

## **The psychic effects of accidents / by Tom A. Williams.**

### **Contributors**

Williams, Tom A. 1870-  
Royal College of Surgeons of England

### **Publication/Creation**

[Philadelphia] : [publisher not identified], 1912.

### **Persistent URL**

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Wellcome Collection  
183 Euston Road  
London NW1 2BE UK  
T +44 (0)20 7611 8722  
E [library@wellcomecollection.org](mailto:library@wellcomecollection.org)  
<https://wellcomecollection.org>



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## THE PSYCHIC EFFECTS OF ACCIDENTS.\*

By TOM A. WILLIAMS, M.B., C.M. (EDIN.),

Corresp. Memb. of Neurol. and Psychol. Soc. of Paris; Neurologist to  
Epiphany Dispensary,

WASHINGTON, D. C.

THE mental confusions on concussion or compression the result of a blow are psychic, but not psychogenic. They will therefore not be considered here. They are, however, sometimes the source of the false ideas designated as "postoniric," which must be considered autosuggestions. The mental obtusion produced by a blow, moreover, exalts the suggestibility. This is too obvious to need further comment.

### THE EMOTION EXCITED BY AN INJURY AS A PERTURBER OF THE APPARATUS OF INTERNAL SECRETION.

An accident which does not injure may create in a susceptible person so great a fear as to cause a sudden increase of secretion by the thyroid gland. The recent researches of Crile have shown that this occurs almost constantly in patients with hyperthyroidism when they are frightened by the prospects of an operation. It occurs also in these subjects as a result of anxiety or unusual excitement. Crile believes that the thyroid gland is an organ by means of which there is rapidly available a store of an activating substance for the use of the neuromuscular apparatus when there is special need of its greatest power. Such an occasion is presented by the need for escape from danger. As the preservation of the species in locomotory animals may depend upon capacity to respond suddenly, and with maximum vigor, against impending danger, there has developed through the long course of phylogeny this special organ for the purpose of storing and rapidly setting free when required such a substance as the thyroid juice.

But it would be a mistake to confine the need for the greater activation of the gland to physical escape from danger in the crude sense. In the higher animals, life is no longer regulated by experiences purely phylogenetic, by the instincts. It is in the main controlled by ontogenetic incidents which we call experience, and which modify the reactions in fashions incalculably complex.

\* Read by invitation at a meeting of the Southern Association of Railway Surgeons, held in Washington, D. C., June, 1912.



The determinations of these modifications we call association of ideas. Now, quite apart from the fear of bodily harm, there is a vast series of possible events which man seeks to avoid and which he apprehends as dangers from which to escape. It is reasonable to believe that psychological situations of this kind are capable of reflexly demanding the hyperactivation afforded by the thyroid juice. That is, fear from any source may create a temporary hyperthyroidism.

But that the thyroid secretion is not the only one modified by emotion has recently been shown by a brilliant research of Cannon.

He has proven that the emotion of fear in animals is capable of stimulating the flow of adrenal secretion. He demonstrated that in frightened animals the blood from the adrenal vein is so rich in adrenal substance as to be capable of inhibiting peristalsis in an isolated strip of intestinal muscle. This is due to the presence of the adrenal substance in appreciable amount, since contact of the latter with the intestinal strip in a 1:1,000,000 solution will also inhibit peristalsis.

We already knew that the emotion of fear could inhibit gastric secretion, and Pawlow has shown that certain emotions of anticipatory joy can induce a flow of this secretion.

While it lasts, the fear state presents marked physical symptoms. It does so through the intervention of the autonomic nervous system, which cannot be controlled directly by volition except in rare cases, and in these only after much practice. One such instance I saw in Philadelphia recently with Dr. J. Madison Taylor. This man, an athlete, had devoted much attention to the control of his reactions. He is able to provoke at will a pilomotor reflex which produces the goose-skin appearance. He claims, too, that he can modify the rate of his pulse, but he did not succeed in demonstrating this clearly to me. He is able also to bring tears to his eyes by purely psychological means. Careful analysis shows that none of these reactions occur from pure willing. To produce them he has to assume a peculiar emotional state, which he describes as one of mystery. His introspection of this is not clear enough for one to say that it is not a feeling of horror. He thinks it is not, because it is rather pleasant; but the pleasure may be that of accomplishing something for which he strives. The analysis need not further detain us; for I quote the case only to draw attention to the impossibility of affecting the autonomic nervous system by direct volition and to show the need of the intermediary of emotion for provoking autonomic reactions.

