striking effects when introduced into the brains of rabbits. It is also evident that these effects appear to be specific in character, for it has been shown that similarly prepared suspensions of lymphoid tissue removed from cases which clinically resembled Hodgkin's disease yielded negative results on test. Such cases have included glandular tuberculosis, lymphosarcoma, and leukaemia, all of which perhaps may be regarded as the commonest forms of lymphatic enlargement that may simulate Hodgkin's disease in temperate climates.

Calvert and Sanguinetti (1933), in their description of a case of Hodgkin's disease with relapsing pyrexia, have drawn attention to the extraordinary difficulties which may occasionally confront the clinician and pathologist alike when attempting to arrive at a diagnosis in certain atypical forms of lymphadenoma. Dr. Goodall's case (Case vii) illustrates a somewhat similar example. This patient's clinical history was suggestive of Hodgkin's disease, and clinical examination revealed the presence in both axillae and groins of enlarged glands whose size, consistence, and feel were not unlike those of a lymphadenomatous gland. The case, however, presented difficulties, since the histological appearance of these glands was not characteristic of lymphadenoma. Professor Drennan and Dr. James Davidson, however, regarded the condition as being one of lymphosarcoma, and were proved to be correct at necropsy. The case under the care of Dr. John Comrie (Case vi) illustrates another such example, for the diagnosis of pseudo-leukaemia was only first accurately established at post-mortem examination. In both these cases the Gordon biological test repeatedly yielded uniformly negative results throughout.

Space does not permit of a detailed account of experiments which have been directed towards ascertaining the precise nature of the agent responsible for paralysis, ataxia, and muscular wasting in rabbits. The results obtained so far indicate that the autolysis, disintegration, and cellular destruction of lymphadenomatous tissue liberates a product which is capable of producing an encephalitic syndrome in rabbits and guinea-pigs. Neither the inoculum nor the brain of an animal which succumbs to the condition shows the presence of bacteria after lengthy periods of observation.

Whether this toxic agent be living or dead cannot be stated at the moment, but it may be said that the changes produced in rabbits cannot be interpreted on the basis of nervous changes following the introduction of a simple non-specific irritant substance into the brain. Thus it can be demonstrated that substances such as a streptococcal toxin, sodium nucleate, aleuronat, quinine urethane, or finely powdered glass, which are capable of producing inflammatory tissue reactions, may be introduced into the brain of a rabbit with impunity. Indeed, these irritants may even be introduced in combination into the same animal on repeated occasions without the least visible effect.

The encouraging results given by this biological test are worthy of great attention, and we would suggest that glands removed at biopsy in suspected cases of Hodgkin's disease should not only be examined histologically and bacteriologically, but should also be subjected to Gordon's biological test.

SUMMARY AND CONCLUSIONS

Enlarged lymph glands removed from five cases of Hodgkin's disease have been subjected to the test devised by Gordon, three typical positive, one doubtful, and a negative result being obtained.

The syndrome produced in rabbits by Hodgkin's tissue cannot be elicited by the introduction of normal, lymphosarcomatous, leukaemic, or tuberculous lymphatic tissue. Neither can it be brought about by the intracerebral

inoculation of dead bacteria, streptococcal toxin, sterile milk, peptone water, aleuronat, sodium nucleate, quinine urethane, or finely powdered glass.

Gordon's biological test affords an easy method whereby lymphadenomatous tissue may be differentiated from lymphosarcomatous, leukaemic, and tuberculous tissue. In consequence of this it may be utilized as a laboratory aid to the diagnosis of Hodgkin's disease.

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SO-CALLED "NEURASTHENIA"*

BY

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Affections of the nervous system are usually divided into two main groups, dependent upon whether, on the one hand, they are the result of obvious disease or alterations of structure, or on the other hand, they are not accompanied by demonstrable structural lesions. Those affections which come within the first group are termed organic diseases; those within the second, functional disorders.

