An Address

ON

COMPENSATION FOR INJURY.

DELIVERED BEFORE THE NOTTINGHAM MEDICAL SOCIETY

BY

V. WARREN LOW, C.B., M.D., F.R.C.S.,

CONSULTING SURGEON TO ST. MARY'S HOSPITAL, AND TO THE LONDON
MIDLAND AND SCOTTISH RAILWAY COMPANY.

In a very early stage of civilization there appeared to be a feeling amongst men that some sort of amends should be made to the injured party for an injury wantonly inflicted. Many centuries had to pass before this idea also included accidental injuries. In Exodus xxi, 18, 19, we read:

"And if men strive together, and one smite another with a stone, or with his fist, and he die not, but keepeth his bed:

"If he rise again, and walk abroad upon his staff, then shall he that smote him be quit: only he shall pay for the loss of his time, and shall cause him to be thoroughly healed."

There you have the special damages, but not much for "pain and suffering." Then follow a few verses where other special forms of damage are mentioned, and, finally (verses 24 and 25), a sort of schedule of compensation:

"Eye for eye, tooth for tooth, hand for hand, foot for foot, burning for burning, stripe for stripe." And in Leviticus xxiv, 20: "As he hath caused a blemish in a man, so shall it be done to him again."

There is in all this a good deal of that vengeful spirit which is rather characteristic of the Old Testament.

No doubt for a long while in the world's history compensation lay chiefly in the direction of reparation for an intentional injury—a sort of business-like compromise for an act of revenge. Then there followed the rewards for military service, particularly when the soldier had been wounded, and this gradually developed into the idea that a man who had been disabled by military service had some sort of claim for maintenance on those in whose service the hurt had been sustained. But in all these examples the penalties were exacted for injuries inflicted intentionally, and it was an entirely new principle in law, at any rate in this country—and I believe that this country has usually been the pioneer in these matters¹—when in 1846 Lord Campbell's Fatal Accidents Act was passed, which gave a right of action for compensation to the families of persons who are killed by the negligence of others.

WORKMEN'S COMPENSATION ACTS.

We as a profession are concerned only in the use of the term "compensation" in connexion with personal injuries, either in what are known as common law cases, but more particularly, because of their numbers, in connexion with cases under the Workmen's Compensation Acts. It is in these cases that the responsibility is thrown on our shoulders of giving advice as to the extent of the damage and the amount and duration of the disability caused thereby. Probably this is one of the most difficult and thankless tasks ever imposed on any profession. It involves, in the first place, a very accurate diagnosis, a difficult enough task in itself, but rendered none the less easy by the intense desire on the part of the patient that the damage done to him should not be underestimated, nor that any pathological peculiarity or blemish found on him should be dissociated from the accident.

Prognosis, always a thorny problem, is, in these cases, often complicated by the patient's apprehension that he may be getting well too quickly, or that the doctor is taking too cheerful a view of his case. There is always the feeling, either latent or openly expressed, that the transgressor must pay, and must pay well, till I sometimes wonder whether that old spirit of revenge is entirely confined to the Old Testament. Generally it can be said that the greater the injury the less the difficulty in assessing the damage; the patient is then too ill and too crippled

to attempt to do the assessing for you, or, at any rate, is so confident of the reality of his disability that he can well afford to leave it to your judgement without any lead from him.

For a workman to uphold a claim under the Workmen's Compensation Act for personal injuries it is necessary for him to show that the injury was sustained as a result of (1) an accident arising out of and in the course of his employment*; (2) one of the industrial diseases brought specially within the scope of the Act. The word "accident" has received various interpretations, and at present the mishap or occurrence is looked at from the workman's standpoint, and, whatever its cause or origin, it is treated as accidental unless designed by the workman himself. This definition has been held to be wide enough to include such cases as heat-strokes, chill developing into inflammation of the kidneys, and the rupture of an advanced intrathoracic aneurysm. Practically it may be said that the injury is treated as the accident, and it does not matter that the injury was not caused by an accident, but resulted from merely normal and customary activities.

I think it may be stated as a fact that, owing to the number of cases that have been decided under the Acts, and to the manner in which the law has been codified and rendered more simple, the legal position of any plaintiff, except in very rare cases, is clear, provided that the facts can be proved. With very few exceptions the facts in dispute are in connexion only with the medical aspects of the case, and it is here that our difficulties begin. To the legal mind, untrained in medicine, it must sometimes appear that the opposing doctors, apparently in all good faith, are expressing views which are poles apart on the same circumstances. Often the difference is more apparent than real, and depends more on different methods of expression or on inequalities of emphasis than on any real divergence of opinion on what are the essentials of the case.