The above case may be compared with the simpler one described by Babinski, and which I observed in Paris in 1907. This timorous young girl, without practice in control, was so apprehensive of the pin-scratch used to elicit the plantar reflex that she involuntarily drew up foot and leg at the approach of the pin; and then there occurred pilomotor contraction upon the skin over the upper and outer part of the thigh overlying the muscles which contract in the defense reaction when one strokes the sole. The patient could not control this response in any way, and its strict localization is unlike that of the preceding case, in whom the goose-skin was general when it came at all.



Of course, these cases are somewhat peculiar, but horripilation is a very common reaction to alarm.

Other common consequences are alteration of pulse rate and of pressure: the frequency may become greater or less than normal, and the pressure be raised or lowered. Perhaps these differences depend upon the neurological type, or they may be functions of the varying responsiveness of the ductless glands in various individuals or at different times.

Upon the digestion the effects of alarm are well known to be malappetite and constipation, with all their accompaniments. Upon the respiration fear acts by a complete arrest followed by exaltation; or, mere shallowing may ensue. It is a consequence of the inhibition of muscular activity through the condition known as fear paralysis. This may be regarded as a phylogenetic mechanism for stabilizing an individual preparatory to efficient action.

The effect of terror upon the flow of urine and control of the bladder needs only mention. Even the ancients knew, too, how fear arrested the sexual functions.

The autonomic modifications of secretions soon cease, however, as the fear shock of the accident fades, and in a few days at most the animal experimented upon or the human being insulted resumes stable equilibrium.

#### PSYCHOGENETIC FACTORS IN MODIFYING IDEAS, FEELINGS, AND ACTS.

But this benign eventuality is often interfered with in human beings by the property they possess of reviving in memory the ideas which clothe situations with horror, apprehension, anxiety. Especially prone to this damaging sequence are persons whose imagination has been made rampant by the cultivation of the credulous fears of childhood. Their fear reaction to that which they do not understand is a dominant one, and they are easily beset by an idea linked with fear. The commonest of the fears which result from accident or injury is that of bodily harm. It is very hard for a person of this type, when ignorant of his own structure and functions, to shake off the foreboding created by an impressive catastrophe, and it must not be forgotten that what others regard as trifling the victim may look upon as catastrophic, judged by its possible effect on him.

#### THE SEQUENCE.

A. 1. Prepossession by the idea of one's own disability is an inevitable consequence. 2. This leads to abstraction from and inattention to the affairs of ordinary life, which, if not trifling by comparison in the patient's mind at least, cannot claim the attention properly needed. 3. Hence ensues the well-known diminution of the capacity to think, work, or take part in social life. 4. This incapacity, when the patient becomes aware of it, leads him to still further accentuate the result of his injury and thus to augment his alarm about his health. Thus is constituted the vicious circle of hypochondria. Even a nosophobia may ensue, such as the fear of lost manhood, insanity, paralysis. Alarm at this impending disaster must, of course, be distinguished from the primary alarm due to the accident itself.



B. The next step in the drama is the reaction against the actual absence of physical signs of injury and the reassurances of medical men. This takes the form of an unconscious search by the patient for justification for his belief that he is indeed damaged. Hence arise the familiar exaggerations and falsifications of symptoms. These are made in perfect good faith and honest belief; but they lead to the simulation of disease pictures previously in mind or acquired in the course of the disorder.

C. It is only after the patient begins to be convinced in his heart that he is mistaken that there ensues the deliberate self-deception practised in the desperate effort to preserve the respect of himself and his friends that he feels he would lose by admitting the absence of physical disorder after all.

By this mechanism may spring what Brissaud called *sinistrosis*,—the desperate determination in sickness against all conviction of error.

*Even a favorable settlement of a lawsuit may not remove this attitude.* Only skillful psychotherapy will do so; and in severe cases considerable time and much effort may be required at that. The following is a case in point:—

**HYSTERICAL HEMIPLEGIA COMPLICATING VARIOUS BODILY DISORDERS.**—A woman of 41 was seen with Dr. John Nichols because of severe neuralgia of the left side of the face, left hemiparesis, peculiar dreamlike crises, hysteria, and nervous breakdown.

An osteomyelitis had been present since infancy. She was supposed to have had gall-stones ten years before, and since then had been constipated, until relieved by agar prescribed by Dr. Nichols.

The neuralgia had occurred from a chill at a funeral three years ago. It had lately been accompanied by headache at the left side, during which the face burned, and actually felt hotter to the touch. Emesis did not occur, and there was no family history of migraine.