It is often stated that these functional disorders have become more prevalent during recent years, and quite apart from the large number of cases directly or indirectly consequent on the great war this is possibly true. Functional nervous disorders, however, are by no means new; they have been known and described for hundreds of years, and it is even likely that the physicians of the ancient civilizations were well acquainted with them. In early days it is probable that many of them were attributed to "possession" by spirits; in more recent times—namely, the seventeenth and eighteenth centuries—those which did not amount to insanity were commonly grouped together under the designation of "the vapours," although even as early as 1765 such cases were differentiated by Whytt into three groups, which he called respectively *Nervousness*, *Hypochondria*, and *Hysteria*. In the nineteenth century more definite attempts were made to explain their causation in physical terms, and in 1879 Beard of New York published a lengthy description of a large and important collection of them under the title *The Nature and Diagnosis of Neurasthenia*. Beard considered that the whole collection of cases which he described were due to neurasthenia in the literal meaning of the word—that is, to a state of nervous exhaustion—and he divided the manifestations of this state into a number of clinical groups, such as cerebral, spinal, gastric, cardiac, and sexual. Although his "neurasthenia" was at first received with considerable scepticism, indeed by some persons with actual ridicule, nevertheless his views gradually gained acceptance. At the present time every textbook on general medicine treats of neurasthenia as a more or less definite clinical entity, and the older books on psychological medicine do the same. On the

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other hand, the attitude of many modern psychiatrists is closely akin to that which greeted Beard fifty years ago, some of them going so far as to say that neurasthenia does not exist at all, and that the word is merely a cover for ignorance. It is worth noting that so recently as December, 1932, a county court judge, in adjudicating upon a claim for compensation, remarked that he had "yet to be convinced that there was any such thing as neurasthenia. Apparently when a doctor could not find any specific cause for a patient's illness it was put down to neurasthenia."

I am inclined to think that the truth in this matter, as in many others, lies between these two extreme views. On the one hand, there would appear to be good evidence that neurasthenia, in the literal meaning of the word, does really exist. On the other hand, however, there is no doubt that the term is applied much too widely, that many cases which are thus labelled are not neurasthenia at all, and that many others, although presenting some indications of nervous exhaustion, are more correctly placed in other categories. In passing, it may be remarked that certain qualities inherent in the word itself are in no small measure responsible for its very wide and prevalent use. The term "neurasthenia" is nowadays so free from opprobrium—indeed, one might almost say has become so fashionable—and it fulfils so admirably the requirements of patient and practitioner in their demand for a label, that its popularity with both is readily understandable. While therefore it does not follow that the word "neurasthenia" is a cover for ignorance, it has certainly become a cloak of very ample dimensions, and one under which nowadays almost every variety of nervous disorder thought to be functional is apt to find a convenient shelter. It is my purpose to attempt briefly to describe the chief conditions which go by this name.

ACUTE NEURASTHENIA

In order to understand the nature of neurasthenia in its real sense it is necessary to refer to some points regarding nervous energy. The working of mind, and of most of the physiological processes taking place within the body, is intimately connected with, if not dependent upon, a flow of energy from the cells of the central nervous system. This energy would appear to be stored as potential in the special protoplasm, or neurokyme, contained within the nerve cells. It is released by the stimulus of afferent impulses, which cause a reduction of the highly complex neurokyme to a simpler chemical molecule. It is claimed that this reduction has been demonstrated chemically; also that it can be seen under the microscope as a structural change in the cell contents, known as chromatolysis. Such chromatolysis has been demonstrated in the brain cells of the bee and wasp after prolonged work; it also occurs in the brain cells of man after exposure to certain poisons. After rest or removal of the poison, provided the change has not gone too far, recovery takes place, and the cell regains its normal appearance. There can be little doubt that this recovery is due to the vital activity of the cell enabling it to build up a fresh supply of neurokyme from the blood plasma. There is every reason to conclude, therefore, that exhaustion of nervous energy is a definite physical state, that it may result from excessive work or from the presence of circulating poisons, and that the energy can be restored under suitable conditions. Clinical experience accords with these findings. As is well known, prolonged mental work is followed by mental fatigue and inability for further sustained application. In ordinary circumstances the fatigue disappears with rest and sleep, but should it happen that the mental strain has been excessive and prolonged, and that sleep has been in-

adequate, the fatigue continues, and a marked failure of mental capacity results. In extreme cases physical fatigue becomes superadded, and the individual suffers from a general nervous exhaustion. In addition to the incapacity for sustained effort, either mental or physical, there is inability to make decisions, faulty attention and memory, loss of emotional control, and increased irritability. The whole condition is well described by the term "irritable weakness." Such a state is seen even more frequently after serious and exhausting illnesses, especially when associated with toxæmia, as in influenza and enteric.

