics concerning a considerable number of cases in order to obtain accurate knowledge. It is needless to say that the task is difficult, and I can here give only my own knowledge of the subsequent history of a certain number of cases of hysteria, as the information collected with regard to the neurasthenic cases is still scanty. I can speak of twenty-eight cases of hysteria, eighteen of which were litigation cases and ten of which were non-litigation cases. Of the litigation patients one has recovered completely, five have improved considerably, but still complain and show hysterical symptoms, seven have not improved, and five have died. Of these five, one died from unknown causes, one had considerably improved but died of intercurrent pneumonia, one was steadily growing worse and died of a low form of pneumonia, and two died of exhaustion due to hysteria. Of the non-litigation patients, three have completely recovered, four have improved, two have not improved, and one has died of intercurrent pneumonia. The one litigation patient who made a complete recovery, grew somewhat worse after the case was settled, and then, after a good many months, had a bad carbuncle on the back of the neck. On recovering from this he made a complete recovery from the hysteria. It will be seen from these figures that, so far as my own investigations have gone, the remarkable cases that recover as soon as damages are paid do not appear, although we must admit the possibility of a sudden disappearance of some or all the symptoms in a genuine case of hysteria. It is well, too, to accept with reserve the statement that a patient is well because one or several trustworthy persons have seen him walking about and attending to his affairs—a truism which would hardly seem necessary to utter to any one at all familiar with nervous diseases. If a patient still presents

the stigmata of hysteria, even though he make no complaint and attend to his affairs, he cannot be considered as a healthy man.

The much more favourable outcome of the non-litigation cases is due in part to the absence of the disturbing factors attending litigation. It must be borne in mind, however, that these cases were for the most part of a milder character, due to a less severe injury, and that the patients presented themselves for treatment early in the progress of their trouble. Even under these circumstances, however, some of the cases have not improved, but, on the contrary, have shown a progressive deterioration.

The guarded nature of the prognosis which must be rendered in a given case of traumatic hysteria is therefore evident, and it is confirmed by the long duration which we note in individual cases, a number of the cases tabulated having continued for from six to twelve years, often with some improvement, but still presenting distinct symptoms and not having regained their previous health.

There seems to be no very definite relation between the severity of the symptoms in hysteria and the gravity of the prognosis. Certainly there is no connection between the intensity of the stigmata and the subsequent history of the same. One of my fatal cases and several very protracted and obstinate cases presented stigmata so slight as to be detected only after careful examination. I am therefore much more inclined to believe that the prognosis of hysteria depends, as Binswanger states (26) of neurasthenia, not so much upon the intensity of the symptoms as upon their course of development and duration. The longer, therefore, hysteria lasts the less likelihood is there of complete recovery.

I have already stated that I am as yet unable to give definite statistics as to the subsequent history of a considerable number of cases of neurasthenia. Some of the cases certainly progress more favourably under treatment than do the cases of hysteria; and, on the whole, I think the prognosis more favourable. But, on the other hand, I have known of cases of long duration (eight, twelve, fifteen and even twenty years), so that the possibilities of grave results should always

be borne in mind. Von Hösslin (27), indeed, speaks of the prognosis in traumatic cases as much graver than in cases of a non-traumatic nature, but this seems distinctly doubtful.

In the discussions held last summer in Germany, the general opinion was that the best treatment in these conditions was to keep the patient at work. It is undoubtedly true that in our enthusiasm for the rest-cure we are prone to overlook the fact that in a considerable number of neurasthenic and hysteric cases a work-cure is much more indicated. In the majority of cases it is also true that if the patient be allowed to sit or lie unoccupied and to brood upon his troubles, to make no effort, to study every symptom and to receive the suggestions and sympathy of his friends, his condition will rapidly become worse; but this is not the rest cure. In more than one case I have seen the condition aggravated by ill-advised attempts to work or by the necessity of daily labour to obtain a living. The good results in a number of non-litigation cases seen at the hospital were due directly to the prompt inauguration of treatment, the enforced isolation and the complete rest. With this, of course, should go a proper psychological treatment, constant encouragement, occupation and diversion, and a very guarded attempt to resume the normal occupations of life. It is often said that no improvement is likely to take place while litigation is pending. This is in a measure true, as the worry attendant upon litigation acts as a constant source of irritation; but I have in spite of this seen patients who were put under proper treatment make a very considerable gain in spite of the continuance of litigation. Within a very short time I saw a patient who was under very bad psychological influences and was steadily growing worse. Removal to the hospital, where he could be isolated and kept from these bad influences, produced a remarkable improvement, although the trial of his case was imminent.

The admitted evil influence of litigation, however, indicates to us a duty which we owe to the victims of accident. The claimants for damages have a bad name, and they are generally regarded by the outside public as swindlers and extortioners. The facts, however, show that in the great

majority of cases this stigma is undeserved. Very few of them are simulators, most of them are genuine sufferers, a considerable number of them never fully recover, and, in spite of the sensational reports from Chicago which have appeared in a recent number of a popular magazine, the amount which they receive in damages is, in my experience, inadequate, especially after the expenses of litigation are deducted.¹ It is, moreover, admitted by the majority of recent writers that the prognosis in these affections becomes graver the longer the disease lasts. In one case under my observation the injury was received in March, 1890; the case was tried in January, 1892, and it is still pending before the Supreme Court on appeal. Another case, when the patient was injured in September, 1892, has just come to trial. Such cases are perhaps extreme, but it rarely happens that a case which comes to trial in Boston, ends within two years from the time of injury. These delays are a direct source of harm to the patients and undoubtedly serve to turn the scale against recovery in a certain number of cases. It is, of course, hopeless to expect any reform in legal procedure, but it still remains our duty to protest against its evils, and to seek to obviate them by urging a prompt settlement of the patient's claims out of court, in every case when it can be accomplished without too great a sacrifice.

¹ In twenty cases of hysteria and ten of neurasthenia under my observation the average award was £1,100, the highest being £4,500. Of this it is probable the patient generally gets less than half.

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