Six months before, she had fallen on her right hand in an elevator, and next day the left arm was paralyzed. Improvement took place after a verdict against the owner of the elevator and direct suggestion. But she constantly wore a leg-brace and walked with great difficulty. She was taking many narcotics and possibly a good deal of alcohol. The dreamlike attacks were those typical of toxicosis, and I believed were accounted for by the narcotics in which she had indulged. She was tearful, restless, frightened, and at times querulous from the same cause.

*Physical examination* showed deep reflexes exaggerated, the right patellar more than the left. There was a false clonus<sup>1</sup> when the left ankle-joint was forcibly flexed.

*Motility.*—There was no tremor, and the diadokokinesis was good. There was no other deficiency except an apparent incapacity of the left arm and leg. In reality, however, the resistance of these was quite good *when she was unaware that I was testing it*; and the unconscious movements she made in bed were performed without any deficiency. I was able to produce a slight improvement in the volitional movements on the left.

*Sensibility.*—At first there appeared to be a loss to coolness, touch, and vibration stimuli on the left leg; but it was very easy to suggest that she was mistaken; and she then readily both felt and localized these stimuli, except that she still declared that she could not feel vibrations in the lower limbs, especially the left. I could not demonstrate the falsity of her belief in this respect. There was hyperesthesia to pin, and even

<sup>1</sup> By a false clonus is meant a series of contractions of the sural muscles, *produced by the will*, and not due to the successive stimuli by which a true clonus stretches the muscles during recoil of the joint. The false clonus is detected by the irregularity in extent and duration of the individual movements and by the great difference of interval between the several movements. Without a kymographic record, the difference is hard to detect unless one is experienced.



sometimes to touch, over the left leg, thigh, and face; and she declared that the neuralgic points of Valleix were still more sensitive. The visual fields were apparently restricted toward the left, at the beginning of the examination; but a very little address soon showed that there was no restriction whatever of the form field. The red field seemed limited bilaterally. The only other abnormality found was a deformity of the turbinate bone.

*Diagnosis and Prognosis.*—Although there was some physical disability from the old osteomyelitis, the condition of the reflexes and the absence of marked muscular atrophy showed that her incapacity was not due to organic disease of the nervous system, which would have caused marked reflex differences on one side of the body with spastic phenomena and extensor-plantar response or would have produced a marked muscular atrophy, with or without loss of sensibility quite different in type from that found. Besides, the hemiparesis ceased while the patient's attention was distracted, and could be modified by suggestion.

It was therefore *hysterical*; and it was only *increased* by the leg-brace, which fortified the patient's faulty notion regarding her left leg.

The so-called hysterical mental state, however, had a quite different source, being in reality toxic, and therefore unamenable to psychotherapy. The prognosis of this, however, was quite good if the cause were suppressed.

*Treatment.*—1. Cessation of the taking of drugs, physical measures being used to promote rest and sleep and improve nutrition, and a bland diet taken.

2. The leg-brace to be left off.

3. Re-education of the sensibility of the face and leg.

4. Finally, explanation of the nature and genesis of the condition, and re-education of the patient to a better understanding of herself, and how to prevent a recurrence of her disorder by a better planning of the somewhat strenuous business life which she led.

These measures Dr. Nichols carried out; and the sensibility recovered, the paralysis ceased, the dream states no longer occurred, and the patient returned to work a different woman, until alcohol some months later produced another breakdown of which I have not the details.

### TRAUMA ITSELF IS NOT PSYCHOPATHOGENIC.

In themselves neither trauma nor emotion can produce sinistrosis or traumatic hysteria. The real factor is the ideational complex in the patient's mind. It is the idea he has of the consequences of his accident and not the emotion of the accident itself which maintains his abnormality. The psychological mechanism at work may be termed "suggestion." Its modification is the same whether there is an accident or not. Illustrations may be found in the following cases:—

I. A chief clerk, aged 54, always rather peculiar in disposition, was seen with Dr. Claytor because of hemiplegia, which occurred suddenly, apparently in his sleep, one night. He had no pain, but was numb all over; could not get up properly, stuttered, lisped; his tongue seemed tied. At 11 A.M., Dr. Claytor found the right eye wider than the left (equal next day), and that all movements could be made, but that the right grip was weaker than the left. He thought it hysterical on account of the history. As in a few days he became completely hemiplegic, Dr. Claytor being doubtful, I then saw him.

*Deep reflexes* were equal and not exaggerated, but volitional contraction suppressed the right gluteal reflex. The right toe extended on stroking the sole. This, however, was done voluntarily. We shall discuss this later.

*Motility.*—The right arm was quite motionless, but moved when he yawned; the leg moved with difficulty; the contralateral synergic responses were equal, however. He stuttered in speaking.



