THE LUMLEIAN LECTURES ON THE DIAGNOSIS, PROGNOSIS, AND PROPHYLAXIS OF INSANITY.

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By G. FIELDING BLANDFORD, M.D. OXON.,
F.R.C.P. LOND.,

Lecturer on Psychological Medicine, St. George's Hospital.

LECTURE I.—THE DIAGNOSIS OF INSANITY.

MR. PRESIDENT AND GENTLEMEN.—The diagnosis of insanity is easy in the majority of cases. We are not in doubt when we see the noisy raving or hilarious chattering of mania, the gloom of melancholia, or the fatuous silence of dementia. But there are others where the diagnosis will not be easy. It may be necessary to consider whether a man shall be placed under restraint "for his own or the public safety," or to prevent him from squandering his fortune and impoverishing his family. In a number of cases we cannot wait and let time come to aid us in our decision. We have to decide then and there, and if it is a question of placing the individual under restraint, it is one of the greatest importance to him and to us. If we shirk the responsibility and leave him at large, homicide or suicide may follow, or he may be reduced to beggary. If we sign a certificate without sufficient ground we may be assailed by an action at law. Many at the present time will not sign certificates; but in one way or other most men in practice are brought into contact with insanity, and cannot avoid giving an opinion upon some patient whom, perhaps, they are attending for another ailment, or who has done something which raises the vexed question of criminal responsibility, or has made a will which is disputed.

In very many cases, no doubt, the symptoms are well marked and the need of restraint urgent, and without further delay a certificate of insanity is signed. In others we can decide with equal confidence that a certificate cannot be signed. But here and there we meet with a case which admits of doubt, and is not urgent. We can go home and think it over, and consider whether it falls under one or other of the varieties of insanity which are described in books, or of which we have had previous experience. I purpose to bring some of these before you, but prior to so doing I would say a few words as to the origin and conditions of mind disorder which may throw some light on the diagnosis to be made. In the sane and healthy mind the highest brain centres, the seat of the highest feelings, reason, volition, and memory, work harmoniously in ordered action and reaction in a sane and healthy body. But if anything interferes with the healthy working, the highest brain centres, those which are the latest evolved and the least organised, will be the first to show symptoms of strain or fatigue, and will be, to use the modern but well-recognised phrase "reduced." Then the lower impulses are not controlled as they should be by the higher. The higher, which by some are called the "altruistic sentiments" (H. Spencer), by others "the relational feelings" or "object consciousness," are weakened by the diminished functional activity in the realms of the cerebrum correlated thereto (Bevan Lewis). The egoistic feelings or subject consciousness rise in proportion: the patient becomes more and more selfish, indifferent to the wishes and wants of others; takes no pleasure in the society or pursuits of others, even those of his own family; neglects his business, and in all outward relations is an altered man; while, at the same time, he displays an equal alteration in himself, in his egoism, his indecision, and general failure of mental power. The decline of the highest mental attributes, and the rise of the lower egoistic, the self or subject consciousness, are noticeable throughout all the stages and varieties of insanity. It is hailed as a good sign if a melancholic patient will so far forget himself as to ask after his family or children. The general paralytic at the opposite end of the scale boasts of the asylum being his palace, and proclaims his personal strength when he cannot stand without assistance. The self feeling

has no check and no control from the higher centres, which become more and more enfeebled from the progress of the disease.

When we turn to the origin and causation of mental disorder we see at once how much more prone are some to such rise of subject consciousness. There are many who, by reason of a faulty inheritance, are egoistic throughout life. Selfish at school, they are selfish when adolescent. They are selfish in their love-making and selfish in their religion. The whole life of many is devoted to the gaining of wealth, and a trifling loss in business is sufficient to turn their brain. Others are suspicious; they suspect their medical adviser, their lawyer, their clergyman, their friends. They listen to every tale of servants or the gossip of a village, and embitter their lives by their suspicious fancies. Others are jealous, their jealousy ranging from that of boys and girls, manifested at an early age, to that which renders miserable the life of married people, and often approaches, if it does not reach, insanity. Another variety of this insane temperament is excessive fear. Women, and even men, are afraid of all kinds of things, and if one of these is depressed by some bodily ailment, as influenza, he straightway imagines that everyone is plotting against him, and conspiring to kill or ruin him. Another form of fear is hypochondria. Patients are so afraid for their health, and so wrapped up in the task of taking care of it, that they can do nothing else, and neglect their business and family in the vain search for remedies for imaginary ailments. All these egoistic people are prone to insanity, but the diagnosis is difficult, for the insanity grows out of the inherited temperament, and it is not easy to say where the one ends and the other begins, or to fix the point where the normal must be considered to have passed into the abnormal.