There seems every justification to conclude that in cases such as these the fatigue is due to an exhaustion of nervous energy brought about either by excessive mental strain with inadequate opportunity for recuperation, or by a poisoning of the nerve cells. The condition is, in fact, one of true neurasthenia, and, since it occurs in persons who previously have been in good health and is the result of some definite exciting factor, the neurasthenia may be termed "acute" or "secondary." Such cases, however, are characterized by one important feature—namely, that upon removal of the cause, and with adequate rest and appropriate treatment, they almost invariably make a good recovery. The condition neither becomes chronic nor does it tend to relapse.

PRIMARY NEURASTHENIA

There is another type of case, characterized by signs of nervous exhaustion, which is much more frequent than the foregoing, and which differs from it in several important respects. In the first place, there is no evidence of any sufficient exciting cause. The patients often state that they have been overworked or have had serious troubles and worries, but inquiries show that these factors, if they have existed at all, have been comparatively trivial, and certainly not such as would cause nervous exhaustion in the average person. Neither is there any evidence of serious illness or infection. Meticulous examination, it is true, may bring to light some focus of chronic sepsis, but much more extensive sepsis is often found in persons who present none of the signs of nervous exhaustion. Again, it will either be found that the symptoms complained of have been present for many years, or that there have been several previous similar attacks; the condition is, in fact, either a chronic or a recurrent one. Lastly, inquiries into the family histories of these patients will usually show that they come of stocks which evince a marked tendency to psychopathic disorders.

Whilst many of the persons of the type I am here referring to are capable of performing quite useful work of a routine character, some of them indeed of spurts of brilliant work, their life-history clearly shows that they are lacking in staying power. Should they be exposed to any comparatively slight overstrain, or to any departure from their normal routine, they will undergo a breakdown with the signs and symptoms of nervous exhaustion. Then they become restless, irritable, incapable of mental application, and unduly prone to physical fatigue. They complain of sleeping badly, of headaches, and of various bodily pains and abnormal sensations. Their appetite is capricious, and they often suffer from constipation; their pulse is quickened and unusually labile, and their blood pressure is low. In short, their whole condition is one of irritable weakness, with a hypochondriacal trend. It is important to note, however, that although these patients show considerable concern regarding themselves and their health, there is no real fear or anxiety. With rest and appropriate treatment the majority of them recover and return to their work, but recurrences are very common, and the life-history of many of them is one of repeated nervous breakdowns. A not inconsiderable number pass

into a state of more or less continuous, querulous, self-pitying invalidism. Whilst some psychiatrists would regard patients of this type as cases of anxiety neurosis, hypochondria, or even manic-depressive psychosis, it seems to me that if we carefully consider the family and personal history it is very difficult to avoid the conclusion that the essential underlying condition is a constitutional lack of nervous stamina. From what we know of nervous energy it seems reasonable to regard this as the result of an inherent defect of vitality of the nerve cells, in consequence of which they are incapable of maintaining an adequate reserve of potential energy or of readily replacing such energy when it is depleted. We may therefore rightly regard them as cases of primary neurasthenia.

MENTAL INSTABILITY

Although patients suffering from primary and secondary neurasthenia make up a considerable total, they nevertheless constitute only a minority of those to whom the label "neurasthenia" is applied. It is now necessary, therefore, to describe certain other forms of so-called neurasthenia. In a considerable proportion of the cases to be discussed it will be found that other members of the family suffer from some form or other of mental or nervous disorder, and this makes it highly probable that the patients themselves have some constitutional peculiarity. It is possible that in some instances this may be neurasthenic in character—that is to say, it may consist of a subnormal reserve of nervous energy. This, however, is not so in all, and the essential underlying characteristic of these cases is a condition of mental instability.