*Sensibility* was normal.

*Psychic Examination.*—This showed the pathogenesis. He was particular to old-maidishness, and dyspeptic all his life. He was subject to petty worries and easily annoyed. Lately, he had feared losing his position to a pushing subordinate, and little family worries had occurred. A son had studied medicine, and he himself had often gone to the lectures, by which knowledge he understood the mechanism of his affection to be "a failure of the will to connect with what moves the arm." He defied me to make him move the arm by suggestion.

*Treatment.*—Entirely acquiescing, I explained that the fault was not in the connection, but in the controller himself, and admitted my inability to make his arm move, but declared that *he* could by practice. Having disarmed him thus, I easily inaugurated movements on the spot by suggestion, and he flexed and rotated the forearm and moved the fingers. Then his wife and doctor were called and shown the improvement. An encouraging prognosis was given, and a week's horseback tour advised. The iron was not struck while hot, so he did not recover for some time; but he is now well.

II. HYSTERICAL PRURIGO.—A girl aged 9 came to the dispensary on account of itching of the right side of the face. Her frequent scratching had kept up a pityriasis. This had begun two years before, after her father had for some weeks suffered much from furuncle, when he had itched all over, scratched much, and spoken of it a great deal. He still does so when he eats pork, thinking that it makes him itch. The little girl had only one boil on the right heel, and this she feared to scratch. It did not appear that the child's face had really been diseased; but I believed that the eruption was kept up by a morbid impulsion to scratch, and therefore prescribed sulphur ointment with the object of inculcating belief, and impressed upon mother and child the need of never touching the face, and assured them that the itching would totally disappear in two weeks, which prediction was verified by the result.

III. HYSTERICAL TYPHLITIS AFTER APPENDECTOMY.—A girl of 20 was seen with Drs. Watkins and Stavelly because of recurrences of right iliac pain with nausea and vomiting, but with normal temperature and pulse, since three months. Two months before, the appendix had been removed for similar symptoms, and found little changed, though containing a concretion of lime. At the time, the ovaries and gall-bladder were found normal. The pains recurred every few days, lasted some hours, and were relieved by morphine or the Scotch douche.

*Examination* showed only a psychogenic hyperesthesia in the right iliac fossa, controllable by indirect suggestion. Some sacral atonia, a slight retroversion, and intestinal sand could not explain a manifestly psychogenic tenderness. After being convinced that a determination to conquer a longing for the comfort and anodynes which sickness brings would cure her, she went back to her home and remains well.

### LITIGATION NOT ITSELF THE CAUSE.

It has been stated that a lawsuit is necessary to create traumatic hysteria. That this is not so is shown by the following case, where the idea of entire disability was created by the presence of a partial disability due to an accident and was very simply removed by psychotherapy without question of indemnity:—

INCAPACITATING HYSTERIA ENGRAFTED UPON HEMATOMYELIA OF THE RIGHT HAND AND ARM SEGMENTS.—A man of 20, apprenticed mechanic since the age of 16, was seen with Drs. Conklin and Lewis Taylor in June, 1911. Two years before, he had dived to the bottom of a creek. The concussion which ensued kept him in bed with severe headache and unable to move for three days. Urinary incontinence lasted one day. He vomited at first. For nearly a year he was unable to walk without severe staggering; his speech had been very difficult, and still remained slow. He complained also of great sleepiness and difficulty in holding his water; so that he was quite unable to go



to work, more especially as the right hand was partly wasted and paralyzed, and he feared that what he knew to be an organic nervous disease might be aggravated by exertion. There was loss of sexual power. The boy was normal with the exception of the following abnormalities:—

*Reflexes.*—The right plantar was absent, but there was inversion of the foot on stroking the sole. The right triceps was diminished.

*Motility.*—There was great atrophy and weakness of the extensors of the 3d, 4th, and 5th digits of the right hand to an extreme degree. The opposition of the thumb was now quite weak. The grasp of the hand and flexion of the wrist were relatively stronger. The abduction of the wrist was strong; the adduction of the fingers was quite weak. There was no other distinguishable weakness of the forearm.

*Sensibility.*—He complained of a perpetual tingling down the right leg, which occurred with each beat of the heart, night and day, except during sleep. But there was no difference on the two sides in the perception of coolness and warmth, and the sense of attitudes was now normal, although he stated that for two months he was unable to recognize the position of his limbs. I could not satisfy myself that he really felt less intensely, as he alleged, stimuli to the right leg by the tuning fork and the point of a pin; so that this hypoaesthesia might have been suggested during my examination. A suspicion of its psychogenic nature was corroborated when I found that, although he declared he would sway when he closed his eyes, he did not actually do so when his balance was deprived of the assistance of his vision while I pretended to be examining the eyes.

