

EPILEPSY

By Charles R. Ball, M. D., St. Paul

Mr. Chairman, Ladies and Gentlemen—I have been dealing with the subject of epilepsy most all of my medical life, but my particular interest has been in the diagnoses of the cases which come to me, and also in finding some means of helping them out of their difficulties.

When Doctor Hamilton telephoned to me last night that Dr. M. N. Voldeng, of Iowa, who had intended to be here, was unable to come on account of illness in his family, and asked me if I would take his place, I realized more than ever the great need on my part for the organizing talent of Mr. Ford. Mr. Ford not only manufactures automobile parts, but he has in various centers assembling plants where those parts may be put together. I have been dealing with clinical experience in epilepsy perhaps for twenty-five years, but up to the present time I have not had any particular use for an assembling plant, and when in a great hurry I was called upon to put some of those experiences together, I found that I was lacking in this regard.

It seems to me exceedingly fit that this subject should be taken up in the Hospital for Crippled Children, because the children who are epileptic are certainly crippled children, perhaps not in a physical sense, but in a mental sense, and this presages the spirit of the times. We have been thinking in times past of physical hygiene, in protecting ourselves against epidemics, in finding, by various vaccines and serums and isolation measures, some means of stopping these terrible epidemics which in times past have swept over peoples and wiped out thousands and thousands. From that we have been thinking of the care of these people who are chronically afflicted with some physical ailment, but we have only begun to think about that subject which is designated at the present time "mental hygiene." We have always been thinking about physical hygiene, and now we are coming to the subject of mental hygiene. As in other subjects, we really do not think much about those things until we are under the urge of dire necessity. We see at the present time in the great number of mental defectives, in the great number of abnormal personalities, in the great number of those who are manifesting antisocial and asocial impulses, that these individuals are really more dangerous to society and government than the plagues and epidemics of former times. So I say now that mental hygiene, because of the danger that lies from such individuals, is one of the urgent and important subjects of the time, and it is very fit that we should consider this class in this institution.

The war brought us many things, both good and bad; it brought us particularly a new set of classifications; and one of the classifications that is brought us, or at least emphasized to us, was the term "psycho-neurosis." Perhaps that does not mean so very much to the non-medical individual. Psycho-neurosis is so vague that you may not have formulated any very definite conception of it. I like the way in which that word is

connected. When you see it in your reading, you will notice that there is always a hyphen between the "psycho" and the "neurosis," showing that there is a definite connection. I do not know of any other word that conveys a better conception of what it means, because psycho-neurosis includes everything that gives manifestation of the so-called functional nervous disturbances, whether it is an epileptic, whether it is a dipsomaniac, or whether it is an antisocial criminal type of individual; they are so intimately related, and if you search in the right way for this relationship in their family history, as well as in their lives, you will find here and there evidences, stigmata of this relationship.

We have been inclined to regard epilepsy as a disease separate and apart. When we call up into our imagination the word epilepsy, we think of the individual who suddenly falls unconscious to the ground, who foams at the mouth, who gets black and blue, who twitches and jerks, a most abhorrent condition to look at. That, in the minds of most of us, is what the word epilepsy means; but to me, having had many epileptic patients at many different times, when it was my business to make the diagnosis, to connect up the relationship, epilepsy is a very much more protean disease than this. Perhaps I can best illustrate my meaning in this way: There come to my mind three cases which will aid in explaining.

There was a young man whom I was treating for epilepsy, who had the classical type. He was a good, moral young man; he had good impulses; he had the normal average intelligence; he was industrious and studious; his only fault was the falling sickness. His father was a drinking man. He did not drink every day, but his drinking impulses came on in attack-like spells. When these attacks came on, he would drink, and drink, and drink, until he was as unconscious as his son in his epileptic attacks. This patient had a brother who was also a drinking man, and this brother's spells would come on also in attack-like impulses, and he would drink in much the same way that his father did. Now, a peculiar thing happened to this patient. This boy, who never drank any, whose impulses were good, who went to church, who had a disposition like the family horse, Old Dobbin, instead of having these typical seizures of epilepsy under treatment for a period of time, at certain intervals was consumed with a torturing, almost uncontrollable, thirst which lasted for the period of a day and then passed over, showing very nicely this close relationship existing between the dipsomaniac and the epileptic and the conversion from one type of manifestation to another which so often takes place.