Mental instability is a condition of much importance, for the reason that it constitutes the soil from which is produced many, if not most, of the psychoses and psychoneuroses. Clinically, it is characterized by three main features—namely, (1) a hypersensitiveness to all kinds of stimuli; (2) a tendency for the thoughts and feelings of the moment to dominate consciousness to such an extent as to take complete possession of the individual; and (3) a proneness to impulsive and violent motor response. The mentally unstable person is acutely conscious of the sensations arising from the working of his body and abnormally sensitive to everything happening around him. He consequently tends to be hypochondriacal, self-pitying, to seek sympathy, and to be profoundly depressed or unduly elated by comparatively trivial happenings. An emotion or idea tends to reach a magnitude which is out of all proportion and perspective to the cause which originated it. Any desire which is aroused must be immediately gratified, so that the whole behaviour is capricious and impulsive. In short, the mentally unstable person is one who wears his heart on his sleeve, and who feels acutely and reacts abnormally to many of the ordinary experiences of life. From our present point of view the importance of this condition lies in the manner in which the individual reacts when exposed to some particular strain. It is not suggested, of course, that every mentally unstable individual will necessarily have a "nervous breakdown." On the contrary, there are many who go through life without such an occurrence; they are usually dubbed highly strung, cranks, faddists, neurotics, hysterics, and even neurasthenics: they are only too often an almost intolerable burden and nuisance to all who have to do with them; but they do not develop any definite mental disorder. On the other hand, it is from persons of this type that the mass of the psychotics and psychoneurotics are recruited, and many of them do develop a definite mental disorder, which renders them incapable of continuing their work, and which calls for treatment.

The nature of this disorder—that is, the particular type of their reaction—varies greatly in different cases. It is influenced by the nature of the exciting cause as well as

by the temperament and general mental make-up of the individual. In some cases it is a definite psychosis; in others—and it is these with which we are now dealing—it is a minor mental disorder or psychoneurosis. In the latter case, however, there are wide differences in the type of reaction. In the main there are three which are commonly designated neurasthenia, and which I shall therefore describe; they are (1) anxiety states, (2) hysteria, and (3) mixed types.

The Three Main Groups

ANXIETY STATE

Perhaps the commonest type of functional nervous disorder met with in practice, and certainly the one to which the term "neurasthenia" is most frequently applied, is that which is more correctly known as an anxiety state. As will be seen presently, cases of this kind differ from those of pure neurasthenia in the presence of very definite anxiety as well as of certain other physical signs. The predisposing cause of this condition is the mental instability already described, with which there is usually associated a special peculiarity in the form of timidity and tendency to worry over trifles. The exciting cause is any experience capable of arousing the emotion of fear. Cases of anxiety state occurred by the thousand during the great war, and were usually, but erroneously, attributed to "shell-shock." In reality the exciting cause was fear and anxiety—either the fear of death, of mutilation, or of *showing* fear, or the anxiety bred of months of hardship and exposure to the hazards and horrors of war. As a matter of fact, many cases occurred in men who had never seen a shell or even left the home training camp. In civil life the exciting cause may be any frightening experience, such, for instance, as being involved in, or merely witnessing, a serious accident, or it may be domestic trouble, bereavement, business worry, financial loss, or any happening which has produced a state of mental conflict. However these cases may arise, the outstanding features are fear and anxiety. Either immediately, or more often after a short interval, the patient becomes apprehensive, depressed, filled with forebodings, and in such a state of mental unrest as to be incapable of performing his work or of any sustained mental effort. In a certain number of cases this state of mental disquietude persists and exerts its disabling effect long after the cause which originally produced it has been forgotten. In others, the fear becomes attached to some thought or object which is not in itself a cause of fear, but which has been associated with the original cause. It is probable that some of the more specialized fears—such as agoraphobia, claustrophobia, nyctophobia, etc.—may arise in this way. In yet other cases the constant brooding of the patient and his withdrawal into himself result in a morbid consciousness of his bodily feelings. The anxiety then becomes transferred to and fixed upon these sensations, with the result that complaints of physical illness become the dominating clinical feature.

It has been shown that one of the first effects of fear is to stimulate the secretion of adrenaline, whereby the glycogen of the liver is mobilized and the individual rendered more fitted to meet the situation which has given rise to the fear. The action of adrenaline, however, is only temporary, and its supply is soon exhausted, and it would appear that after a brief period increased thyroid secretion occurs for the purpose of supplementing the adrenaline and maintaining the metabolism of the body. Provided that the fear is not prolonged, this disturbance of endocrine balance is soon corrected, but where the emotion is protracted over a considerable time this cannot take place, and there then results an endocrine imbalance, which gives rise to marked physical signs and

symptoms. The chief of these are tremors, increased reflexes, dilated pupils, flushes, sweatings, rapid and often irregular pulse, and a raised blood pressure. It is the presence of these signs, together with the usually obvious anxiety and mental unrest, which distinguish an anxiety state from a condition of simple neurasthenia, in which listlessness, fatigue, and low blood pressure are the chief characteristics.

HYSTERIA

The second group of cases commonly labelled neurasthenia consists of those which are more rightly called hysteria. Unfortunately, the word "hysteria" is applied almost as loosely as is neurasthenia, and even among psychiatrists there are as many different views as to what should be included in this term as there are opinions regarding the causation and psychopathology of the condition. I think a great deal of the confusion is due to the failure to distinguish between certain mental peculiarities which are commonly present in persons who develop hysteria, and the actual hysterical manifestations themselves. Thus most persons who develop hysteria are emotionally unstable, and this instability results in a desire to attract attention and sympathy, in rapid changes of mood, with attacks of laughing and crying, exaggerated language, demonstrative behaviour, restless excitement, and often violent outbreaks of temper and passion. Although these conditions are often called hysterical, they are in reality merely manifestations of emotional instability: they occur in persons who may never develop hysteria at all, and they are not infrequent precursors of an anxiety state.

In my view the type of mental constitution which is necessary for the development of hysteria is one of instability plus an abnormal suggestibility, and I agree with Babinsky, who limits the term "hysteria" to the physical manifestations which are produced in such a person by suggestion. The actual mechanism of the process may briefly be described as follows. The mentally unstable and suggestible individual is, let us say, involved in an accident in which a comparatively slight injury is inflicted on a limb. The limb is painful and difficult to move, and this suggests that it has been paralysed. The suggestion is accepted, the idea of paralysis takes possession of the victim and becomes woven into his personality, conscious and subconscious, and a paralysis results which will remain until it is removed by an equally powerful contra-suggestion. Hysterical deafness, blindness, mutism, and anaesthesia may similarly be explained by the action of an appropriate suggestion conveyed during an emotional crisis. In other cases the mechanism may be somewhat more complex, but the process is essentially the same. For instance, the emotionally unstable individual is threatened with some social or other situation which is profoundly distasteful to him and from which he shrinks. He becomes anxious and fearful, and the anxiety is accompanied by a feeling of physical distress in one or other organ of his body. The distress suggests the presence of a definite disability or disease; with the acceptance of this suggestion the mental unrest usually disappears, but the physical disability remains and is to the patient a real condition. The symptoms of pure hysteria, therefore, are in many ways markedly different from those of neurasthenia and anxiety state. There are none of the usual signs of nervous exhaustion, no undue fatigability, and no mental unrest once the physical disability has made its appearance. Indeed, with this physical disability the hysteric usually passes into a state of mental calm and complacency. On the other hand, there is some definite impairment or loss of physical function, usually in the form of localized paralysis or anaesthesia, and this in

itself, provided care be taken to exclude organic disease, should make the diagnosis clear. Many authorities include purely psychic disturbances—fugues, amnesias, double personalities, and the like—in the category of hysteria; these states, however, are due to a dissociation of the personality, and I regard them as more properly placed amongst the epilepsies.

MIXED REACTION TYPES

While there are many cases in which the symptoms presented by the patient conform fairly strictly to one or other of the two foregoing types—namely, anxiety state and hysteria—there are very many others in which the reaction to environmental stress or to a situation of difficulty is not thus simple, but is of a mixed character. Indeed, I think it may be said that the majority of patients suffering from so-called neurasthenia present a combination, in varying degree, of the symptoms of nervous debility, anxiety, and hysteria. This will be apparent if I briefly describe two conditions which are very common in medical practice.

The first is the state which usually goes by the name of "traumatic neurasthenia," and which was formerly known as "railway spine." The sequence of events is as follows. The patient is involved in an accident of some kind or other which may or may not be attended with a definite physical injury. In some cases at once, but usually after an interval, he becomes timid, fearful, and apprehensive, and shortly afterwards he develops a definite sensory or motor disability. The sensory disturbance usually takes the form of a persistent pain in the occipital region or the spine. The motor disturbance is either a tremor, a paralysis localized to one or more limbs, or a general muscular weakness. Gradually the signs and symptoms of nervous exhaustion supervene in the form of defective attention and faulty memory, incapacity for mental effort, irritable restlessness, and inability to withstand excitement, noise, strong light, or any kind of powerful stimulus; these are accompanied by tachycardia, tremors, sweating, increased reflexes, and proneness to fatigue on slight exertion. There are, of course, considerable variations in different cases, but if careful investigation be made of the signs and symptoms it will usually be found that they are compounded of the three conditions which have been described. Thus the initial emotional disturbance is an anxiety state begotten by fear; the motor and sensory disturbances are hysterical manifestations induced by suggestion during this stage; and the nervous exhaustion is consequent upon the depletion of nervous energy by the continued mental unrest. Many of these cases are complicated, and the anxiety kept up, by impending litigation, and such might not inaptly be termed "compensation neurosis." Doubtless also in a number of these cases there is some conscious and deliberate exaggeration of the disability, while some of them are pure malingering. It would, however, be a great mistake to assume that this is so in all—hysteria and anxiety states are genuine disorders of mind, and as such are in need of treatment.

The second prevalent type of case is characterized by an emotional disturbance followed by a pronounced hypochondriacal trend. It is commoner in females, and it usually arises in the later years of adolescence. Either as the result of some mental conflict, some disappointment, or some inability of the individual to meet the demands of her work or surroundings, she develops a feeling of failure and incompetence; she becomes introspective and filled with self-pity. Her consciousness of self, and particularly of her bodily sensations, becomes exaggerated, with the result that a trifling indigestion or flatulence becomes magnified into a severe and constant pain. She eagerly seizes upon this pain as the indication of some physical disease which is responsible for, and the

explanation of, her failure, and with it she goes to the doctor. In the circumstances it is perhaps not unnatural that chronic appendicitis should be suspected, and that the appendix should be accordingly removed. But the patient is barely recovered from the operation before the pain returns, and again she seeks medical advice. The gall-bladder now comes under suspicion, and this in its turn is removed. But again the pain returns. The pelvic organs now become suspect, and she undergoes dilatation and curettage for chronic endometritis or removal of an ovary for chronic ovaritis. Still there is no improvement, and after, it may be, a final attempt to deal with adhesions, or a laparotomy to clear up the mystery, or even removal of the colon, the conclusion is reached that the case is one of "chronic neurasthenia," and the neurologist is called in. Of course, it is not suggested that a patient suffering from an anxiety-hysteria neurosis, which is really what this condition is, is thereby immune to appendicitis or to any other condition which may require surgical treatment. I do desire, however, to emphasize the extreme importance of remembering that abdominal pain, especially in girls and young women, and even when accompanied by vomiting, may be hysterical in origin. The importance lies in the results which only too frequently follow a wrong diagnosis. It used to be thought that, even if a condition was hysterical, the performance of an operation was the right treatment, because it would cause the patient to think she had been cured. It is now realized that this is a complete fallacy, and most surgeons of experience are well aware of, and very chary of operating upon, what they call the "abdominal woman"; for it is recognized that with each operation performed upon her the prospect of cure becomes more and more remote. The emotional, querulous, introspective person whose abdomen is covered with operation scars is practically incurable, and it is tolerably certain that he or she will go through the remainder of life as a chronic, complaining, and exacting invalid, usually labelled "chronic neurasthenia." Indeed, in not a few of these patients the hypochondriacal trend develops into an incurable delusion which may render certification necessary.

IMPORTANCE OF DIAGNOSIS AND TREATMENT

Just as a psychoneurosis may be mistaken for organic disease, so may organic disease be thought to be a psychoneurosis and labelled neurasthenia, and it is very necessary that the practitioner should be on his guard against such an error. Careful investigation of the history, consideration of the symptoms, and a complete physical examination will usually suffice to prevent a mistake; but if this is not done there are several diseases of body and mind which may readily be thought to be merely neurasthenia. Amongst the chief of them are early phthisis, diabetes, Addison's disease, disseminated sclerosis, cerebral tumour, cerebral arteriosclerosis, and encephalitis lethargica. It is also necessary to bear in mind the possibility of an early psychosis of the depressive or melancholic type, or of general paralysis, or dementia praecox.

The importance of distinguishing organic disease from a functional nervous disturbance is obvious. It may, however, be asked, Is there any particular value from the point of view of the practitioner in differentiating between the various types of functional disorder which have been described? I think there is very great value, not merely as helping to a right understanding of the nature of the patient's illness, but also in regard to the practical issues of prognosis and treatment. As has been pointed out, cases of neurasthenia which are secondary to prolonged overstrain or exhausting illness almost invariably make a complete recovery, and all that is needed is rest and

appropriate treatment. In cases of this kind such drugs as phosphorus, iron, arsenic, and strychnine are often of considerable benefit. Organotherapy in various forms has been extensively used; its chief effect, however, is in stimulating metabolism, and it is very doubtful whether it has any specific action beyond this: in some cases it seems harmful rather than beneficial. The patient who breaks down from primary neurasthenia may also be restored to a moderate degree of fitness by similar means. In these cases, however, it is essential to remember that unless careful and detailed directions are given, and followed, for the proper ordering of his life so as to avoid any kind of overstrain, the patient will certainly break down again. Cases of anxiety state, on the other hand, require radically different treatment. In these an appropriate form of psychotherapy is indicated, and will usually be attended with good results. It may with considerable advantage be supplemented by the administration of mild sedatives, of which the most suitable are bromide and luminal in small doses. In these cases such drugs as strychnine, phosphorus, and thyroid are contraindicated. They will not only do no good, but may be positively dangerous. It has not rarely happened that the administration of a course of strychnine to a patient suffering from an anxiety neurosis has increased his mental unrest to such a state of desperation as to cause him to commit suicide. Cases of hysteria in which anxiety is present are also benefited to a certain extent by sedatives; but psychotherapy, on sensible lines, is the only method which is likely to yield lasting results.

Finally, I would particularly stress the importance of distinguishing between a psychoneurosis and a psychosis. The differentiation, it must be admitted, is at times far from easy, for the dividing line between the two conditions is often very ill defined. But failure to do so may be attended with very grave consequences to the reputation of the practitioner as well as by serious danger to the patient and his relatives. It is not uncommon for a patient who has been under treatment for so-called neurasthenia but who is really suffering from an early stage of general paralysis to make a sudden homicidal attack; it is still more common for a patient under treatment for so-called neurasthenia but who is really suffering from manic-depressive insanity to be found dead by his own hand.

OTITIS MEDIA DUE TO PNEUMOCOCCUS MUCOSUS

BY

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The condition to be described, though well known, has not attracted, in this country, the attention it deserves. The stealthy onset, deceptive course, frequent complications, and high mortality of this type of infection present a clinical picture of the greatest interest and importance. It is imperative that an early bacteriological examination should be made in order to ensure a timely diagnosis. The features of this condition are ably dealt with in numerous publications abroad, but the paucity of references in English literature seems to justify the publication of this communication.

Researches into Continental literature of the last twenty-five years disclosed references to 498 cases of mucosus otitis. The bacteriological diagnosis was made by examination either of the aural discharge or of pus contained in the mastoid cells at the time of the operation. The former group supplied 154 cases (14.5 per cent.) out of