*Diagnosis and Prognosis.*—The abnormalities of the reflexes, motility, and subjective sensibility, as well as the slow speech and difficult retention, are due to organic changes, very probably hematomyelic, resulting from the blow on the head in diving. They are not amenable to treatment, but they are by no means incapacitating; for even the grasp of the right hand was fair and the right thumb could be opposed so that he could handle a tool. The prognosis as to efficiency was therefore good.

*Treatment.*—He was accordingly informed of the organic nature of part of his difficulty; he was also told that the disease was not progressive, and would not be exaggerated by work, which would, on the contrary, improve him in every way, and very likely rid him of his heavy feelings. I recommended him therefore to begin work, and behave as if he were quite well. This he did, with the result that he continued at work, and is in excellent condition at the time of writing, six months later.

No commentary should be needed to show that this boy's idleness proceeded not from actual disability, but from the idea which he and his people held regarding his condition. He was the victim of a false fixed idea that he was gravely ill, and this suggestion was the cause of his incapacity when I saw him, while the organic destruction of the central nervous system had at that time no direct significance in that respect.

### MALINGERING.

Finally, simulation must be considered. Two striking illustrations follow:—

I. SIMULATION OF DEMENTIA PRÆCOX.—The patient was a young negro accused of murdering his wife, seen in consultation with Dr. Shute, the jail physician, on account of a suspicion that he was a case of dementia præcox. I was informed that some physicians believed him hysterical, and that others thought he was suffering from syphilis of the nervous system.

On examination, I found a well-developed man who showed no abnormalities of motility.



*Reflexes.*—The knee-jerk was made very violently (the explanation of this will appear), but there was no corresponding excessive reaction on tapping the tendo Achillis, nor was there extension of the great toe when the sole was stroked. The abdominal, cremasteric, conjunctival, and pupillary reflexes were present and equal.

*Sensibility.*—He was very unwilling to close his eyes for my examination of the sensibility, and, when touched by wool on the right side, opened them and jumped in alarm. He stated that he could not feel at all on the left side, but all his responses were made after much delay, and he was evidently suspicious and alarmed. The sense of attitudes was not lost; for though he pretended not to know in what position I had placed his left foot, he imitated that position when asked to do so. He declared that he could not feel the increase as I gradually augmented to 15 kilograms my pressure on the left shoulder. As he was unsupported and in the upright position, he must have been conscious, at least, of the muscles of the opposite side acting to maintain this attitude. Of course, even had the impulses from the muscles on the affected side been interrupted, as he pretended, the sound side would have detected the pressure; but he persistently declared that he felt nothing at all.

The diagnosis of simulation was clinched by the fact that, though he pretended not to feel a pinprick anywhere on the left side, yet when I distracted his attention by making him examine some pictures I had brought to elucidate his mental state, and jabbed him unexpectedly with a pin in the lower part of the left chest, he not only started violently, but he placed his hand over the spot, and first looked down and then at me. As I gave no sign, he slowly returned his eyes to the examination of the picture. The visual fields were not contracted.

As to his mental state, though it was apparently very dull, the stupidity he affected did not concord with the results of the tests I made. When I asked him how long he had been in jail he pretended with a vague stare not to know, eventually saying, "Two—three years." (He had only been a few weeks.)

By adopting a matter-of-fact manner and ignoring his expectations of meeting with the naïf credulity to which he had evidently been accustomed, I succeeded in learning that he had been a footman to a gentleman in the government service, who lived in a hotel, and who kept a white maid and a colored coachman who lived out. He did not admit, however, the remembrance of his name. His intelligence was thus of too low a grade even to pretend a tenable amnesia. I then showed him the pictures, in which at first he pretended not to recognize a tree, but later he saw the absurdity of his first statement that a man was holding in his hand a stick, when in reality it was a hose from which water was issuing; for he not only saw the absurdity when told, but detected the break in the hose. My experience shows that not every individual, even of good intelligence, detects this discrepancy. In another case he recognized that a horse pulling a sled uphill was not properly hitched, the chain not being taut; this discrepancy is rarely detected by patients. He thus showed a power of perception utterly at variance with the stupidity he alleged to me and to previous observers. Some weeks later, he was said to have contracture of visual fields. On examination he again alleged hemianesthesia; but I again tripped him up on one occasion, although several methods failed, on account of previous experiences. However, he ultimately confessed to feeling pinches on the back of his hand. He related various events to me quite clearly and accurately.