Quite apart from this, however, there is, in this class of case, plenty of room for an honest difference of opinion with regard to even the essential points at issue. This difficulty is not lessened when the plaintiff, either from ignorance, stupidity, or from motives less naive, exaggerates or imagines the symptoms which are responsible for his incapacity. Yet it is on controversial material like this that a tribunal, untrained in medicine, may have to come to a decision. I am referring to those cases where a county court judge sits without a medical referee. There are, however, some county court judges who do not consult their referee, even when he is sitting, and I know of one judge who believes, or affects to believe, that the only function of the medical referee is to explain the meaning to the judge of such medical terms as the latter does not understand. From this decision on the medical evidence there is no appeal, as the courts above assume the findings of the county court judge as the facts of the case.

The difficulties in connexion with these cases arrange themselves under two heads: (1) The question of entitlement. Is the workman's disability the result of accident, or has it been aggravated by accident, or is it due to some other cause? This is often largely a matter of diagnosis. (2) The question of duration of incapacity. This is a matter of vast difference of opinion between employees and employer. It is often a matter of very considerable difficulty for a conscientious surgeon to decide at what period the injured workman ought to be forced, under the penalty of losing his weekly compensation, to resume his normal employment. One occasionally, I am glad to say not often, comes across a case of frank malingering, but one sees numbers of cases in which a few weeks' inactivity appears to promote an "inertia" and "work shyness" which are exceedingly difficult to overcome, and to which the certifying doctor often shrinks, for some months, from applying the drastic remedy of refusing a certificate. It would be impossible to compute the number of working days that are thus lost to the community or the thousands of pounds thus paid in unnecessary compensation, and, what I think is of greater importance, the damage done to the workman's own morale. I am not suggesting that

*The phrase "arising out of and in the course of his employment" has been the subject of so much judicial consideration that its meaning is well settled.

this is peculiar to cases which come under the Workmen's Compensation Acts. There is always a startling contrast in the time taken to resume the normal occupation after accidents incurred at football, polo, hunting, etc., where the responsibility of the incapacity rests with the patient, to the time taken to recover from accidents for which the responsibility rests with others. It is the enormous number of Workmen's Compensation Act cases that renders the matter of so much importance.

It is very often the first certificate that ties the doctor's hands. Given, perhaps, on the first occasion, after a hurried examination of the patient and with a vague, half-formed excuse to one's own conscience that the patient should have the benefit of the doubt, the certificate reads to the effect that "A.B. is suffering from the effects of an accident of a certain date, and that he is unable to follow his employment." Even A.B. is a trifle astonished. He had given expression to what to him was but a half-formed idea that his pain in the back, never very serious, must have been due to a slight strain that he had experienced the other afternoon. He had rather expected to be cross-examined on the subject, and had felt very uncertain of his ground, and would have been quite willing to be guided by the doctor's opinion, but here it was in black and white with the doctor's signature beneath it. From that moment his doubts in the matter diminish, and as his certainty grows so does his incapacity, and it becomes increasingly difficult for the doctor to recede from the position in which his first certificate has placed him. Finally, the fear of being thought inconsistent and not knowing his own mind drives the doctor into the witness-box, where his counsel coaxes him into a position far in advance of that which he had intended to take, and where he is still more strongly entrenched by his reaction to the bullying tactics of the cross-examining counsel. In the meanwhile A.B. feels that he ought to do his best to support the very handsome testimonial of incapacity given him by his doctor in the witness-box, under circumstances which A.B. regards as heroic, and he becomes more than ever firmly entrenched in a fortress of incapacity from which it will take many months to dislodge him.

This may appear to be an extreme case, and possibly, to many of you, a mere fantasy, but I can assure you that I have seen compensation cases grow up in this manner until finally, whatever may have been the periods of doubt through which they passed in the process, the two who are most convinced of the justice of their cause are the patient and the doctor. But, as I have said before, it is often on the different meaning applied to medical terms that we, as a profession, fail in the eyes of the public, owing to our inability to agree. Take, for example, the use and misuse of the term "shock."

"SHOCK."

