

syphilis, a right way and a wrong way; the right way is by mercurial inunction, the wrong way is any other way.

THE DEBILITY OF ADOLESCENCE.

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It has always been a puzzle to me to know just when the specialist on diseases of children gave up his case to the specialist on older people, and just when the specialist on older people gave up his patients to the specialist on old age. This suggests the existence of transition periods. There might well be study devoted to the period during which the child is passing from childhood to maturity. Of course, the child grows steadily from birth to manhood, but there is a period during the latter part of this time to which the name of adolescence is given, a period during which the youth is subject to particular departures from health.

During this period, when the active forces of early development have begun to wane and the solidification of maturity has not yet taken place, the organs are especially susceptible to damage from whatever causes may be active. Thus in early youth the poison of tobacco is badly borne, and functional derangement of the heart is a frequent result from doses of nicotine that at maturity have no such effect. In the same way the acute infectious diseases have a greater liability to involve the kidneys. The tendency to defective action of the blood-forming organs is the cause of the extreme frequency of simple anemia between the ages of 16 and 25. During this period also acute gastric attacks are frequent. Temporary nervous affections, such as hysteria and melancholia are met with in individuals, who during the rest of their life are free from these disorders. Headaches of a persistent and troublesome type, not traceable to any other cause than debility, constitute a troublesome condition. The importance of special attention to these symptoms at this period of life is that their true bearing shall be understood so that a just prognosis may lead to patient management and the final development of the youth into a sound adult. It frequently happens that the debility of adolescence is most marked about the time the boy or the girl would pass from school to college. In some instances this breakdown of the vital forces is so marked that it is advisable to allow an interval in the educational course of, perhaps, a year, devoted to travel or an out-door occupation. Too frequently the boy goes to college and his health falls a victim to irregular hours and mild dissipations that his stronger classmates are easily able to bear. This condition, to which we have given a name, is more difficult to manage on account of its indefiniteness. If we can convict a patient of nephritis, or gastritis, or incipient tuberculosis, it is easy to obtain a hearing for our counsel, but to call it debility is not always enough for the layman.

Then there are certain cases, the care of which is incumbent upon physicians, that are not so easy to define as are particular diseases. One of these conditions is a certain laxness of fiber of the body as a whole, but which manifests itself more especially in certain directions. It is specially common in young persons who have grown rapidly in height and

in bulk but whose organs have apparently not increased in power in a ratio proportionate to the size of the body. These young persons are prone to suffer from anemia, cardiac insufficiency, gastric disturbances and a mild neurasthenia. On account of their size and muscle they are tempted to take part in athletic contests, much to the injury of the poorly developed heart. They acquire by exercise enormous appetites, that when gratified overtax the powers of the stomach and cause dyspepsia. The bad heart action, the disturbed digestion, create a vicious combination when combined with anemia, and may give rise to disturbance of other organs. There may be albuminuria and even edema. This may or may not indicate a real nephritis. So we have the picture of a man, or rather a boy the size of a man, who has outspread in his physical growth the capacity of his organs, and suffers from a deficiency of the blood-making, the blood-circulating, and the food-digesting organs with an accompanying neurasthenia. The question of the management of these cases is a difficult one. Should such a constitution be hardened and developed through work, or should the organs simply be allowed a chance to increase in power by rest? Should the mind be taken out of itself by the forced application of school and college, or should it be diverted by travel or amusement? Then the question of the administration of drugs arises. It would seem that no specific rules are possible. Each case must be managed on its merits. The important beginning is to recognize the condition, and not to write the boy down as a dyspeptic, a case of cardiac disease proper, a case of nephritis, or even a neurasthenic, though any or all of these conditions may exist in their incipency and be possible under bad management. In the average case it is better not to take radical measures, such as removal from college, but rather to protect the weak organs by preventing over-exertion in athletic contests, over-study and depressing surroundings. The tendency to hypochondriasis is great, so that it is important that the boy should be treated as little as possible as an invalid.

The albuminuria of adolescence has recently attracted my attention, especially because of its observation in a particularly interesting case. This has led to the consideration of this organic debility, observed quite frequently in boys and girls just previous to the period when they reach maturity. Thus, often, a boy who during his entire early life has been well nourished and strong, during the period of rapid growth, becomes anemic and emaciated. With this, there is an inability of the digestive organs to properly carry on their work. There is apt to be trouble with the eyes, headache, feebleness of the circulation, morbid nervous manifestations, and a general condition of debility. We can not say these cases are of dyspepsia, neurasthenia or anemia, because they are all three, and yet they are none of these. It would seem that rapid growth, under unfavorable conditions, had for the time being exhausted the organs and produced debility. When this debility has been removed the suspicions of organic disease are likewise dissipated. Like acne, showing the inability of the sebaceous follicles to properly empty themselves, it will last until the tone of the whole system recovers from the strain of adolescence.

In the management of adolescence are to be considered the counter-claims of a system of hardening by exposure and hardship and a system of coddling

to conserve bodily forces. It is indeed an important question. The Spartan régime that develops only what can be developed under a rigorous education, and destroys what can not be perfectly developed, is out of tune with modern civilization.

On the other hand, there can be no doubt of the quality of the fiber that is developed in youth by a severe system of training. In educational institutions classification is the safeguard. The pupils should be distributed in small groups so that the ambition of each should be stimulated by a proper rivalry, but not annihilated by oppression. Here the physician should insist that any who suffer from the debility of adolescence should be protected from the injury of an injudicious system of education. Let the mental training, if possible, be deferred for a time while the child or youth is allowed to relapse more into a state of nature. Happy is it for such a patient if country life and country pursuits are available. The administration of drugs will consist only of the quite persistent use of cod liver oil and iron and the occasional stimulation of the functions of the alimentary canal. The conditions of life are to be readjusted so that a normal and healthy manhood may finally be reached by the youth whose adolescence has been characterized by this peculiar lack of vitality.

During this period of life young persons often suffer from what almost amounts to cruelty on the part of their superiors, who do not appreciate that there is a real underlying debility, not only of actual physical endurance, but of nervous power. I have no doubt that many of the robust older people, who tell us that when they were young they were threatened with consumption, and were sent away for a year, were in the hands of some wise old practitioner, who appreciating their condition, used a little justifiable exaggeration to obtain obedience to his advice.

A great danger is that a boy of this character may aggravate his condition by the use of tobacco, to which he would be unusually susceptible on account of the already feeble heart action. Can such a boy lead a pleasant outdoor existence with moderate interesting occupation, removed from the worry and burden of school life, in course of a few years the heart, stomach, kidneys and nerves will acquire development and efficiency equal to the bulk and demands of the system at large, so that the patient may in every respect be a normal individual. These conditions are worth careful consideration because the danger of supposing wrongly that we have to deal with chronic organic disease is great. On the other hand, we must not confound the symptoms of this condition with very similar manifestations due to, for instance, a real nephritis following the exanthemata.

So it is important to recognize the general physical conditions incident to the several periods of life. Each has its special features. It is convenient and advantageous to separate medical work into divisions for study. It is the privilege of the general practitioner to meet now with one group of students and now with another. All workers in diseases of children must of necessity be general practitioners in the broadest sense, so that in this section a study of the transition period will not be out of place.

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DISCUSSION.

Dr. SLAGLE of Minneapolis—We all see cases of those growing too fast and those frequently who are pushed too fast, those whose muscular system has grown too fast for the inter-

nal organs. The essayist confined it, I noticed, entirely to the masculine sex but it is perhaps as applicable to girls in many instances. Chlorosis is very frequent in this class of patients in our part of the country. The caution the essayist gives about pushing those children or branding them as indolent is very good.

Dr. R. B. GILBERT, Louisville—The patent nostrums we see advertised, which in many instances are composed of alcohol or opium in disguise, are frequently used. These cases are often treated too lightly by the family physician. The symptoms are too indefinite, so that the hasty answers he gets from the doctors he applies to, are unsatisfactory. Then it is he falls a victim to the patent medicines, to his great injury. It is a subject we should consider carefully and we should pay more attention to that class of adolescents, take them out of school, take them off cigarettes and tobacco, of course, and send them to the country. I remember a young man who began the study of medicine, against my advice, at 18 years of age. After a year he got into such a condition that he abandoned the practice of medicine and went to Colorado and hired himself out as a herder of sheep. He came back to our country a healthy and ruddy individual. Possibly the celebrated climate here had something to do with it, but I think it was more the rough and tumble life he led and the rough food he had to eat. At home he had been fed on all the delicacies the markets could afford. Give the boy encouragement, let him know he has the elements of health in him and put him out where he can get a move on him. It is not often the case that they get into the army, but in the volunteer service I remember several such individuals. One, a cousin of mine, was just that sort of an individual, and camp life, his mother thought, would be the death of him in a month. She sought his release but the officers would not relieve him. After six months he was rosy and fat on hard tack and bacon.

Dr. McCONNEL—In my experience in all these cases there is a cause, and in my experience the cause has been in the stomach. These young men have not a so-called dyspepsia, but they have mal- or non-assimilation. While they have no appetite, they are fed on all the delicacies of the season, their appetite is pampered and as a consequence they eat more than they can digest. If their appetite is carefully cared for and if they are impressed that stuffing is not nourishing, they soon will get an appetite and assimilate the food. When a boy gets in this condition the first thing the physician tells the parents is to take the child out of school. Nothing flatters the parents more than to tell them that their children are studying too hard. Oh, they love to hear that! Nine times out of ten they are not studying at all. I tell you, gentlemen, it is not over-study: it is under-play. It is wrong and a great injury to these cases to take them out of school.

Dr. H. W. SCAIFE, Chicago—The last speaker but one gave us an instance of a boy who was over-growing and was sent out west and followed the occupation of a cowboy. That coincided with what I said, that they should have pure air and pure eating and should change their diet to a different line. He mentioned an instance where a youth grows too fast, the muscles outweighing the conditions of the brain. We know there are some people who keep on growing until the time that they die. Some plants we know will grow forever. The oak tree will grow a thousand years. The reason is that they have that in them which is trying to balance the formative power or the building up of the organism, and life is in no hurry to leave them. I believe that what has been said in the way of remarks on the second paper would apply very well to mine.

Dr. EDWIN ROSENTHAL, Philadelphia—The question of adolescence has been brought forcibly to my mind in the cases of young ladies suffering from chlorosis or rheumatism or chorea, and the only way we can cure them is to take them away entirely from their usual work and place them among the sav-

ages, and in that way you can build up the nervous system so you can cure them of the nervous diseases. If you take the half-grown boys who have ear-aches and who pay attention to their faces to press out the little comedones and imagine they are ill, it is just as important that they should be treated as if they were affected with typhoid fever. You will find each of these boys has a specific. They have a book in their pocket which tells all about the hundred and one things they have. It is true the stomach is the cause of a great deal of this disease, for if they get a little wind in the colon, away they go into hysteria. The only way you can cure them is to bring them down to nature, send them out to farms or out here or to the army. But with medicines the patients grow up to be invalids, the kinds the books in the drug-stores tell us about.

Dr. LOUIS FAUGÈRES BISHOP, New York City—I think the object of the paper has been fulfilled. I drew attention to this condition. I did not mean to neglect these girls by using "he" but I meant that to cover the whole race.

TETANY IN INFANCY; WITH A REPORT OF SIX CASES.

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Very great differences of opinion exist with regard to what constitutes tetany, as well as to the frequency of its occurrence and its etiology and pathology.

It is generally accepted that the most characteristic symptom of tetany is muscular rigidity, this rigidity occurring as intermittent paroxysmal contractures. The duration and intensity of the contractures vary, in some cases being long and remittent, in others fleeting and occurring at long intervals. The extent of the contractures also varies within wide limits, the seat par excellence, however, being in the muscles of the arms, especially of the fore-arms. The positions assumed by the hands and feet during these contractures are very characteristic. The fingers are flexed at the metacarpo-phalangeal joints, while the phalanges are extended. The thumb is strongly adducted in the extended position. The wrist is acutely flexed and the hand turned to the ulnar side. The elbow- and shoulder-joints are not involved in the milder cases. The feet are strongly extended, sometimes in the position of pure equinus, but more often in that of equino-varus. The first phalanges of the toes are strongly flexed, the others extended. The knee- and hip-joints are usually free. Opisthotonos is not very uncommon in the severe cases. Associated with the contractures are other symptoms, some or all of which are present in every case. These are: Increased electric excitability of both nerve and muscle to faradism and galvanism, with changes in the qualitative reaction to galvanism. This is often known as Erb's symptom and is probably the most constant. Increased mechanical excitability of both nerve and muscle. Special examples of this are the occurrence of characteristic contractures as the result of pressure on the large nerve trunks and arteries, "Trousseau's symptom," and spasm of the facial muscles when the skin over the trunk of the facial nerve is irritated or the nerve is struck a sharp blow, "Chvostek's symptom" or the "facialis phenomenon." Laryngospasm. Convulsions. Sensory disturbances, including pain on

motion and during spasms, as well as many others impossible to determine in infants. Vasomotor and trophic disturbances, the most characteristic being edema of the wrists and ankles. Fever, which is inconstant and intermittent. The intelligence is always unimpaired, even during the paroxysmal contractures.

All agree that the presence of the peculiar paroxysmal contractures justifies the diagnosis of tetany. There is great difference of opinion, however, as to whether the presence of one or more of the other symptoms without contractures justifies the diagnosis. It is to this condition that the term "latent tetany" is applied. Even here, however, there is no consensus of opinion, some apparently limiting the term to the condition in which irritation of the muscle or nerve brings on contractures which are otherwise absent, while others consider the presence of even one symptom as pathognomonic and sufficient for the diagnosis. As a rule, those who recognize the existence of latent tetany consider it the same as tetany, differing from the latter only in degree. If these symptoms are to be considered as pathognomonic and sufficient for the diagnosis of tetany, whether the characteristic contractures are present or not, they should be always present where there are contractures and should never occur in other conditions. Trousseau's symptom and the facial phenomenon are sometimes absent, and often only temporarily present when there are typical contractures. Moreover, Trousseau's symptom is often met with in hysteria, while the facial phenomenon is found in many other conditions, as epilepsy, hysteria, phthisis and neurasthenia. Laryngospasm is frequent in tetany, but not constant, and is often seen in children who have no other symptoms of tetany. Convulsions and disturbances of sensation, as well as vasomotor and trophic disturbances, occur in many other diseases. It is evident, therefore, that these three symptoms—laryngospasm, Trousseau's symptom and the facial phenomenon—are not constant in cases which show the typical contractures of tetany, and that they occur in many conditions in which there is no question of tetany. Hence they can not be considered as pathognomonic of tetany, and do not, either singly or in combination, afford sufficient ground for the diagnosis either of tetany or latent tetany. They must be regarded merely as particular instances of increased mechanical or reflex excitability which may be the result of a very great variety of causes and pathologic conditions. The only pathognomonic symptom of tetany, therefore, is spontaneous, intermittent, paroxysmal muscular contracture. The term "tetany" should be applied only to those cases in which this symptom is present, and no cases of increased reflex excitability in which this symptom does not occur should be regarded as examples of the disease. The term "latent tetany," is therefore a misnomer and should be dropped.

ETIOLOGY.

Numerous theories as to the etiology of tetany have been advanced, and have found vigorous defenders and opponents. The question is still unsettled, however, probably partly on account of the differences of opinion as to what constitutes tetany, and partly on account of the inherent difficulties of the subject. The theory of the older authors that it is of rheumatic origin has long been given up. The position that it is merely a manifestation of hysteria must also be regarded as untenable. The theory that it is cerebral in origin was founded on an erroneous conception