Far easier is the diagnosis when we find that instead of an exaggeration of the natural character of the man a total change has come over him and he is altered in every way—in habits, disposition, and feelings. In many a certificate we read that the patient is "totally changed," and no better symptom of insanity can be adduced than such a change, if we are so circumstanced that we can mention it as a fact. Now it is clear that patients whose whole condition is altered by mental disorder must have their nervous system far more "reduced" than those whose insanity is only an exaggeration of their previous state, and whose "reduction" is comparatively slight. The latter are persons with an insane diathesis or temperament—a very small matter suffices to throw them off their normal balance. They are the cases where the friends tell us that they can in no way account for the attack. Such people, for the most part, have a history of heredity. They break down, perhaps, without any apparent reason, recover and break down again, and pass often into a state of recurrent insanity which may last through a long life. In the patients whose character is totally changed we more often find an adequate cause. Long-continued overwork or worry has reduced the health of the brain cells, or bodily illness, such as influenza, has undermined the nervous force of the individual, and insanity, chiefly of the repressed kind, is the result. This does not pass away speedily, but is often very tedious, a long uphill process of repair being required to bring the nerve power to its normal level.

Whether the reduction be an exaggeration of the individual's peculiarities, or a total change of habits and character, if it only goes deep enough, we find sooner or later delusions. Delusions aid us much in the diagnosis of insanity, especially for the reason that they do not appear at the commencement of the disorder, but indicate that it has existed for a certain time, and proceeded to a considerable depth. Many patients suffer from simple melancholia without definite delusion. They are depressed, out of spirits, they cannot tell why. Their business or even their amusements are a nuisance to them. They dislike seeing their friends, find even writing a letter a bore, and are often irritable to those about them in a way they never were before. But as yet there are no distinct delusions. Conversely, patients will display a state of exaltation and of change in this direction without delusion. They talk in an excited and rapid way, much more so than is their wont. They are inclined to speculations, they build new houses or buy things they do

not want, are disposed to quarrel, and by no means willing to take advice. They sleep but a short time, rising very early and expecting others to do the same, and their whole conduct is foolish, often causing in their friends a fear that they have been giving way to drink. But all the time there may be no delusions. In the latter class of cases insane conduct generally precedes delusions, because the patient is active, restless, and eager to be doing something. In the former delusions generally come earlier, and we have less difficulty in diagnosing insanity and taking the necessary steps for protection, the depressed person being for the most part more docile and more easy to deal with.

That the delusions of the depressed grow out of their condition of nerve prostration is recognised by many observers, and according to the idiosyncrasy of the individual they will arise early or late. In many the self-consciousness which I have already mentioned is a prominent feature and comes readily to the surface. Such people are timid, fearful of criticism, and distrustful of others. They feel great depression of spirits, for which they cannot account. They may at the same time feel bodily discomfort, pain in the head, indigestion, and constipated bowels. Forthwith they imagine that their food is poisoned; at first perhaps they think only that it has been tampered with, or unwholesome provisions have been supplied; then that poison has been put in it by some person or persons known or unknown. Feeling themselves peculiar and changed, they think that the people in the street look at them, then that they point at and deride them. Next they fancy that the newspapers write about them and that all the mysterious advertisements refer to them. There is a plot and a conspiracy to rob, ruin, and destroy them, and they try to run away from it and hide themselves from their enemies. Here it is evident that there is a complete loss of adjustment between the environment and the patient. Instead of living in harmony with his surroundings he dreads them and would flee from them. How does all this affect our diagnosis of the case? Our diagnosis is for the purpose of treatment, for legal restraint, or legal interference with a man's property and business. The depression I have spoken of demands in the first place treatment, and this is often efficacious. Mere removal, change of scene and surroundings I have known to be sufficient to allay the fear with which the sufferer is overwhelmed.