Shock, as I think most of us understand it, is a condition of profound physical depression resulting immediately from some serious accident or operation. The patient either dies or gradually recovers from such a condition. With this conception of the meaning of the term it is impossible to believe that a person can remain, for months or even for weeks, in such a condition. The term "delayed shock" is obviously a misnomer, although it has been used in textbooks, but the pathology of the conditions for which the term "delayed shock" stood is now known not to be the same as that of shock. Shock, however, as we meet it in the law courts, and as it is understood by every solicitor's clerk, is a very mixed bag of nervous phenomena following any accident, however trivial, usually coming on slowly and insidiously, and often after an interval—an interval which Charcot used to call, with, I should like to think, a sly humour, "a period of meditation." This sort of shock often produces a condition of so-called "nerve exhaustion" to which that vague and misused term "neurasthenia" is applied. I should like to contrast a case of real surgical shock with one of the cases where the term "shock" is used only in its legal sense.

I saw, last year, a girl of 14, who had been involved in a very serious railway accident early in January, 1929. The accident had

occurred in the small hours of the morning in a fog, when the temperature was below freezing point. To the ordinary horrors of a railway accident were added those of fire, and many of the injured were burnt to death. The accident happened on January 8th, and I saw the child on January 26th. I also interviewed the doctors who had administered first aid, and under whose care the child had come, at the local hospital.

She had already been removed from the wreckage of the train by the time the doctors arrived on the scene of the accident, and was lying on some hot-water pipes in the waiting room of the station where the accident had happened. The child was then quite cold, livid in colour, and pulseless; her breathing could not then be detected, and her limbs were flaccid and her pupils dilated. I was assured by both doctors that for some time they were unable to decide whether she was alive. She was actually, at one moment, destined for the ambulance in which the dead were being removed to the mortuary. Some doubt existed, however, and she was allowed to remain on the hot-water pipes. She presently showed more signs of life, and was removed to the hospital. She remained for a few days in a critical condition. Her abdomen and right loin were extensively bruised, and she had passed blood from both her bladder and intestine. It was feared, therefore, that she had ruptured some internal abdominal organ, but her condition of extreme shock made it impossible to carry out any further investigations, and treatment only of the shock was undertaken.

When I saw her nearly three weeks afterwards she showed very little evidence of the extremely critical period through which she had passed. Her pulse, respirations, and temperature were normal. There was some slight tenderness of her abdomen, and some faint discoloration over the right lumbar region. It was then obvious that no internal organ had been seriously injured, though possibly there had been extensive bruising of some of the viscera, and this was corroborated by the haematuria and melaena. She had, however, unfortunately, two large superficial burns on her left buttock. For these, I presume, the hot-water pipes were responsible, but as probably the hot-water pipes had to be thanked for the preservation of her life the balance of merit was with them. When I saw the child, in spite of the considerable discomfort of her burns, she was lying placidly in bed reading. She talked to me cheerfully, and made no allusion to her illness or to her being in hospital. I was told that she evidently had no memory of the accident, and no allusion to this was ever made to her. She ultimately recovered and did well without any of the nervous phenomena usually associated with shock in connexion with railway accidents.

The case, I think, illustrates two points: first, how completely may be the recovery from shock of the most extreme degree; and secondly, how much depends on the environment of the patient during the period of recovery. Had the child not remained in the judicious calm by which she was surrounded at this little hospital, she might have been exposed to emotional stresses, quite unconnected with the accident, which would have reacted on her and produced a symptom complex which is thought by some to be the peculiar product of railway accidents. The consequence would have been a long period of mental ill health for a child at, perhaps, the most critical period of her life.

May I contrast this case with another from the same accident?

In this case an elderly gentleman claimed a large amount in compensation for disability resulting from shock sustained in this accident. I did not see the patient until May 24th, when I examined him in a Midland town with another surgeon. The patient was a very healthy-looking man of 67 years of age. He was able to give us a very detailed and dramatic account of the accident so far as it affected himself. He told us exactly what he was doing just before the accident. He remembered all the details of the accident itself, and all that happened immediately afterwards. He remembered his anxieties and fears, the cold and the fog, and how he was extricated from the wreckage. He was able, with assistance, to walk the fifty yards to the railway station, and was taken to the same hospital as the child. Here two scalp wounds were sewn up without an anaesthetic, and after four days in hospital he returned to his own home by car.

His solicitors claimed for him that he had been severely shocked in the accident, and that his present symptoms were the sequelae of the shock. Mr. X himself complained that he was possessed of a "horrible sense of fear," which was brought on by the slightest noise when he was awake, and which possessed him like a nightmare when he was asleep. On being asked for any further consequences of the accident Mr. X produced some notes from his pocket, and then complained of "lack of confidence in himself" and "that he dreaded travelling." In answer to a question he explained that his reference to his notes for such apparently

important symptoms was due to his "lack of concentration and memory." He made no complaint of headache, giddiness, or of inability to sleep.

As a result of all this he had given up his business and had had to retire since the accident. He was a brisk, cheerful-looking man, who scarcely looked his age. He was well nourished, and said that he weighed 14 stone. He thought that he had put on weight since the accident. There were two small scars on his head, which were not tender nor adherent to the skull. We could find nothing abnormal with his nervous system. We also considered his mental condition to be singularly alert, and at that interview he showed certainly neither want of confidence nor want of concentration. There was nothing in his condition when we saw him, except what Mr. X himself told us, which would suggest that less than six months previously he had been involved in such a serious accident.

It was, of course, quite impossible to traverse such statements that he was "nervous," "suffering from nightmares," and "unable to travel," but his very detailed description of the accident was not consistent with his "lack of concentration" and "loss of memory." Nor was it consistent that a man who could remember all the details of his accident, and the reasons why he did this or refrained from doing that, should have to resort to his notes to remember such important symptoms as "loss of concentration and confidence" and "dread of travelling."

This is an excellent example of the misuse of the term shock. It was used by the lawyers in exactly the same sense as the term was used in the case of the child. Mr. X had obviously and fortunately escaped even the slightest degree of shock. He had, no doubt, passed through a very trying experience, and the fright of the accident and the scenes he had witnessed might well have produced on him a mental effect which must, at the time, have been very upsetting, and may have produced the "sense of fear" and "the nightmares" of which he complained. In our opinion, when we saw him these effects were passing off, if they had not already done so, and Mr. X was confusing, in his mind, memories of the immediate past with the present. It would probably have been wiser for an ordinary man, at that time, to have resumed his occupation. Unfortunately, Mr. X was 67 years of age, and we realized how difficult it was for a man of that age, after a period of rest, to resume what were, perhaps, already waning activities.

My point, however, is to emphasize the misuse of the term shock by the lawyers, the public, and occasionally, I am afraid, by our own profession. Had this case come into court I should have been confronted with medical evidence to the effect that Mr. X was suffering from the sequelae of severe shock caused by the accident. What else should you expect, say the public, from a railway accident but shock? This is true enough if one uses the term in the sense in which we all use it when we find that our income tax has been raised, but this kind of shock, serious as it may be, does not carry with it the mortality nor the sequelae of surgical shock. I should like to add that I believe that, with proper treatment, surgical shock produces very little in the way of nervous sequelae. We have all seen many cases of severe surgical shock. The treatment, if the patient survives, is that of the condition which caused the shock; and how many cases have we seen in which there are marked nervous symptoms afterwards which could be ascribed to the shock itself? I should say very few.

The misuse of the term, however, whether conscious or not, is a distinct legal asset to the plaintiff. It at once emphasizes the severity of the original injury, and at the same time forms a useful link between the accident and any rather possibly remote nervous phenomena which may occur. The severity of this kind of shock is often measured by the narrowness of the patient's escape from danger. That a car or a wheel should have missed someone by a few inches is a great "shock" producer.

CONCUSSION.

"Concussion" is another term which is constantly mis-handled by the legal profession and by the public. Mr. Trotter² has described concussion as "indicating an essentially transient state, due to head injury, which is of instantaneous onset, manifests widespread symptoms of a purely paralytic kind, does not, as such, comprise any

evidence of structural cerebral injury, and is always followed by amnesia of the actual moment of the accident." The essential features of concussion are its suddenness and the loss of consciousness, however brief.

Mr. Trotter has made use of the term "retrograde amnesia" to express the loss of memory of events immediately preceding the accident. When I was a registrar at St. Mary's I collected a number of instances of this. They varied between, in a slight case, the loss of memory of the events of the four or five minutes immediately preceding the accident, as could be measured by the time it took the patient to walk the distance from the last point remembered to the scene of the occurrence, to, in a more serious case, the loss of memory of the events of weeks before. It often happens that the victim of a railway accident which has happened after he has been on his journey for some hours can remember events only up to the time when he left his own home in the morning and took his ticket at the station.