Being given the benefit of a doubt, which should not have existed, he was sent to the asylum; and I am informed that now he shows no somatic symptoms, and merely the mental state belonging to a low type of intelligence without any psychosis.

I should add that the hemianesthesia presented the character of the hysterical type, that is to say, it was absolute, affected all segments equally, and reached the midline exactly. Whether its source was in medical suggestion or simple simulation could not be ascertained; for, of course, the patient did not confess; and the numerous medical examinations which had been made without the precautions upon which Babinski has insisted afford a strong presumption of suggestion of medical origin, for it is the



commonest source of anesthesia of this type. The exaggeration of the knee-jerks was a voluntary one, and can be easily simulated, as anyone can prove by trying it. This mode of reaction can be detected by an experienced observer. It probably was the result of the interest shown in it at previous examinations.

The case was clearly, then, one of simulation from desire to avoid punishment for the crime he had committed. The form in which the symptoms manifested themselves was determined by the faulty technique in previous medical examinations. The fault was similar to that stigmatized by Soury when he criticised Rainaldi's localization of cortical centers in conformity with the symptoms manifested when he tapped different parts of the crania of patients during hypnotism: "The symptoms corresponded with the textbooks which the different experimenters had read." What the observers had described was the result of their own suggestion.

And so it was in this case, both for the hemianesthesia and the knee-jerk. Moreover, by his mental reaction, the patient did his best to conform to the dementia syndrome which his interlocutors had in mind. But when a precise and rigorous method of examination had been pursued without *parti pris*, a very different picture presented itself, that of deliberate simulations in an ignorant person of low intelligence.

II. SIMULATED QUADRANTIC HEMIANOPSIA.—An ex-sailor of 41 years was referred by Dr. Henning, to whom he had been sent by Dr. Burch because of inability to perform more than light work. He has a small pension and has applied for an increase. He declares that he was believed epileptic in the navy, and that, since the accident of falling out of his hammock while asleep fifteen years ago, after which he was totally blind, remembering nothing, life has seemed a dream; it is hard to understand people; his memory is poor and he is very nervous on the street, not being able to see out of one side of the eye, and bumping into objects. As the hemiopic person always carries his head turned toward the side of the sound retina and has to turn his head still farther to see objects on that side of him, I suspected this man at once, for there was no deviation of the head.

I accordingly nonchalantly asked him to move a dark screen so that he could be hidden while stripping. He did this in a dark corner without any head movement to indicate loss of vision in the periphery of either visual field. But on approaching the field with test objects in the usual way, he declared that objects were only seen as they impinged upon the right upper retinal quadrant, i.e., below and to the left. Since, to his apparent good faith, there was added a loss of the right Achilles reflex and some inequality of others, along with an uncertainty of the sensibility to the diapason on the malleoli, it was necessary to confirm either the patient's opinion that his visual field was restricted or my own that it was not. As the pupils reacted normally and the optic papilla was not diseased, an anterior lesion was excluded. The diagnosis of simulation was clinched by his winking when I placed before the right field of the right eye the percussion hammer with which I was ostensibly testing the orbicular response to a tap on the facial nerve. This took place, both from above and below, on the left and right side, and conclusively proved that he actually perceived objects with all parts of the visual field.

It is hardly conceivable that such a syndrome could have occurred by suggestion in medical examination, and I believe that it was intentional. This was proven when he visited me for the second time, after I had told his doctors what I had found; for on presenting the hammer in the same manner as before no wink occurred, the patient staring fixedly before him and declaring that he saw nothing except when the hammer was below to the left. It was, however, easy to show that he was feigning, by holding



opposite the midhorizontal plane of the eyeball, just within the visual field, two strips of color. He saw only the one color, and when they were reversed similarly. But he saw the color which impinged upon the blind field, and not that upon the field which saw. Hence, his feigning was deliberate, as he had suppressed the reaction by which it had been formerly detected, and yet still showed, unknown to himself, that his blind field saw.

#### TREATMENT.

The treatment is, as appears, rational knowledge of the genesis of the condition, and proper re-education of the patient's viewpoint through a profound understanding of his psychology. Assurance is useless without this knowledge. Indeed, rapid encouragement only antagonizes the patient. Honesty is the best, the only, policy.