Having conceived the idea that those about him wish to poison him, to mock or ruin him, he feels the utmost relief when removed from their reach, and finds himself surrounded by others in whom he has every confidence. More than once I have known patients escape from those placed to guard them, escape to friends or acquaintances, and then recover by the feeling engendered through the new set of surroundings. This is the reason why in almost every case change of scene does good, though possibly only for a time. It is the reason why almost every patient is better when first admitted into an asylum, though the improvement may not last long. The reduction of the brain centres may become deeper and the delusions increase. The patient will be afraid of his new found friends after a few days, or will think that his former enemies can reach him in his new abode. Then as his subject consciousness becomes more and more developed and his self-feeling intensified, being always pervaded by the nerve depression, he thinks not only that all his environment is conspiring against him, but that all is wrong with himself. He has done wrong, has neglected his business and ruined his family, or has robbed his partner or employer, he has committed the unpardonable sin—the sin against the Holy Ghost—and is eternally lost and about to suffer torments in this world or the next, or he has some loathsome disease as syphilis or leprosy, or is about to have hydrophobia because perhaps a dog licked his hand some years ago. All such patients come before us for treatment, and our diagnosis will be largely influenced by this, that all such people are to be looked upon as suicidal.

It is difficult to say when a patient may begin to be suicidal. Some will commit the act, or attempt it, when only a very moderate degree of depression has been noticed, and their friends will express the greatest surprise at their so doing. The diagnosis is difficult, but we may render it easy if we choose to treat all melancholia, however slight, as suicidal, and insist on a patient not being left alone.

Far different is the state of those who suffer from mental exaltation. This will vary much from excitement of a kind which can hardly be considered insanity to the hilarious delirium of acute mania. I am not here to discuss the pathology of mania or melancholia, but I cannot help thinking that in the former we have an opposite state of things, that there is an overaction of the brain circulation due to the failure of the centres which control it. This overaction is shown in the flushed face, the quickened pulse, the general "explosiveness" of the maniac. Here, more perhaps than in melancholia, we remark the "alteration" of the patient. His highest centres are "reduced" and very much "reduced." Judgment, reasoning, and attention are all in defect. If we engage such a man in conversation he cannot keep to the point—he will commence the answer to our question but soon wanders off; his ideas have no coherence, and we write him down as incoherent. There may as yet be no delusion, but it is impossible to say that there is no defect of intellect. His every act betokens that his highest cerebral centres have lost control, and the lower and egoistic self-feelings are carrying him along in an uncontrollable flood. The most typical cases of mental exaltation are the general paralytics. Their hilarity and self-satisfaction, the grandeur of their ideas, extravagance of expenditure, and delusions of wealth and magnificence are known to all; yet these delusions point to a condition of brain for which there is no cure. Instead of the slow and defective action of the melancholic who recovers after years of insanity, we find a coarse brain disease which terminates life after a short time.

Many maniacs with exalted delusions are not general paralytics; they are under the delusion that they are descendants of some noble family, and the rightful heirs of this or that noble house, and they lay claim to a title in accordance with the idea. They may have cards engraved with the title, and coronets placed on their notepaper. Others will imagine that they have discovered some wonderful invention which is to make their fortune, and on the strength of the riches which are to come they squander what they have in the most reckless way. Exaltation of any kind will make us suspect that the patient is suffering from incipient general paralysis. I know nothing more difficult than the diagnosis here if physical signs are wanting, nothing more easy if they are present. By the time that exaltation has reached the stage of delusions, the physical signs of general paralysis will be noticeable in the majority of cases if the disease is present. The expression of the face is often peculiar. The patient looks dull and demented when at rest, and abnormally excited when speaking, with twitchings of the facial muscles and general tremor. When asked to show the tongue he jerks it out and in with a kind of convulsion, and if we ask him to keep it out we notice a fibrillar tremor of the muscles of it. And besides the facial and tongue muscles those of the lips will show signs of the disorder. There is a tremulous condition of the latter, said by Sir John Bucknill to be like that seen in persons about to burst into passionate weeping. In some this tremor will be noticeable, while in others we see a stiffness and unnatural immobility of the lips, especially the upper. And these affections of the lips and of the tongue bring about another symptom which is very characteristic of general paralysis, namely, defect in the articulation. This is a stopping or stutter in the enunciation of a word, or the various syllables of a word, especially a long one. It is somewhat like the thickness of speech of a man who has had a little too much liquor, and many are thought to be in this condition if they are disorderly in public places. It may vary on different days; if a patient is speaking with an effort, and loudly, he may get his words out clearly enough; but if he is excited, and talking quickly and hurriedly, the defect will be conspicuous. Then there is another physical symptom very frequently present in this stage, which we call the second, or that of delusion; this is inequality of the pupils of the eyes. This, taken in conjunction with exalted delusions, is perhaps the most pathognomonic sign of general paralysis that we can find. There can be no question as to this. About the stammer observers may disagree, but if one pupil is larger than the other, and is fixed to light or contracts but little, it is almost conclusive. Sometimes both pupils are extremely small and contracted, do not alter under light, and may remain constantly in this state during the patient's