The sequelae of a head injury, with or without concussion, are many, and since the war we have accustomed ourselves to the use of the term "cerebral contusion," which has partly taken the place of the older term "cerebral laceration," and which has also gone some way to explain the pathology of conditions which previously were regarded as functional. I think we owe a good deal of this again to Mr. Trotter. The symptoms which used to be described as those of cerebral irritation are now regarded as "contusion effects." The chief of these is what is known as "contusion headache."

For some unexplained reason the headaches in these cases of cerebral contusion may often occur after a latent interval.² They are not, as a rule, continuous, but intermittent. They are often associated with a certain amount of mental impairment and with giddiness, and with the latter are usually in relation with some alteration of posture, such as stooping, or turning the head suddenly to one side. The mental impairment usually takes the form of defective memory, inability to concentrate, and some diminution of emotional control. All of these are more or less indications of mental fatigue. Such a condition is to be distinguished from the headache of a functional neurosis following a head injury. The neurotic headache usually dates from the time of the accident, is continuous rather than intermittent, has little or no relation to posture, and is aggravated by any emotional stress. What is most important in the neurotic headache is the absence of any evidence of mental impairment or fatigue. The neurotic patient has usually the most acute memory for anything connected with his disability and anything that may have caused it. During the examination he is keenly alert, and often displays, in an unusual degree, that power of concentration which, according to his notes, should be missing. The following cases illustrate the distinction between the two types.

"A man, 44 years of age, was injured on November 24th, 1926, in an accident in which one train ran into the rear of another. He was in the back part of the front train. At the time of the accident he lost consciousness for a brief period of time. When he came to his mouth was bleeding and his teeth were loose, in fact one tooth came out in the night. There were some wounds and abrasions of the mucous membrane lining his cheek, and his nose was bleeding. He remained at his home in the country until January 3rd. He did not keep his bed, and used to go to the doctor's house. His chief complaint was pain in the head. On January 3rd he came up to London on business, but the journey upset him, and he remained at home for another week. He then came up to town four times a week. In February he was not so well, and had to consult a neurologist. He took three weeks' holiday at Whitstide, and was better. While returning from his holiday some jolting of the train, owing to a defective brake, restarted the pains in his head, and he had not been so well since.

When I saw him on July 24th, 1927, he complained of pain over the posterior part of his head and shooting pains over his eyes. He also felt a sense of constriction round his head. The pain came and went, and he might go for days without it. During our interview he said that he had a "pressing down pain on the top of his head," and that this sensation of pressure was worse when he stooped. He said that he suffered from loss of memory, but that his memory was better than it had been, although he was still liable to make mistakes. There was no tenderness over the

painful area of his scalp, and I could find no evidence of any organic disease of his nervous system. He gave me the impression of candour and frankness, and made no attempt to exaggerate his symptoms. These appeared to me, and to the neurologist who examined him with me, to correspond with the symptoms due to a cerebral contusion.

In contrast to this case, on July 21st, 1920, I examined a temporary porter, aged 34, who on the previous April 17th had fallen backwards about 5 feet and hit the back of his head. He did not lose consciousness, and there was no wound of his scalp. He immediately left his work. He did not go to a hospital, but was attended by his panel doctor. He went to bed for three days, but since then had been walking about. To me he complained of weakness and giddiness and pains in his head. There was a marked tremor of his hands while he was under observation, but this ceased when his attention was thoroughly engaged in conversation. I could find no evidence of any organic nervous disease, nor was there a scar on, or tenderness of, his scalp.

He neither drank nor smoked; he was unmarried, and lived with his parents. I could find nothing the matter with him, and suggested that he should return to work. He did not do so, and on September 30th he went before the official medical referee, who certified that he was suffering from "mild traumatic neurasthenia," and that his condition was such that he was fit for light work and should resume his ordinary work in a month. How anyone can predict that traumatic neurasthenia, even of the mild variety, is going to cease in a month is a question which might be indefinitely and uncertainly discussed.

The porter accordingly resumed his ordinary work on November 13th, and with the ill luck that attends these "neurasthenics," on November 20th was struck on the side of the head by the handle of a hand truck. He said that he lost consciousness. He was taken to the Poplar Hospital, but was not detained, and went home in an omnibus.