The following case<sup>2</sup> clearly illustrates the procedure:—

A railroad brakeman was thrown through the giving way of a stirrup while his train was traveling at the rate of about ten miles an hour. He fell on the small of his back against a bank of earth, rolled over two or three times, and lost consciousness for over half an hour. After crawling about half a mile he was found. He felt sick all over, and brought up blood, which also came from the bladder and bowels,—only that day, however. After reaching his home town he was assisted to his house, one and a quarter miles away. He did not sleep that night, but rested the next morning. In the afternoon he became restless, and sticking pains occurred in the back; these lasted several days. He was up and about with a crutch in fourteen days, but shortly afterward he lost the use of his legs, having to move them with his hands; but he walked about on crutches, though he felt faint after progressing two or three squares. On account of anxiety and want of means he soon after went to live with his mother, his wife going to her father. When questioned, he replied, "Well, yes, I missed her;" but he stated that he was too preoccupied with his health to care much. About three months later he was able to hobble with a stick only, but his power to do so varied from day to day.

He said he felt a buzzing and a severe pain in the head as well as in the back; these did not begin until one month after the injury. He worried much over his position and circumstances, the dependence of his wife, and the idea that he was unable to help her and his mother, who was an invalid with a younger boy to take care of (he wept while relating this). He never worried before his accident, but now he could not help it; for though he was owed \$225 by an accident insurance company, they would not pay him anything. He did not know what to think about his health; for though the railroad doctor upon seeing him after the accident declared he would soon recover and be able to work, he had lost over 20 pounds in weight, had become very weak, had sore throat, a capricious appetite, and sallow skin, and wept nearly every day. Moreover, about ten days after the injury, two other doctors, called in by his family, each said independently of the other that he had a congestion of the spine, which, though probably temporary, might last a lifetime. He had a very severe "fainting spell" one day after a cold; but when interrogated he confessed to having eaten a large meal of sweet milk and coleslaw, and that this had been the only occasion since the accident upon which he had actually vomited, though he had often had a dull, sick feeling when overheated. He wished he had never seen a railroad, "meaning nothing detrimental to anyone but myself."

He had employed attorneys, who were bringing a claim against the company; he had asked for \$2500 and employment, and had received much sympathy from his friends. When asked his object in this, he replied: "I will be frank with you and all. I was

<sup>2</sup> Int. Cong. Indust. Accidents, Rome, 1909; also in Med. Record, 1907.



looking forward to promotion. It was no fault of mine that I was injured; if it had been, I would have said nothing. I merely ask for a sum of money and a job I could do. I could get around and do a job I could do, but I would never run railroad again; for in catching a box local, it means heavy weights all day, and I cannot gain promotion except through this." He thought he might do office work, though he dreaded it; for outdoor work suited him better than the confinement of bookkeeping; besides, a good brakeman could make a hundred dollars a month.

Upon examination, I found the tendon reflexes equal on the two sides and neither exaggerated nor unduly feeble. The cutaneous reflexes were all unusually active with the exception of the plantar, in which, however, the toes distinctly flexed upon several occasions, until inhibited volitionally. When I distracted his attention, flexion again occurred. Sensibility: A pinprick on the lower limbs was called a punch; cold steel was called warm, and the diapason was felt only when in full vibration. Cotton-wool was unfelt in front as high as the groin, and behind as high as the iliac crest on the right side, at first; but after the left side had been examined and found insensitive only as far as the gluteal fold, he confessed to feeling the wool on the right buttock also. When asked to say when he did not feel the wool, he said "No" the first seven times he was touched on various parts of the lower limbs, later ceasing to reply. The gluteal esthetic boundary varied by about two inches at different examinations. In the lumbar region, he was bilaterally hyperesthetic in a two-inch zone, shading off below and sometimes extending onto the buttocks. Posteriorly, the upper border of the zone corresponded to D. 12 and L. 1; laterally to D. 10-11, and anteriorly to D. 8-9.

The motor power was good. When he attempted to use the legs alone, he strongly tightened up the antagonistic muscles; but when his attention was diverted he could maintain powerful extension at the knee, even on the left side, though he declared himself weak there from an old dog-bite. Babinski's combined flexion, and Hoover's and Zenner's tests were all negative. The pupils were equally dilated, and responded promptly and vigorously to light and accommodation, but no pain reflex could be elicited. There was no loss of memory or other intellectual defect, although the affectivity was perturbed as described.

It should be evident that the incapacity of this man arose from the fixed idea, very probably inculcated after the accident by his friends, although contributed to largely by the common belief of railroad employes, that an accident can induce serious nervous disease. The doubtful prognosis of the doctors, evidently unskilled in neurological diagnosis, strongly fortified the man's belief and consequent anxiety. The anesthesia, produced by previous medical examinations, might have deceived an inexperienced observer; but the wool test, which had not previously been performed as I performed it, quickly revealed not only an "uneducated" line of demarcation, but demonstrated that the man did feel by the very fact that he said he did not. Of course, even had I not succeeded in thus demonstrating the incongruity of the syndrome with the neuropathology of the spinal cord, the complete conservation of all the reflexes was sufficient to show that the anesthesia did not arise from disease of the spinal cord.