life. The knee-jerk in the early stages of the disorder is generally exaggerated; later on it is altogether abolished in the majority of cases. There are often epileptiform attacks, even in the early stage, which may materially aid us in our diagnosis. And it sometimes happens that the physical symptoms may be more marked than the mental, and that we may be able to note inequality of pupils or want of reaction, difficulty in gait, or slowness of speech at a time when there is only an alteration in mind, when we are not able to sign a certificate of insanity. I have seen two such cases within a short period. From time to time we see a case of acute alcoholism where there are such symptoms of dementia, with perhaps some amount of paralysis, that we pronounce it to be one of general paralysis. We are greatly astonished to find improvement take place under proper treatment, and ultimately recovery. Did time permit I could give the particulars of an interesting example of this disorder.

In the insane we meet not only with delusions, but also with hallucinations; sometimes both coexist in the same individual. Hallucinations are extremely common in acute insanity, especially those of sight and hearing. They depend upon disturbance of the centres of the special senses, of those of general sensation and visceral and sexual feeling. They may occur not only in the insane, but also in the sane, if there is acute febrile disorder or even feeble bodily health. As regards diagnosis the hallucinations of acute insanity have no special significance; they are a symptom of the acute disorder, and as this passes away the hallucinations, like the delusions, vanish and recovery takes place. When, however, they exist in a chronic state, and are perhaps the only symptom of insanity, they are of the greatest importance. The most common are those of hearing—hearing “voices” as they are often termed; these are very common and very incurable, and often very hard to detect: but for these “voices” such people may be in all respects sane, and conduct themselves as ordinary members of society, yet they are always to be looked upon with suspicion. One day they may be able to control themselves and disregard the “voices”; the next they may feel bound to obey the voice and do what it commands, whether it be homicide or suicide. It often happens that a patient will not reveal what the “voices” say, or confess that he hears them at all, and our ignorance of the hallucination may make it difficult to arrive at a diagnosis or to account for the patient’s peculiar conduct. We may sometimes detect them by noticing that the patient, while we are talking to him, is inattentive and evidently listening and trying to catch something which he hears going on. If there is a forensic contest and hallucinations are advanced as evidence of insanity, we shall be told that sane people have hallucinations. It is quite true that persons who are not insane in the ordinary sense have hallucinations both of sight or hearing if they are out of health, or are suffering from an acute attack, whether it be delirium tremens or some febrile disorder. But nobody can pretend that there is nothing wrong with the brain of such patients. For the time, at any rate, their brain and mind are disordered as much as is that of the insane person. Then we shall be told that various well known people had hallucinations. Dr. Johnson heard his mother’s voice calling “Sam,” when she was far away. Lord Byron saw a spectre, Napoleon saw a star, and Cromwell a vision. We have nothing to do with these stories, which are very doubtful; the authority for them we cannot cross-examine. It is when hallucinations affect conduct that we are concerned with them, or when they are likely to affect it, for we cannot wait till a man assaults or murders another under the idea that he is insulted. Similarly with regard to delusions. Erroneous opinions are not insane delusions. There are people who believe in spiritualism and mesmerism, in homeopathy, and the like. There were many who believed that the Claimant was the real Tichborne. But these are not the delusions of the insane man who believes in some fact which personally concerns himself, and on which he is prepared to act in spite of all the reasoning and demonstration which is brought and put before him by others, friends or advisers, whose opinion he would undoubtedly accept were he in his right mind.

Hitherto I have considered those forms of insanity which are characterised by delusions and hallucinations, and the large majority of insane patients have delusions or hallucinations

or both, as the prominent symptoms of the mental disorder. There are some, however, whose unsoundness of mind, to use a comprehensive term, is shown by insane conduct rather than insane ideas, or who, by congenital or other defect, are unable to take care of themselves or manage their property or business.