I saw him on February 11th, 1921. He had remained at home ever since, and was quite unable to work or even to perform, on occasion, such domestic labour as to carry coal upstairs for his mother, a woman aged 78. He was, however, able to take walking exercise up to two or three miles. He complained to me of inability to sleep, that he became giddy, and that he had prickling sensations in his eyes and pain in his head. He also complained of great weakness. The objective evidence of his condition was tremor of his hands, as on the previous occasion, and a pulse rate of over 100.

The curious mentality of this man may be realized by this incident. When endeavouring to ascertain what he did with himself during these long periods of leisure, I asked him if he read any books, and what books he had read. He told me that there was a copy of *Robinson Crusoe* in his house, and I strongly advised him to read it. He replied to me, somewhat reproachfully, that he did not read secular books, but only the Bible. He described himself as an "undenominational non-sectarian."

As the man had been in the company's employ for only a year, and during practically all that period had been drawing compensation for two comparatively trivial accidents, and as he appeared to be rather unlucky in the matter of accidents, and the official referee had stamped him with the hall-mark of traumatic neurasthenia, I advised the company to get rid of him at any cost. This was achieved at the price of £175.

TRAUMATIC NEURASTHENIA.

The mention of traumatic neurasthenia brings me to a very thorny problem. What is traumatic neurasthenia? It is our inability to answer this question, or rather the inability of all of us to give the same answer, that makes us, I think rather deservedly, the butt of the legal profession. As Lord Melbourne said, it doesn't matter what we say so long as we all say the same thing.

The actual meaning of the word neurasthenia is "nerve weakness," and inferentially "nerve exhaustion"—a very attractive idea to the public, as it either suggests that they have made a superhuman effort far beyond their legitimate powers, and are suffering in consequence (nervous breakdown from overwork), or that some virtue from that mysterious shrine, their nervous system, has been lost to them through no fault of their own (traumatic neurasthenia). Thus they are either heroes or martyrs, both enviable positions.

There are, I believe, members of our profession who hold that an injury, of whatever severity and wherever inflicted, may, on occasion, produce a physical condition of the nervous system, with characteristic signs and symptoms, but without any morbid anatomy, to which the term "traumatic neurasthenia" may be applied.³ I am not one of these. Personally, if I may say such a thing without

presumption, I do not believe that there is such an entity as traumatic neurasthenia or psychasthenia. I believe that the cases which pass under these names are those of people with some derangement or disorder of what I prefer to call temperament, which renders them fearful, introspective, gloomy, and anxious, with all the physical consequences which such qualities connote. I do not suggest that such sufferers should not command our sympathy and, on occasion, should not obtain compensation when their condition, as it very often is, has been the fault of another; but each case should be decided on its own symptoms, and not under the name of a large and indefinite generalization. For instance, a nervous man may, as the result of an accident, be rendered more nervous and apprehensive, or a man hitherto care-free may have assumed a habit of anxiety and introspection. Both of these are deserving of our sympathy, and should receive compensation.

It may be argued that all this is merely a question of words, but I believe that it is very much better for the patient that he should know that though, as the result of the accident, he has become more fearful than he was, or more prone to worry about himself and his future prospects, he is not suffering from a mysterious physical condition which is affecting his mind and darkening his outlook on life. It would, I am certain, be more easy to assess these cases and to explain the degree of disability to the legal audience with whom the ultimate award rests.

I admit that, as the result of an injury, a man's temperament may undergo an alteration; he may become more irritable, more fussy, more fearful, and the rest; but to give that undoubted fact a name like traumatic neurasthenia is to give the layman, and often ourselves, quite a wrong conception of what has happened.

Once a condition has a name it requires no further definition. Even if the name means nothing it becomes part of the established order of things,³ and if the condition for which the name stands is not well defined anyone can attach to it such meaning as he likes. To my mind the mental or temperamental conditions which follow injuries are not yet sufficiently defined to deserve a name, and it would be more convenient for the patient, for the doctor, and for some future judicial authority if the exact condition of which the patient complains were explained in plain English terms, and no attempt were made to give it any name.

"Traumatic neurasthenia" seldom, if ever, follows very serious injuries or disabling injuries, like fractures of the limbs. It is almost invariably restricted to injuries which result from accidents which are due to the alleged fault or negligence of others.³

I could say much more on this subject, but it has been said much better in a paper by Sir Farquhar Buzzard and published in the *Lancet* for 1923, vol. ii, which I strongly commend to your notice.

"RAILWAY SPINE."

In the sixties of the last century, owing to the increasing rate of railway travelling, a number of cases of "concussion of the spine" were reported, several of which had paraplegia. They formed a large part of that curious entity "railway spine."

In the early eighties my late colleague and teacher Mr. H. W. Page showed that these cases were not uniform, and could be accounted for by lesions other than concussion. Some were actual organic lesions of the spinal column or cord, cases in which the cord had been crushed but the bones had sprung back into their place, cases of haemorrhage into and around the cord, and, in many cases, inflammatory lesions, some of which were obviously syphilitic. There were also a large number in which the symptoms were purely functional and in which there had been no damage to the cord or spinal column. Gradually the conception of concussion of the spinal cord, analogous to cerebral concussion, has died a natural death, and with this, I think, has disappeared a large proportion of the cases of functional paraplegia which in the sixties and seventies used to follow railway accidents.

I have unfortunately no figures, but I have a strong impression that whatever direction functional disabilities

following railway accidents may take now they do not assume the character of paraplegia with anything like the same frequency which they did in those days. I venture to think that this, in a rough way, is a case of supply and demand. The medical profession had conceived the idea of concussion of the spinal cord with a resulting paraplegia, and the public immediately supplied the cases. When the demand failed the supply gradually petered out. Analogies are dangerous, but is it not possible that our trite label of "traumatic neurasthenia" helps to keep up the supply?

On August 1st, 1928, I saw Mr. Z, a man aged 58, who was an overseer in the post office, and had been in its service for forty-four years. On February 29th, 1928, he was in the post office van in the front part of a train which entered a London terminus at an excessive speed and came into sharp contact with the buffer stops at the end of the platform. As a result of the accident Mr. Z became unconscious for a short time. He was admitted into a hospital and remained there for three days. There was no fracture of his jaw or skull, and he was reported as having suffered from slight concussion. He remained in bed for six weeks, and then got up and moved about his house. He had been away for a change, but had had to return home on account of his condition.

He was a very unhappy-looking man. He was entirely wrapped up in himself and his symptoms, and it was difficult to rouse him from this condition of egotistic misery. Neither his doctor nor another surgeon nor I could find any evidence of organic disease of his nervous system. His condition was, I believed, mental, and partly due to the fright which he had experienced at the time of the accident, and partly to his anxiety that he would not recover, and that he suffered from some obscure hurt to his nervous system which was likely to become worse. I also thought that his condition was accentuated by the anxiety of his family that he would not receive compensation adequate to the discomfort to which he, and incidentally they, had been put.

Mr. Z's symptoms were headaches, loss of appetite (he had not lost weight), and attacks of giddiness (though he never fell). He had lost four teeth from his lower jaw as the result of the accident. He was certainly not fit to be an overseer in the post office, and he would have been much too frightened to have resumed his position in the post office van of a train; besides, I did not think that a man of his age would be able to take up his original duties after having fallen out of his routine for a period of over six months. I saw no reason why he should not recover, and I saw nothing in his condition which was likely to shorten his life. I thought that he would be more cheerful if he could escape from his present environment.

I reported on these lines to the railway company and Mr. Z received a sum in compensation which I hoped would allay both the anxieties of himself and his family; it was not perhaps quite as much as was asked—that, if given, would have probably been responsible for a nervous breakdown on the part of the solicitor, as he would have feared that he had not done his client justice.

INJURIES OF THE BACK.

It is part of our language that the back is an important item of our anatomy. We talk of a man having or not having "backbone." One is exhorted to put "one's back into it." It is on our "backs" figuratively and in reality that we bear our burdens. Amongst manual workers the "back" is peculiarly sacrosanct. It is also peculiarly vulnerable. It easily weakens, it is unduly susceptible to cold, and to it are attracted strains and sprains as iron filings to a magnet. It is also singularly tenacious of anything which it has acquired, and an injury to the back, even if apparently slight, is always a long business.

I am not going to refer to the gross injuries of the spinal column and cord, such as fracture dislocations; they are simplicity itself compared to what are mis-called the "minor injuries" of the back, and it is with these that we are principally concerned in matters of "compensation." Much might be written, and much has been written, particularly in America, about "backache" and "low back pain" following injuries of often quite a trivial nature, and I know of no class of case which presents such extraordinary difficulties as do these.