Some time ago a lady with a depression was referred to me. The patient came to me with the diagnosis of melancholia. She took no interest in her household affairs; life looked black to her; and she had, because of these depressive thoughts, suicidal impulses. At first I did not get the relationship. Afterwards, when she told me who she was, and that a sister of hers had been a patient of mine, I immediately connected her up with this sister whom I had treated for epilepsy. We hear nowadays a great deal about psycho-genetic causes of depression, and the psycho-analyst would feel that there was something deficient in himself if he could not find a cause, perhaps a Freudian cause. When I connected up

the relationship between these two patients, I began to listen more carefully to what she told me. She really had no reason for being depressed. She was happily married; her husband was in fair circumstances; she had ordinarily all that she had been accustomed to; she had as good a future as the average individual; there was no reason why she should have melancholia, but it started in this way: Her parents lived in St. Paul and she lived in Minneapolis. One day she went out to take the street car to come to St. Paul, and while she was standing waiting for the car she said a terrible feeling came over her. I asked her to describe it. She said: "I can not describe it; it is such a terrible feeling that I do not want to describe it; I do not want to think about it; it causes me to shudder whenever I do think about it; I am so afraid I am going to get that again; I have felt it a number of times; and if I could be assured that I would not have that feeling, that it would not come again, I think my depression would go away; but it is the fear, the dread, the horror of this thing coming over me again that has taken the joy out of my life. That is why I have these suicidal tendencies." So I said to myself: "Here is a transformation in this patient of the epileptic attack in her sister, definitely and closely related, and there isn't any use in my talking to this woman about the joy of life, and why be all ought to be thoroughbreds and not let the daily affairs and troubles and conflicts overcome us. That is time spent uselessly. I will try her on epileptic treatment, and see what sort of a result I get." And so I put her on good, strong doses of a new remedy, a synthetic compound called luminal. Under the administration of luminal, within a week or two the depression disappeared without any other form of treatment, diet management, or anything else. After she had taken it awhile, I thought I might decrease the dose, and so I tried it. Very soon a suggestion, we might say a petit mal, of the old feeling returned, and with this there was a return of the depression. I found in my subsequent dealing with this case that whenever I dropped down in dosage there was some return, just as there would be a return of spells in the epileptic, and so I had to keep up a certain strength in that dosage in order to keep this patient in a normal frame of mind.

I have another case which will illustrate the close relationship of the psycho-neuroses and the conversion of one into another. I think perhaps I can explain my meaning to you better by illustration than by an abstract description.

I have a patient, a lady, who has had epilepsy all her life, and up to the time she came to me she had a spell about once a month. Since then, under the administration of this new synthetic compound, her spells have just about disappeared. I did so well for her that she sent her son to me. Primarily her son's difficulty was that he was a stammerer. When he wanted to say anything he had to whistle before he could get it out. I do not suppose many of you have thought about any connection in heredity between stammering and epilepsy, but there certainly is. Stammering is one expression of the psycho-neuroses and epilepsy is merely another.

You all know a good deal about sick headaches which are always of an attack-like nature. Many women have them at their menstrual period, the same as epileptics among women often have their attacks at their

menstrual period. There is a very close relationship between migraine and epilepsy.

Recently I have had two boys whose mothers have severe migraine attacks. Instead of having migraine, these boys have something coming on periodically, then passing off, during which time their consciousness is contracted to a certain extent, and they are different individuals for a period of two or three days.

One of these boys was young, bright and active. He not only went to school, but he had a newspaper route. He was ambitious. He was right up on his toes all the time, and yet at certain periods a spell would come over him like a pall, in which he would cry; he would lose his appetite; he would not want to go to school; he just felt so bad he talked about wishing to die. The attack was so severe there was nothing to do in it but put him to bed. This was merely another expression of the attack-like nature of related manifestations included in these two words that are connected by a hyphen, the psycho-neuroses.

Dr. Michael has discussed with you the organic types, so I believe I will leave them out of my discussion entirely, and just continue with the functional, those for which, as Dr. Michael said, there is at present no adequate explanation.

There has been a discussion going on in medical literature recently as to the inherited tendencies of epileptics, and some one has said that there are liars, damn liars, and those who deal with statistics. I read one of these statistical articles in which the conclusion the collaborators came to was that there was about one per cent of cases of epilepsy which was directly traceable to inheritance. Therefore their conclusion was that there was no reason, from the standpoint of eugenics, why epileptics should not get married. They had taken those statistics, I believe, from the files and records of the Massachusetts General Hospital, going back some thirty years.

When you think of the errors in taking family histories which every physician encounters, and when you think of the fact that only those individuals are put down as having a history of epilepsy where it is acknowledged, you can see how statistics can lead you astray. And when you think, too, that the individual who starts on a collaboration has an idea which he wants to demonstrate—that is why he has started on a collaboration—you can readily see another source of error.

As an illustration I will tell you an experience which I had in trying to get a history. Some time ago I wanted to write an article on tic douloureux, a spasmodic facial neuralgia, and I had the idea that it was merely one type of nervous expression of the so-called psycho-neuroses. My surgical friends want to make it due to teeth and tonsils or to some other sort of focal infection; that if you did not have it in the teeth or tonsils it was in some of the sinuses, and if not in the sinuses it was in the gall bladder, and if not in the gall bladder it was in the appendix; and no one could disprove their point in a way because by the time they got through they did not have any patient. While I was writing this paper I had a man whom I was injecting for tic douloureux. I disdained to ask a patient any more this question: "Is there any nervous trouble in your

family?" That is something I never do. It is a foolish question because invariably the patient throws his shoulders back in a proud manner and says, "No; never." But I tried to come at this man in different ways, and asked him about various nervous troubles. He did not have any; not a single one. Some six months afterwards he came back to me for a reinjection. He then said: "Oh, Doc, I want to see you about my little girl. She has some kind of spells at night, where she makes a peculiar noise; she froths at the mouth, and she falls out of bed. They are just the same kind of spells that my mother has had all her life. My mother is eighty years old but she still has those spells." That is one of the things which is the matter with our statistics.

There is a wide range in the types of epileptic attack. In the army we were regulated as we are trying to regulate our government at the present time, by laws. An epileptic was not considered unfit for service until a doctor had seen him have an attack. Not only did the doctor have to see the attack, but he had to have a flashlight, and when the attack came on he had to run out and flash that light in the soldier's eyes to see whether or not the pupils reacted to light. If they did react to light, that was an hysterical attack, and he had to go into the army. If they did not react to light, that was an epileptic attack and they excused him.

One day I was sitting on the veranda of one of the army hospitals writing out some S. C. D. certificates for soldiers when I heard an awful noise behind me. It sounded like something bounding up and down. On those loose boards it made a horrible racket. Two of the staff came running out. You learn in the army not to be unduly aroused by noises. I casually turned around and saw a great big southern darky bouncing up and down in an epileptic convulsion. He was frothing at the mouth. The doctors were discussing whether it was an hysterical attack or an epileptic attack. One said to the other: "Did you get a reaction to the light?" The other said: "I am not quite certain." They were discussing whether it was a real or an hysterical condition. I am not going to say anything about those attacks, but shall speak of those that take the unusual form with which we are not so well acquainted.

Some time ago a young lady came to me. She said she was very nervous; that she got laughing spells; that she became hysterical. I thought probably it was hysteria, so I gave her something to help her control her nervousness. She came back after a while and said she still had those laughing spells. Usually, when I fail to get some improvement in my patients, I begin to sit up and take notice, and wonder why, and try to find out; so I went over her history again. I happened to ask her if she used to have fainting spells, and she said: "Why, yes"; she used to have fainting spells when she was younger. Then I began to inquire more closely about these laughing spells. They came on about the same time of day; they came on suddenly without any reason; and they lasted about so long. So I changed my diagnosis from the hysterical type and said to myself: "That is a conversion; that is an epileptic expression in an epileptoid individual." I put her on this synthetic compound before mentioned in large doses, and the laughing spells went away. I do not mean to tell this audience that everybody who gets laughing spells is an epileptic by any means.

Somnambulism, sleep walking, is really another expression of an epileptic type of trouble. The somnambulist is the individual who gets up and walks around the house in his sleep; who gets to the window ledge but does not go any farther; who is hard to wake up in these attacks.

Some time ago I had a patient whose history was something like this: He would get spells which lasted for half or three-quarters of an hour. He would go out to the barn, harness up his team, take them out to the field, and carry on much as usual, talk to his wife, etc. After a while his wife found out that he did not know a thing about what had occurred; that this period of time was a blank to him. Afterwards he would have a headache and feel sleepy and generally exhausted. This is another manifestation of the same type of trouble of which we are speaking, which has been called ever since I have been a medical student the psychic epileptic equivalent. I do not know why they should give it such a long name as that because it is merely another expression of this attack-like tendency in the disease called epilepsy.

We have the type bordering a little on the organic. The other day a lady 42 years of age came to me because she was having nocturnal epilepsy. This is in a little different category, but I mention it because there are not a few cases which begin at 45 or 50 years of age to have these nocturnal epileptic attacks. The significance is usually not the same as in the true psycho-neurosis, although in a nervous individual at that time of life, when nervous manifestations are apt to be more intense, it could occur, but it is more probable that one should think either of a beginning brain growth or of a slow arterial degeneration in brain tissue due to hardening of the arteries. I think we do not notice these things enough. With heart conditions you may observe in a man's history that sometimes, after exertion, he feels a little shortness of breath, a little precordial distress, but it passes out of his mind and does not come again for months, or a year, or several years, and it is so slight that he scarcely notices it; but as he goes on in his life he perhaps begins to have more or less difficulty with this heart condition. The heart is not able to do its work, and that is just so with the brain. You get these forerunners of brain deterioration years before their function becomes so damaged that they give much cause for thought or worry.

Doctor Michael has spoken of the exciting causes. Here is another thing we stay away from. Somebody really tried to tell the truth the other day as to why we did stay away from it. All the time we are talking about the influence of environment, the importance of environment. I read a story in "Child Study" which is put out by Doctor Healy in Boston under the Judge Baker foundation. It was one of the most humorous things I have read for a long time.

There was a little boy, six years old, who started out as a truant. Immediately the social workers began to go to his home to see what his home conditions were; and they changed his school; and one school blamed the other school; one principal said the boy was not managed right; if he had been managed the right way, it would not have been so. Somebody else said it was his home conditions; and his father and mother said it was bad companions. So each one went on passing the buck back

and forth from one thing to another. They made all possible adjustments in environment; they sent him everywhere; and tried to break up this truancy, and the only way they could break it up finally was to keep him within four walls so high that he could not crawl out, no matter what sort of an environment he was in.

We like to talk about environment and we do not like to talk about inheritance, because we say inheritance is something we can not change. That is not true, either. Perhaps you can not change inheritance, but if you have a tall man you certainly do not need to put him to work in a low room with beams across the ceiling, because if you do he is going to bump his head quite often. You put the short man in there, and you give the tall man high ceilings. The point I want to make is that no matter what the inheritance in the great majority of cases, there is some adjustment for that inheritance.

So I think in epilepsy the great underlying cause is a predisposing cause, the inherited cause, the family tendency, and it does not have to be the falling sickness, the typical epileptic attack itself, it may be a depression; it may be a migraine attack; it may be a stammering; it may be a dipsomania; it may be insanity; it may be a hundred and one different things that belong under that subject, the psycho-neuroses. If you could bring all those things out, I think you would find a neurotic tendency in 100 per cent of these epileptic individuals.

Almost every epileptic who comes to me asks what he shall eat. A good many of them have been torturing themselves in the matter of diet. One good thing I can usually tell them: "Bless your heart, eat well." There are some few things like candy, perhaps, and salt and liquor, that they ought not to take, and of course excess in eating is apt to be the exciting cause of an immediate attack, but really, on the whole, it does not make a great deal of difference what they eat in the long run, if it be wholesome and substantial.

Lately psychoanalysts have come along, and they try to make out some psychic cause, some cause way down in the unconscious. I think the psychoanalysts in some things are about the cleverest individuals extant, because they just naturally take everything. They talk to you about the great unconscious. It took me a year or two to understand what they were talking about when they spoke of the unconscious, but when I got the conception of the idea I was willing to take my hat off to them. Your historical past is the unconscious. When you come to think about your historical past, it is everything that pertains to your father and mother, your grandfather and grandmother, your great-great-grandfather and great-great-grandmother, and so on down for a million years. That is part of your historical past. And, then, everything that has happened to you from the time you first came into the world with a cry up to the present time, that is the unconscious that the psychoanalysts talk about. Certainly it is a beautiful conception for taking in everything which nobody can disprove. So you can not beat them. When they go back to the historical past, it is of no use to argue.

As I said before, I have heard a great deal about focal infection. In my youthful days I had a great many people tell me the cause of epilepsy

was worms. They related concrete instances in which persons were cured of epilepsy by being cured of worms.

Later on there came another great cure from the surgical standpoint. If a boy had epilepsy they advised circumcising him.

Then we progressed so far that we got down to tonsils. Almost every epileptic gets his tonsils taken out. I am not saying anything about that, if they are taken out for the good of the individual himself, because they are diseased, but if they are taken out primarily for the good of the epilepsy, it is an outrage.

Then the dentist was consulted and teeth extracted.

Then the oculist came in for his share of the work. There is an astigmatism, and the child must have glasses. So they gave the little fellow a great, big pair of horn glasses, and sent him to school, and he goes around looking like a theological student for the rest of his life.

Now we are passing through the stage of endocrins.

I have been thinking about these things pretty hard lately, and I have come to the conclusion that psycho-neurotics are psycho-neurotics because there is some disturbance in the structure and in the cell type and in the hypersensitiveness of the brain tissue itself. You see we have been fighting away from the brain just as we have been fighting away from inheritance, perhaps because there is so little we feel we can do, but I believe we are coming back again to the brain. At last we have got to acknowledge the brain's importance in any intelligent explanation of epilepsy and the psycho-neuroses.

Now, there are exciting causes, but they do not disturb this fundamental factor any. The hay fever patient gets his hay fever only when his nasal mucus membrane comes in contact with certain pollen. Why don't we all get it? Simply because the brain cells that have to do with those functions are not so hypersensitive fundamentally as regards "the historical past" as the one who has the hay fever.

We are all interested in the social status of the epileptic. It seems to me that we have got into a state now where our legislation is chiefly designed for two types of individuals. One type we might call the asocial type, which is the lazy, vagabond, indolent, no-good type of individual. He slips along and does not want to work very much; it is no more than right that the rest of us should take care of him. He has enough mentality to organize and present his demands. Then we have the antisocial type, which is the socialistic, bolshevistic, criminal type, or the paranoid type. These two types are coming together and they are making laws for the rest of us. I feel sometimes like this: We have our state institutions for the abnormal. I think the time is coming, if such legislation continues, when we shall have to change this, and the normal will go into the state institutions. This is a free country, and why shouldn't the abnormal be allowed their liberty? But if we give them their liberty, we have got to have some place of protection and refuge for ourselves.

The epileptic comes in contact with a hostile social environment very early in life. Children who have had an epileptic attack in school have often come to me. The teacher sent them home and sent word to the mother that she could not have them in school because it frightened the

rest of the children. So, right in the beginning of their career, the epileptic finds that he is being isolated and shunned.

Not very long ago a very nice young man, a man of average intelligence, and I should say of very good habits, came with his mother to see me. He had attacks of epilepsy coming on about once in two or three months in which he fell down. He wants to work; he is not asocial or antisocial; he has good instincts and good impulses, but whenever he gets a job and falls down his employer sends him home and his job is gone because the employer does not want him around.

Why is it that nothing has been done, no consideration has been shown the epileptics in industry? Simply because the epileptics themselves are not of the type to organize.

If the epileptics all over the country formed a society, and set up their demands, and financed themselves, and looked after their legislative districts, they would get what is coming to them; they would at last get recognition. There is not any doubt about it. That is all that is necessary, an organization of epileptics and those who are interested in them and those who have allied conditions.

Last night I was reading an article by a professor called "Lost Labor." He said it was too bad that in this country so much labor goes into so many articles that are flimsy, shoddy, that won't last. That is lost labor; much labor is thrown away, squandered, dissipated, because of that. He said: "Now look at England, when they make a suit of clothes there it will last for about ten years, and the labor that goes into that suit means something that is productive." And so there flashed into my mind, when I was trying to get something into my assembling plant for this morning to make things go, the lost labor that comes because of the situation of these epileptics. If a man has one spell in six months, or one spell in three months, pretty near all vocations are shut to him because of a brief interval of unconsciousness lasting maybe only a few minutes. If you are talking about economical saving, here is a vast amount of labor, in thousands of individuals, that is being lost, and yet we all know that many of the epileptics—I have seen them for years and years—go along with very little mental deterioration. Under treatment, as Doctor Michael has said, their spells are retarded and lessened. Many of the epileptics are fit for much useful constructive work and could be economically independent if only suitable conditions were made for them. But in a way our industrial laws, the very laws that are supposed to look after the weak, are damning those who are damaged because they are putting burdens onto the employer which make him feel that if a man is at all defective he does not dare to have him in his employ; and so he sweeps him out as soon as he knows about it.

There is another thing I want to say before closing. We say alcohol is a very great cause of epilepsy. Well, perhaps it is; but before you put that down as a cause of epilepsy just stop and think: Is this psychoneurotic element in the father who takes the alcohol the real thing that has been the cause of epilepsy in the individual?

I am making a plea for the epileptic in these rambling remarks because I know there are hundreds of thousands of them who could be good, use-

ful citizens, if we would just turn our attention to them and look at them in the proper way; in the way in which my clinical experience tells me they ought to be looked at; and provide them with places where they can work in safety to themselves and to others. It seems to me that this hospital for crippled children is a very fitting place in which to consider this very important subject.

Arthur F. Kilbourne, M. D., Rochester State Hospital: If I had the privilege of selecting my father, I certainly would not choose one that was subject to epilepsy.

Epileptics ought to be employed, but we all think that the other fellow ought to do the employing.

We do not get epileptics in our state institutions until they are practically incurable. In talking with the superintendent of an institution for epileptics, he stated that his father had been superintendent of the institution before him and that he himself had been there twenty years, and he had never seen a case of epilepsy cured.

The only chance for the cure of epilepsy, I think, is by treatment in the early stages of the disease. Epilepsy in children is often overlooked, and any peculiar actions of the child should be referred to a specialist. Sudden headache followed by sleep or manifestation of fear without cause, may be manifestations of petit mal.

A young woman wrote me regarding the case of a young man who frequently called upon her. She stated that while talking he would suddenly stop and with a fixed stare, remain quiescent for a few seconds, then resume the conversation at the point where he left off. I advised her that he was a case of petit mal and not to let her interest in him get beyond the friendship stage. This diagnosis was confirmed by personal observation.

The drug that Dr. Michael spoke of, luminal, is one that seems to have a favorable influence, and cures from its use have been reported, but it has to be administered under the direction of a physician and very carefully looked after in its administration. It is the experience of most people in our line of work, I think, that luminal does not affect epilepsy with a psychosis. It may lessen the attacks, but it is probable that the disease has arrived at that point where nothing can cure it.

We have heard the statement that patients will not always take their medicine. Bromide of potassium is the old standby for epilepsy; it is a very disagreeable drug, making the breath very offensive, causing an eruption of the skin, and an apathetic condition, if long continued.

Epilepsy is a subject that covers so much ground that one can not discuss it properly inside of our limited time. It is a disease that must be differentiated from about forty-five others, and that recalls to mind the old saying that "where ignorance is bliss 'tis folly to be wise." Some of us have been sitting here thinking that the only ill we had in the world was, sometimes a headache, and now we have learned that on top of that we may have epilepsy. There are some things a doctor knows that should not be communicated to laymen.

The Chairman: On behalf of the Conference I wish to extend a hearty welcome to Dr. Lena A. Beach, superintendent of the Home School for Girls, Joseph E. Vance, superintendent of the School for the Blind, and to Charles F. Hall, director of our Children's Bureau.

Dr. Beach comes to us with a great deal of experience. She was in the service of the State Board of Control of Iowa for fifteen years or more. She started the Reformatory for Women of Iowa, and was very successful there.

The superintendent of the School for the Blind, Mr. Vance, is well known among the educators of this state. He was in the service of the Government as head of a school for blind soldiers at Baltimore and also served as superintendent of the School for the Blind of Iowa.

Judge Hall has taken Mr. Hodson's place and is now one of the family.

On behalf of the Conference I wish to extend to these persons a hearty welcome to the family circle.