The first class—those whose insanity is characterised by insane conduct rather than ideas—are those to whose disorder has been applied the term of “moral” or “emotional” or “affective” insanity. The patients, it is said, are insane, but with an apparently unimpaired state of the intellectual faculties. Here, as in so many cases, there is beyond all question a very great dispute about words. One writer uses a word to mean a great deal which another does not, or the latter may use the same word in a totally different sense. Physicians are quite agreed that there are patients whose acts are insane yet who have no delusions in the ordinary sense of the word. Everyone can from his experience call to mind such cases, but controversy exists with respect to the name by which we are to designate them. If we lay aside for the moment the divisions of the mind—such as intellect, emotion, volition, and the like—and look upon it as the working of the highest cerebral centres, which have been gradually evolved in ever-increasing complexity from savage to civilised races, and from the child to adult man, we see that according to the degree of evolution will be the complexity of feelings and the relations of feelings, and the composition and ideas of relations of which mind consists. There cannot be highly complex ideal feeling without equally complex intelligence. The highest mental attainment which civilised man can reach is a right rule of conduct regulating the affairs of life with judgment, prudence, and restraint. But if this standard is never reached, owing to congenital defect or imperfect development or training, or if the highest centres are reduced by insanity or epilepsy or alcohol, then mind is likewise reduced from a higher to a more automatic condition. There is over-action of the lower centres from the removal of the controlling influence of the higher. Applying this to conduct, we find that the reduced brain gives way to the gratification of the senses regardless of consequences, permits indulgence in pleasure to the detriment of self or family, may set at defiance the conventional laws of society, or, possibly, the law of the land. The patient is reduced to the level of a child, or an uneducated and untrained person, and the reduction may go on till it brings him to a level lower than that of a savage. This is no special variety. Any cause which operates injuriously upon the brain function may reduce the individual in this way. He is an altered man. He may possess a perfect memory, may be able to converse brilliantly and argue keenly. He presents no delusion or hallucination, and yet his conduct is different from what it was before. He may not be immoral; immorality is only one form of this so-called moral insanity, but he is altered—and altered for the worse. He is wrapped up in self. The egoistic part of his mental constitution comes prominently forward, owing to the loss of the higher controlling centres. His affection and feeling for his wife, family, and friends are estranged. He is extravagant or penurious. He devotes his time and money to objects he would formerly have despised, or associates with people beneath him. This will go on for a time, and then he will get worse and descend to a lower level of delusion and more marked insanity. From this he may recover, to reach again the level of alteration, but never regain perfect sanity. He remains an altered man, altered in feelings towards those he loved best, altered in habits, character, and conduct. He presents the spectacle of a half-cured patient. Nowadays, as soon as a patient is somewhat better, the friends clamour for his release from the asylum or restraint in which he has been placed; and those who have the care of the insane, whether officials or others, are prone to release patients, owing to such popular clamour, as soon as improvement reaches a certain point. Consequently, many who might have been cured by longer care and treatment are turned out to take care of themselves in the world at large, and to remain half cured for the rest of their days.

The insanity of a man or woman in whom we can find no delusions must be shown by his or her conduct, and in forming an opinion we must examine the case as we would any

other in other branches of practice. What is the history of the individual and his relatives? Does insanity exist in his forefathers, or in other members of his family? What has been his manner of life? Has he been intemperate, has he had epileptic attacks or apoplectic seizures? Is he altered; and, if so, how long has he shown signs of alteration, and have these increased lately? Close examination of one of these altered men may reveal to us the physical signs of general paralysis. Unequal pupils, the fibrillar trembling of the tongue, or the peculiar dull look of the face will explain beyond doubt the nature of the change, and make a diagnosis easy which otherwise might be difficult. For the early stage of general paralysis is one which in many cases presents a typical moral insanity. The patient makes silly purchases, boasts in a silly way, is forgetful of times and appointments, drinks more than usual, possibly indulges in immorality or theft. Yet no one act is unquestionably that of an insane man, and no one idea is palpably a delusion.