The diagnosis, then, was *hysteria*, the psychic elements of which were clearly revealed in the foregoing history. The prognosis given was favorable; but I first explained to the patient and doctor separately the real genesis of the disorder, showing the former the effects of worry and anxiety upon bodily nutrition, and the rôle of ideas over bodily activity.



The treatment<sup>3</sup> I recommended was the re-establishment of good nutrition, regular exercise, removal of grief and worry by the assurance of a reasonable compensation for the anxiety and loss he had suffered (for though his ideas were erroneous, and he was in one sense of the word a simulator, he was so unconsciously, and because of the environmental beliefs he had acquired), and the declaration that by following my treatment he would be capable of moderate work in a few weeks, and in a short time would be entirely restored to health. Being asked for a certificate, I gave the following to both patient and doctor: "This is to certify that I find Mr. V. to be suffering from a condition of incapacity for free walking or mental or physical work from the effects of a fall from a brake car (as I am informed). This state is induced, as a result of the aforesaid accident, by the worry, anxiety, and loss of means directly caused thereby. I believe that by appropriate treatment he could be restored to a certain extent within one month, and that within three months he could be fully capable of pursuing any laborious avocation he chose. He is, however, at present in too low a state to be capable of long, continuous labor, even though the incapacity of his limbs were immediately removed. There is, and has been, no disease of the spinal cord or peripheral nerves at play in the induction of any of the symptoms which I find. The erroneous belief that there has been such an injury powerfully contributes to the anxiety which maintains his present state."

As to the outcome, a letter from the doctor a few days ago stated, in reply to my query, "We compensated V. by a sum of six hundred dollars, and he went back to work on time just as you predicted." *Naturam morborum curationes ostendunt.*

The replacement of this morbid feeling tone by another cannot be direct, but must be accomplished by replacement of the causative idea by another, and this is what, indeed, the psychotherapist does in the gastric neurosis. But in traumatic cases the litigious element prevents this; for the patient is suspicious of everyone who does not accede at once to his fixed idea that he is incapacitated; and medical men as a whole are not noted for the psychological *finesse* required in approaching such cases. Hence, access, even if gained, is quickly lost, except by the medical men whose belief concords with that of the patient; and these, believing as falsely as he, are as helpless to cure him.

It must be remembered, too, that mere affirmation may prove a very poor appeal; for a cold, intellectual acceptance is not enough to change an attitude of mood which has been assumed for any considerable time. Intellectual acceptance must entrain immediate action, whether emotional or not; for the whole bearing of the patient's mood must be orientated toward a desired idea—that of disappearance of the hurtful idea-emotion complex. Thus, I obtained

<sup>3</sup> For details regarding the principles of the treatment of hysteria, see author's paper to Neurological Section, American Medical Association, which is to appear in *Journal of the American Medical Association*, Dec., 1912. References are there given to other writings, among which "The Treatment of 10 Cases Without Minute Psychoanalysis" is most pertinent to the present question. Also *Washington Med. Annals*, Jan., 1912; *Post-Graduate*, June, 1912.



the active consent of my patient and he was invited to dine with his doctor that night, made to feel optimistic, and then taken home and the settlement clinched at once.

It is clear that the return of this man's functional capacity was the result of the enlightenment and persuasion he received during our interview, seconded by his physician, who saw that immediate action followed an intellectual conviction which might not have been maintained against the counter-suggestions he would have again received in the environment of invalidism which had grown up around him. It must be remembered that patients with a fixed idea become aboulie where other matters are concerned. Thus, Brissaud remarked of a patient who went into a fit when they gently attempted to extend the contracture of a limb which had lasted five years since the railway accident: "This contracture is his life." Misoneism, the impossibility of adaptation to unusual conditions, is common enough, and its intensity is proportional to the length of time during which the mental habit has persisted, as well as to the affection, so to speak, with which one's habit or defect has been cherished and the age at which it has been acquired. In such persons conviction soon becomes inert if allowed to sleep.<sup>4</sup>

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<sup>4</sup> The psychological processes which develop traumatic hysteria are analyzed by the author in *Journal of Abnormal Psychology*, June, 1910. It is necessary to understand these fundamentals before proceeding to the removal of the condition in a given case. To attempt it without this knowledge corresponds to entering an abdomen without an understanding of surgical principles and technique. The issue will not be favorable to the patient and future intervention will be handicapped in advance.



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