X rays have shed considerable light on some of the pathological conditions underlying the complaint of a painful back, but they have also done much to confuse the issue in individual cases. What, perhaps, is not always realized is that it requires considerable skill and much experience to take a reliable x-ray photograph of the spinal column.

Photographs to be of value should be taken in more than one plane, and should, where it is possible, be stereoscopic. If it requires technical skill and experience to take an x-ray photograph of the spinal column, it also requires knowledge and experience to interpret the photographs, and this particularly applies to photographs of the lumbar and sacral spine.

An x-ray picture of the fifth lumbar vertebra presents its own peculiar difficulties, owing partly to the wedge-shaped body of the vertebra and to its close relation with the massive part of the sacrum. Its so-called sacralization, either by union with the body of the first sacral vertebra or by the articulation of the transverse process with the ilium, has been regarded by some as the cause of symptoms, and as the result of injury. The want of union of the two bodies of the neural arch has been mistaken for a fracture. This also has happened in the case of the transverse process of the first lumbar vertebra when the epiphysis of the costal element has failed to unite with the epiphysis of the transverse element. Split vertebral bodies which have been developed from two epiphyses and half vertebrae have presented appearances which have been mistaken for the results of injuries.

I could multiply examples like these, but I have said enough to show that considerable knowledge and experience are required before attempting to interpret an x-ray photograph of the spinal column. On the other hand, x rays have enabled us to diagnose compression fractures of the bodies of vertebrae and fractures of the lumbar transverse processes, both lesions almost impossible of accurate diagnosis without radiography. The x rays have also shown us how common and widespread are osteo-arthritis changes in the vertebral columns of manual workers, partly due to the daily stresses and strains of manual labour, but assisted by toxæmia from neglected pyorrhoea and septic teeth.

Let me give you, in conclusion, an example of a mistaken diagnosis.

A man, aged 26, on May 26th, 1927, while wheeling a barrow, stepped on a piece of loose rubble and fell forward. He saved himself by sudden and violent muscular effort, and while recovering his balance he felt a sharp pain in the lower part of his back. He reported the accident to the foreman, and rested until the dinner hour. When he tried to get up he felt a sharp pain in his back, and the latter became stiff. When he stood up he was unable to straighten his right leg without giving rise to pain in his back, suggesting the possibility that he had ruptured some fibres of origin of the psoas. He went home by train, and also went to his doctor and got some liniment.

The next day he went to the local hospital and was x-rayed, and, as a result, was admitted to the hospital on the following day. The radiologist's report was to the effect that the patient "had sustained a fracture of the body of his fifth lumbar vertebra and a partial dislocation of the body of the fourth vertebra on the fifth." He was kept on his back in the hospital, but owing to some misunderstanding between himself and the hospital authorities he took his discharge after ten days and went home in an ambulance, and continued in his own home to rest on his back with sandbags to steady him. After two months he went to a convalescent home, but felt worse when he returned. He was still under treatment when I saw him in January, 1928.

At this time he complained of "scalding pain" in his lumbar region. He said that he could not walk as well as he did. He also had pains at the back of his head, and occasionally had difficulty in making his water. I could find nothing wrong with him or with his back. He took his boots off and laced them up again while standing; an accomplishment many would envy. I had him x-rayed by Dr. Harrison Orton, who also examined the prints of the former x-ray photographs. Dr. Orton's stereoscopic photographs showed a perfectly normal fifth lumbar vertebra, which was neither crushed nor dislocated. The fourth vertebra was also normal. The appearances seen in the former photograph could be explained by the particular angle at which the photograph had been taken.

The patient had, for nearly a year, been living under the cloud of a broken back, and this alone, I think, might explain the nervous symptoms of which he complained. His own doctor and the surgeon at the hospital undertook to explain matters to him, and I understand that he was then persuaded to go back to light work.

REFERENCES.

- 1 Report of Departmental Committee on Workmen's Compensation, 1922.
- 2 Annual Oration, Medical Society of London, on "Certain Minor Injuries of the Brain," by Wilfred Trotter, M.S., F.R.C.S., *Trans. Med. Soc. Lond.*, 1924.
- 3 An Address on Traumatic Neurasthenia, by Sir Farquhar Buzzard, *Lancet*, 1923, ii, 1285.