I now pass to the consideration of another variety of insanity about which there has been much controversy. I refer to the so-called impulsive insanity, which comes before us chiefly in cases of insane homicidal impulse. In our ordinary state of health an impulse to do something sudden or violent occurs to many. Some feel an impulse to throw themselves down from a height, or over the side of a vessel into the water. One person has a desire to scream out in a crowded church or theatre, another to smash something valuable on the table. All these impulses are by the healthy mind resisted and controlled. But when the mind is not healthy, when by disease the controlling power of the higher centres is inhibited, then insane impulse may be let loose in any direction, homicide, suicide, mere wanton smashing, or causeless violence. It is often urged that this impulsive insanity is something invented by medical men to excuse crime, but examination of patients and of recorded cases will reveal disorder of very serious extent. There is a close connection between these sudden impulses and epilepsy, and in more than one recorded case a well-marked *aura* has been known to precede the homicidal impulse. In others the latter appears to take the place of an epileptic convulsion, constituting what has been termed *epilepsie larvée*. And not infrequently it follows and is the result of an epileptic attack, and of this both the patient and his friends may be ignorant if it has occurred in the night when he has been sleeping alone. It also much resembles epilepsy in this, that it is not always present in the patient's mind, but is periodical, recurring, like epilepsy, without any special cause. Many are quite conscious of the feeling and of their inability to resist it, and many have sought the assistance and restraint of an asylum, being unable to control themselves. In examining such a person we shall have first to consider the character of the deed, the mode of committal, and the absence or presence of motive. The act may be so motiveless, so contrary to the previous nature and feelings of the perpetrator, that no one can doubt it must have been that of a madman. It is not the amount of wickedness displayed in the act, but the senselessness of it that we are to regard. And even when the nature of the deed sufficiently stamps it as insane, we shall, if we seek diligently, generally discover other symptoms of insanity. The individual's history must be carefully examined, and the occurrence of epilepsy or insanity in the family noted. The time of life and condition must be taken into account, for instability of the nervous centres is specially liable to be exhibited at the periods of puberty or the climacteric, or those of pregnancy, parturition, and lactation. Nor must it be forgotten that homicidal impulsive attacks may occur in other forms of insanity.

That caution must be observed in signing certificates of lunacy I need hardly insist on here, but in no class of cases ought greater caution to be used than in those where the insanity, or alleged insanity, is complicated by alcoholism. We have at present in this country no means of restraining inebriates but by confining them as lunatics under the statutory order, petition, and certificates. As they are a terrible torment to their friends, and ruin their health and the property of themselves and families; as they are frequently violent to those about them both in language and in act, and are often found wandering, lying in the gutter, and absent from home all night, the relatives seek our assistance, and entreat us to

sign certificates that they require care and treatment. But if we examine one of these individuals what do we find? He may be drunk, but drunkenness is not insanity, and we must wait till he is sober; and then we may be able to detect no delusion or hallucination. He may deny most of what is alleged of him, and may be incensed with his relatives for calling us in. If we find enough in his history and in himself to warrant our signing a certificate and he is sent to an asylum, this usually happens. Drink is cut off, the man sleeps, his appetite returns, and in a very short time the asylum authorities are obliged to release him, and often the relatives are worse off than they were before. That there is an insanity from alcohol we know, but the insane symptoms of this are strongly marked, and persist even when drink is stopped. If possible I require that a patient shall be kept without drink for twenty-four or forty-eight hours before I examine him; it is of no use to examine a man in the middle of his potations.

I now proceed to the consideration of patients whose mental symptoms are not those of exaltation or depression, are not marked by hallucinations or delusions, but are characterised rather by enfeeblement and deficiency. These are of two kinds: those whose mental defect is congenital or the result of an arrest of development at an early age, and those who from former attacks, from coarse disease of brain or old age, have come to the condition which is commonly called dementia. And first of those who through congenital defect or as the result of disease in early life are through life deficient, not idiots, but weak-minded imbeciles, children in mind throughout life. They come before us in various ways. Though children in mind they are often men and women in wickedness and vice, and it may be necessary to place them under restraint, or to protect their property from being squandered and themselves from being robbed. I know no class over whom controversy is so likely to arise, or where we may have greater difficulty in forming a diagnosis. They are not idiots, many of them have acquired a fair amount of education, can construe a Greek play or master a proposition of Euclid. Their memory is excellent, and we cannot compare their condition with a former one, for they have never been any better, so that this test fails us. They have no delusions or hallucinations, and are not insane in the ordinary sense of the word. With regard to many there is no difficulty. When a man or woman of 40 submits to be treated like a child of 10, to be taken out and amused, and to have sixpence a week pocket money, we have not much difficulty in forming an opinion. But the development of others is not so low, yet they are deficient in reason and judgment and often in conduct. There is a tendency to low and depraved habits, to brutish and sensual enjoyment, to low company amongst whom they are of more importance, and if remonstrated with they show an absolute disregard for truth or for right behaviour. Lawyers will defend these patients, and say that they are not insane, and the celebrated Windham case shows what can be done by their aid. In examining any such individual we must consider his conduct in regard to his environment and bringing up. What might be passed over in the lower walks of life is in the higher evidence of a degraded mental state. Every case must be judged by itself, and the question must be asked: Is this person able to take care of himself and his affairs? But to sign a certificate is often very difficult, as we may not ourselves witness the insane conduct, all of which we arrive at only by hearsay. It is not to be forgotten, however, that imbeciles are very prone to display violent explosiveness of their nerve centres, and this is specially likely to happen as they advance from the period of puberty to adolescent life.

"Last scene of all" there is the dementia of old age, of chronic insanity or brain disease. In the vast majority of such cases the diagnosis presents no difficulties. Loss of memory, loss of attention, the mere oblivion and childishness, enable us to say that such a person is unable to take care of himself or his affairs, and never will be able. The prognosis is attended with as little doubt as the diagnosis. Here and there we see a patient whose dementia has not advanced very far, who varies a good deal, having good days and bad days, and is capable of being "coached" into giving tolerably rational answers to our questions. About such a one legal questions may arise, and a forensic contest. If

there is no urgent necessity it is better to wait. The dementia is sure to increase as time goes on, and a case which is difficult now may be easy enough to diagnose in six months' time.

THE GOULSTONIAN LECTURES ON THE SUPRARENAL BODIES.

Delivered before the Royal College of Physicians of London,

By H. D. ROLLESTON, M.A., M.D., F.R.C.P.,
Fellow of St. John's College, Cambridge; Assistant-Physician and
Lecturer on Pathology at St. George's Hospital.

LECTURE III.

THE NERVOUS THEORY OF ADDISON'S DISEASE.

THE experimental work of Phillipeaux, Harley, and Tizzoni point to the absence or unimportance of any function on the part of the suprarenal bodies. As already seen this negative view as to the functions of the suprarenal bodies held the field from Addison's discovery until quite recent times. On such a physiological basis the connection between disease of the suprarenal capsules and Addison's disease was explained by the secondary morbid changes, induced by the lesions in the suprarenal bodies, in the neighbouring semilunar ganglia, solar plexus, and sympathetic nerves. This conception will be for ever associated with the name of Dr. Samuel Wilks. It was based on *post-mortem* investigation showing the spread of inflammation from the tuberculous suprarenal bodies to the semilunar ganglia and other branches of the sympathetic.

Dr. Greenhow¹ inferred that at least all the more important features and prominent symptoms of the disease are due to morbid changes in the nerves, the changes in the nerves being (1) irritation and (2) atrophy. The collapse and the extreme state of debility are thus explained as the result of the altered condition of the sympathetic in the abdomen. The vomiting and pigmentation are referred to the direct irritation of the sympathetic by the caseous material in the suprarenal bodies, or from the same cause acting reflexly through the cerebro-spinal system.²

The view of Wilks and Greenhow may be summarised thus: The lesion is primary in the suprarenal bodies, and always of the same nature, while the symptoms of the disease are due to the secondary effect on the adjacent sympathetic, the solar plexus, and semilunar ganglia. Arnaud and Alexais³ accepted the principle, but by limiting the nervous changes to the ganglia in the fibrous capsule of the adrenal bodies they were able to explain the fact that in Addison's disease the solar plexus and semilunar ganglia may be healthy.

A natural modification of these views is that Addison's disease is due to changes in the abdominal ganglia and sympathetic, which may be due to disease of the suprarenal bodies, but is quite independent of a special, or indeed of any, lesion in them. This theory was supported by Jaccoud, von Kahlden, and others from the clinical and morbid anatomy point of view, and by the experimental researches of Tizzoni. Semmola⁴ carried this view to an extreme degree; he believed that not only had changes in the suprarenal bodies nothing to do with Addison's disease, but, when they did exist, that they were trophic lesions due to injury to the nerves which presided over their nutrition.

The nervous theory does not explain the numerous cases recorded of typical Addison's disease, in which special attention has been paid to the condition of the semilunar ganglia and adjacent sympathetic, and in which they have been found to be normal, since continued irritation could not last for any time without setting up inflammatory changes *in situ*. Still less does it explain the occurrence of the symptoms of Addison's disease associated with simple atrophy of the adrenal bodies. Apart from these facts, which by so directly contradicting the data of the theory put it out of court, there are considerable difficulties in the working of the theory. Some of the changes described as responsible for the disease have considerable resemblance to those normally found in adult life, that is, those in the semilunar ganglia. The changes in the sympathetic, etc., according to Greenhow, are

(1) irritative in the early stage, followed by (2) atrophic changes corresponding to two stages of the disease. The disease cannot be divided into an early stage showing symptoms the result of a discharging lesion, and a later with symptoms due to an atrophic change in the sympathetic. "Vomiting in advanced cases is seldom absent, and may be spontaneous and irrepressible."⁵ Convulsions not uncommonly occur shortly before death, and never in the earlier stage, when according to this view they would naturally be looked for. Pigmentation is nearly always a symptom occurring late in the course of the disease, whereas, according to the view that it is due to irritation of the sympathetic, it should always appear fairly early.

Dr. Bedford Fenwick⁶ has suggested that when the medulla of the suprarenal body is affected the constitutional symptoms result, and that when the lesion spreads to the cortex bronzing follows. This would explain the sequence of events, but it would also logically necessitate the constitutional symptoms of Addison's disease appearing whenever the medulla is affected, which is very far from being the case. Experimental removal of the coeliac plexus leads to rapid emaciation, low temperature, diminution in the amount of urea in the urine, acetoneuria,⁷ though this is disputed,⁸ and acetonaemic coma. These results do not support the view that Addison's disease is due to an irritating and destructive lesion of the sympathetic around the suprarenal bodies.

There are numerous examples of slow irritation of the abdominal sympathetic by enlarged glands, spinal caries, surgical and tuberculous kidney, abdominal aneurysm, and chronic peritonitis, where there are no symptoms of Addison's disease, except perhaps some pigmentation. Although it is the sign by which this disease is perhaps most often recognised, the bronzing is not only variable in degree and late in appearing, but is also met with in other diseases, as in exophthalmic goitre.

Now, since in exophthalmic goitre changes in the sympathetic have been described, it might be thought that there are analogies between it and Addison's disease. It may then be well briefly to consider this point. Professor Greenfield⁹ in his Bradshaw lecture showed that exophthalmic goitre is associated with subacute inflammation of the pons, medulla, and parts of the sympathetic, and ascribed these changes to excess or alteration of the internal secretion of the thyroid gland.

Addison's disease and exophthalmic goitre differ very considerably in the clinical picture they present; but they have, though far from constantly, two classes of symptoms in common, namely, gastro-intestinal disturbance and anomalies of pigmentation. Supposing that these common symptoms are both connected with irritation of the nervous system, the conditions are not fairly analogous. For according to the nervous theory of Addison's disease the irritation is simple, and due to the extension of chronic inflammation to the abdominal sympathetic, while in exophthalmic goitre the changes and irritation of the nervous system constitute only half the morbid factors present. In addition there is probably a poison present which, independently of the nervous changes it produces, may very well be capable of producing textural lesions and functional disorders. In other words, a consideration of exophthalmic goitre does not lend any support to the purely nervous theory of Addison's disease. As has been already seen, the nervous theory is untenable, since the sympathetic in the neighbourhood of the suprarenal bodies is not constantly altered.

THEORY OF SUPRARENAL INADEQUACY.

Since the nervous theory does not explain Addison's disease, the rival theory of suprarenal inadequacy must be examined. This theory assumes that the suprarenal bodies are active glands, and that interference with their functions gives rise to Addison's disease.

Since the morbid symptoms are connected with some change in the constitution of the blood, this theory might, on contradistinction to the nervous theory, be called the chemical theory of Addison's disease.

In the foregoing sketch of the physiology, the suprarenal bodies were shown to be functional glands, but discussion of the nature of this function was postponed. The two views as to their physiology were: