WHAT ARE WE DOING FOR THE MENTALLY BACKWARD CHILD?

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This is intended to be a general discussion rather than a minute consideration of the subject.

What are we, as physicians, doing for the very young child who is evidently below the standard of normal mentality? Is he to remain so, or will he be given the opportunity to take his rightful place in human society?

The subject of "backward children" is an enormous one and embraces many types of backwardness from different causes, some of which are more or less removable or remediable. Many physicians seem to be satisfied to class them all as imbeciles or idiots, and to let it go at that. In taking this attitude, are we not shirking our duty?

What constitutes "backwardness?"

The cases vary as to type:

1. The child who is unable to keep fully abreast of his fellows at school. This is a very large class and, in many instances, the cause is slight, easily found and easily remedied. The removal of adenoids and the fitting of glasses often changes a child so that he may become normal.

2. A group of cases where toxic conditions are the underlying cause.

3. A very large number are due to partial or complete interference with the functions of the endocrine organs. Cretins are fairly easily recognized, but slight deficiency of the thyroid is not so easily detected. Trouble with the pituitary, adrenals, etc., is less understood and, when all are involved, the picture is even more obscure.

4. Syphilis of the nervous system is responsible for many cases of backwardness. If results are to be obtained in these cases, treatment must be begun early and be thoroughly carried out.

5. Injuries during birth may be so extensive that life itself soon ceases. In

others the injury is less marked, but leaves an impaired brain and a more or less marked spastic condition of the body. Still, the patient reaches adult life. The brain which is left is often capable of very marked improvement, and the orthopedic surgeon can do a great deal toward helping to overcome the physical disability.

6. As to the microcephalic cases, many of these are beyond hope, but some of the less marked show definite improvement.

A few years back, without thinking, I agreed to give a paper on backward children before an educational convention. When I began to write that paper a few days later, I found I knew nothing about it, and, I might add that I know very little more about it today. I tried to be released. The program was on the press and in ten days the convention was to be called to order. I took the train for New York. Finding nothing on the subject, I went to Philadelphia and there met Dr. Lightner Witmer, the psychologist. He was leaving that afternoon to deliver an address in Pittsburg, but gave me a very pleasant half hour at luncheon. Gentlemen, from that conversation with Dr. Witmer this sentence has constantly been running through my mind: "True idiocy is incurable, but no case is to be diagnosed as an idiot until all possible means of treatment have been exhausted." After this conversation I went out to Dr. Witmer's school, which then was in its infancy and contained but seven pupils. They showed me a little girl of seven or eight years, who had been brought there a few months before as a "staring idiot," a child who stayed where placed and never uttered a sound. I held quite a conversation with her. She told me about the Christmas tree which was in the room and dolls which she had received from the tree. The matron told me that this child had named these dolls without any suggestions from others. She had originated the names—a direct evidence of intelligence. From that day on I have tried not to tell a mother that her child was a blank and could not be improved. I have, in a number of instances, seen marked improvement follow, little brains awakened which looked utterly hopeless.

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There is a side to this question which, perhaps, is overlooked, and that is the parents of backward children. I know of no one who needs more encouragement—not pity—than the mother of a backward child. The child is ever-present. She can not get away from it. The burden is hers. Again I say she needs encouragement.

Are we doing our duty toward the parents of these children when we bluntly tell them that "the child is an imbecile or an idiot," or that "the child represents an accident of development and nothing can be done," or more humanely tell them that "the child may outgrow the condition," or, as one was recently told, "to wait two years and perhaps something could then be done?" If we could know positively the outcome of every case, we might be justified, although cruel, in our bluntness, but we are not certain in a large number of cases.

The most notable case on record is that of Helen Keller, as you know, a little girl blind, deaf and dumb, whose brain, when Miss Sullivan took charge of her, could not be reached in any way for months; and now that same little girl is a graduate of Radcliff College, writes beautiful English on the typewriter, and has even learned to speak despite her absolute deafness.

We learn from Vierordt that the brain doubles or trebles in weight during the first year, that it continues to grow rapidly up to the sixth year, and much more slowly up to the fourteenth year, when it about reaches its maximal size. "Changes in structural complexity may continue indefinitely." In order to get the best results it is essential that treatment should be begun early and pushed to the utmost while the growth of the brain is most active.

DIAGNOSIS

The Mongol and the markedly microcephalic child can often be detected in the first few weeks of life, but in the vast majority the backwardness can not be told with certainty under six months, and often not until a later date. Even with cretins, who present such a typical appearance later, the trouble is generally not suspected during the early months.

In most cases the backwardness is only determined by the fact that the child fails to do the things which normal children do at certain ages. The early symptoms upon which most reliance can be placed are: the facial expression, feeble or absent grip, marked inertia, failure to nurse, to hold head steadily erect, to sit alone, to reach for objects in a co-ordinated way, to notice things, to concentrate, to distinguish between mother, nurse and other people; and failure to walk or to talk at the proper age. The stigmata of degeneration are merely secondary signs and are not to be relied upon. They are merely confirmatory when connected with signs of mental dullness.

No boy or girl is responsible for the brain he or she possesses at birth, and is only partly responsible for the extent to which that brain is developed. In a sense all brains are blank at birth, and all possess the possibility of development to a greater or less extent. In some, the development, from one cause or another, has been very slight. In others, the development has been much less than it could have been had the child been taught to concentrate, obey, etc., in early life. In other words, the child who is allowed to follow its own inclinations in many cases turns out to be anything but a credit to its instructors. Other children, in less fortunate circumstances, but having learned through necessity to think and to exercise their brains, have later made remarkable records for themselves.

Leaving out those cases where there is evident gross defect in development of the brain, autopsies performed on so-called idiots or imbeciles, or feeble-minded persons, have shown brains which gave no apparent reason for the feeble-mindedness—brains which, to all appearances, were normal. The main differences between the brain of the most intellectual and the uneducated person are merely those which have been brought about by brain exercise, as muscles are strengthened and enlarged by use. I believe, if any perfectly normal person could have been isolated from birth, so that he could neither see, hear, feel nor exercise any of his special senses, that no impressions would have been made on that brain. In

other words, that brain would not have been exercised and would have remained in the blank condition in which it arrived in this world. That individual would have been a so-called idiotic or feeble-minded person.

What do we mean by a so-called idiotic or feeble-minded person? If we mean that every case has a gross underlying brain lesion and is incurable, then we have made a prognosis as well as a diagnosis and, consequently, doomed that child, so far as we are concerned, to permanent idiocy, because we consider him incurable and do not try to relieve him. If we mean that, for some reason the brain may be retarded in its development and that as a result of this retardation the child is either temporarily or permanently feeble-minded, we have merely made a tentative diagnosis of the present condition of the patient and have not given an unfavorable prognosis, and consequently are then in a position to hunt for and possibly find and remove the cause of the retardation. This is very frequently illustrated in the early school life of a child who appears stupid or feeble mentally, simply because he can not see nor hear from the seat he occupies. Again, occasionally we see an infant who appeared normal for the first few months—as long as he had a sufficient amount of thyroid secretion which had been absorbed from the mother during fetal life—begin to slow up and cease to develop both mentally and physically, because he could not produce his own thyroid secretion. After the picture is sufficiently developed, we today recognize the typical cretin and supply the necessary substances. The retardation gradually disappears and the child becomes normal, or nearly so. In the past a cretin was doomed to permanent idiocy.

In recent years disturbances of the pituitary, as well as other of the endocrine glands, have been found to be at the bottom of some cases, and I have no doubt that in the future many apparently hopeless cases will be relieved through animal therapy.

Again, we all know that other parts of the body, the teeth, for example, are delayed in their development by any protracted illness and later begin to grow again, although not to the same perfection,

after the illness is over. The same is true of the bones, where a properly balanced diet is lacking, as in rickets.

It seems to me that it is quite possible for the brain to develop slowly, or be retarded temporarily, if it does not receive proper material for brain growth. Disease may directly interfere with brain development either temporarily or permanently, partially or totally.

I have a little patient who evidently had an encephalitis following an attack of influenza last March. When I first saw him in August, 1919, at seven months of age, he had been sleeping for two months. He could not be aroused and made no sound. There was some spasticity. The pupils were contracted, unequal and irregular in outline. He did not concentrate and the mother did not know whether he could see her or not. A competent ophthalmologist reported no local destruction of nerve tissue and believes the failure to concentrate to be of central origin. This baby can now be aroused very easily, cries vigorously if spoken to sharply, concentrates, pupils less contracted but still unequal and irregular, and is beginning to notice things and stays awake for long periods. He is improving rapidly. How far he will advance I do not know.

On July 15, 1919, a little girl was brought to my office. I was tempted to say "hopeless." A microcephalic, two years old, was hard to resuscitate at birth, and has had convulsions and has been rigidly spastic since then. The mother was advised by her doctor when the child was eight months old that he could do nothing—"not to see any doctor, but let her outgrow it."

Examination showed the mental condition absolutely blank. The head was $16\frac{1}{4}$ inches in circumference (occipito-frontal); eyes, continuous nystagmus; pupils minutely contracted; head dropping in any direction; vacant stare; arms and legs extended and perfectly rigid, and the hands were clenched and could not be brought together in the mid-line. Any sudden noise or disturbance brought on a convulsion. She had to be carried in a horizontal or upright position, as her body could not be bent. The mother made the statement that the baby held up its head better at six months than now. On this I decided to try thyroid and iodine. I was amazed on September 16, 1919, to find that the arms and legs were hanging flexed and the baby was unfolding her hands and moving her fingers. The hands can now be placed in her mouth and her heels can be made to touch her buttocks. The pupils are normal in size and react. The constant nystagmus has gone and convulsions are much less frequent. The expression is less vacant. She can hold up her head for a moment and, when talked to, turns her head in that direction but does not concentrate. Treatment to date has been used for three months and one week.

Again, mental as well as physical development may be interfered with by toxic materials circulating in the blood.

At present I have a very interesting but rather complicated little backward patient nine months old. The mother inherited syphilis. She had a four-plus Wassermann, was treated, and for three years previous to the birth of the child had shown a negative reaction. Another Wassermann taken during pregnancy was negative. The baby had a suggestive saddle-shaped nose and repeated convulsions. During convulsions, and at times between them, the fontanel was bulging and tense. At other times it was sunken and soft. The child's spinal fluid was negative. This baby has been treated with mercury, both internally and by inunctions. The convulsions and backwardness, as shown by its facial expression, lack of co-ordination, inability to hold up its head or to sit alone, were still present when I fell heir to the case on September 16, 1919. I found that this baby had always nursed. The stools were always green or sour and full of mucus and curds, and the bowels had never moved except with both laxatives and enemas. The breast milk was very poor in quality and greenish in color. I continued the same anti-syphilitic treatment, added a malt-soup modified milk, administered small amounts of iodine and gave a daily dose of Epsom salts. The bowels began moving and the stools immediately became yellow. The child began taking interest in things. The muscles became more firm. She now sits alone and has had no more convulsions at the last visit. I have made no positive diagnosis and do not know the ultimate outcome. I believe, however, that the convulsions, with at least a part of the backwardness, were due to long-continued intestinal toxemia due to poor breast milk and to constipation.

A baby fourteen months old at first seemed to the mother to have been much better than when brought to the office. For the first few months she cried all the time. She was a breast baby. She had begun to sit alone, notice things, etc. Finally she became drowsy and stupid and was carried to Memphis, where she was treated for pyelitis. At the time I saw her she was a perfect blank mentally. She could be held in a sitting posture, but made no effort to sit alone. She would nurse, but would take no other food. She was perfectly quiet, did not concentrate, and the mother said she could not tell whether the child either saw or heard her. Her grip was very feeble. I burned matches before her eyes, held bright objects—almost touched her eyes with my fingers—made noise close to her ears, etc., and got absolutely no response. If I had had to make a diagnosis it would have been a blank, staring idiot. I told the mother I thought I could see a spark of intelligence way back in the eyes, but was not sure and could not promise her anything. As this was better than anything she had been told, she decided that she would try me. The urine was negative; the bowels constipated and, from time to time, there was diarrhea, offensive and showing undigested food. I tried

to get her to take her bottle and other food, but with poor success. She was treated for constipation and indigestion. Convulsions occurred from time to time. Blood count and Wassermann were negative. I gave iodine in small doses and also small doses of thyroid extract. I insisted that the mother continue to talk to her and show bright objects—try to attract her attention in every way—try to develop her grip, etc., trying to get contact with the brain through the special senses. The progress was slow. The mother continued to bring the baby to Atlanta from time to time. Finally we began to notice manifestations of some concentration and some interest in her surroundings. I had a very hard time to keep the mother encouraged and constantly on her job. However, I succeeded in getting perfect co-operation. At twenty-four months she was beginning to stand by chairs, saying "Papoo," "Mamoo," reaching for a watch, etc. While still decidedly backward, she was now showing very marked signs of intelligence. They now moved to another state. I gave the mother at that time a very encouraging prognosis and insisted upon her keeping up treatment, both as to medicines and education on the Montessori idea, etc. Letters gave very encouraging reports and stated that all treatment was being kept up. I was astounded when she came to my office on October 6, 1919, fourteen months after her last visit. The little patient is now three years and three months old. To look at her you would detect nothing abnormal. The facial expression is intelligent, the eyes bright, the old blank and far-away and, later, dull and tired expression, is gone. She walks and runs everywhere without hesitation. Her playmates are children six and seven years old and her mother says she keeps up with them—that she runs down hill even where she has to lean backward to do so. She repeats anything and uses single words—is beginning to put words together. She quickly touches any part of her body or clothing when asked to do so and apparently enjoys doing it. It is perfectly evident that she understands anything said to her and makes her wants known by signs. I told her mother to quit understanding her signs and make her talk. I wished to see her thyroid and said, "Throw your head back and swallow." She did so twice without a moment's hesitation. The movement of the thyroid was plainly visible. I realize that this child is not yet normal, as she does not yet talk much, but I know she has a marked degree of intelligence and believe fully that, by the time she is of school age, she will be able to take her place and will develop into a normal woman. It is needless for me to say that I am more proud of this case than any I have ever treated, for I have restored her to more than life.

TREATMENT

In regard to the treatment in general, I would say:

1. Never make a diagnosis of idiocy unless the size of the head rules out all possibility of any hope of improvement.

If I make that diagnosis I feel that I am handicapped to start with.

2. Have a Wassermann made to rule out syphilis or treat it, if found, and have the eyes examined by a competent oculist to exclude amaurotic family idiocy.

3. Examine the child thoroughly, and especially for evidence of insufficiency of the endocrine organs.

4. Examine the urine, stools and blood for evidence of any toxic conditions.

5. See that the child is well-nourished and that proper food is supplied.

6. Employ tonics and general hygienic measures, not forgetting to give plenty of water.

7. Try in every way possible to attract the attention and teach the child to concentrate the gaze; feel of the hands and educate the grip, the muscles and special senses. If I can get a child to concentrate and grasp my hand, I never feel that that case is hopeless.

8. Endeavor to secure the mother as an ally. Encourage and train her as much as possible without promising her anything. If she is intelligent and will co-operate, she makes the best possible trainer up to the time the teacher or the psychologist is ready to take charge.

I am not advocating that the physician become a trainer of backward children, but rather that he direct and push the development of the backward child from the earliest possible moment for a diagnosis to be made. This is the time when the removal of physical or physiological defects will bring the most marked results.

The psychologists and educators today are doing a most wonderful work in the redemption of older children, but too often a spark of intelligence which could have been aroused has been allowed to die for lack of assistance at the proper time. The physician alone can render this service to these unfortunates.

I know of no better ending for a paper of this kind than to repeat the sentence given me some years ago by Dr. Lightner Witmer: "True idiocy is incurable, but no case is to be diagnosed as an idiot until all possible means of treatment have been exhausted."

DISCUSSION

Dr. L. W. Elias, Asheville, N. C.—I think we all feel that this is one of the most important problems we have to deal with as pediatricians, namely, defective children. Most of us recognize these cases when they present themselves, and if there is anything this paper has done it has been most efficient in throwing a ray of hope into this dark subject.

Dr. Montessori achieved her initial reputation by taking backward children in Rome in their schoolhood and making normal children of them, and if this can be done with backward children, why can't we improve the normal child?

Dr. Boynton has given us striking examples of what can be accomplished in this class of backward children, but the keynote of his paper is hope, and I believe every one of us will go back to our work in a different attitude toward defective children.

As I know so little about the subject, I am going to ask Dr. Bisch, who is a psychiatrist and well versed in this matter, if he will, to take the rest of my time in discussing this subject.

Dr. Louis E. Bisch, Asheville, N. C.—I enjoyed Dr. Boynton's paper very much, but am sorry he did not go more deeply into the subject, which is an erroneous one. It is becoming a specialty within the specialty of neuro-psychiatry.

If I may offer any criticism whatever, I want it distinctly understood that it is constructive. I would like to emphasize the fact that the terms backwardness, feeble-mindedness, retardation, and so on, are used altogether too loosely. What we need, first of all, in connection with this subject—which has been termed clinical psychology—is a nomenclature; a number of pegs upon which to hang our knowledge, a system of classification to go by. The child must be studied individually from a physical, mental and psychological standpoint. The problem of testing a child mentally is a large one and the average doctor is absolutely incompetent to make the psychological tests and incompetent to interpret them, while the average psychologist without medical training is also incompetent.

Without wishing to cast any aspersions upon the medical profession, I want to point out most emphatically that this is a big subject which is only beginning to come to the fore and that it is still largely undeveloped. I became interested in this subject eight years ago and conducted clinics in regard to these cases in New York and also in Norfolk, Va., during the war.

It seems to me that the class of patients under discussion ("Backward Children") can be divided into four main groups. In the first place, the idiots. These congenitally feeble-minded can further be divided into, first, psychological groups, such as idiots, imbeciles and morons, and the special types such as Mongolians and Cretins, etc. These people can be improved a little, but frequently it is so little that it is practically a waste of time to try to do anything looking toward their improvement.

Dr. Seguin published a book on idiocy and a psychological method of educating the idiot. At Columbia University we found we could take

idiots and improve them, but it was a waste of time. The congenital aments belong in institutions.

Another type is the so-called cases of arrested development. These children are born normally, their initial development is seemingly all right; then something happens, such as meningitis or injury, perhaps, destroying the neurones in the brain substance. These people then become aments to all intents and purposes and should be treated in the same way as congenital aments.

A third type are the retarded cases. These are the cases that pediatricians see. They often have adenoids, enlarged tonsils, eye strain or rickets. There are hundreds of such cases and they are analogous to those Dr. Boynton had in mind. There is hope for them and these cases should not be loosely diagnosed feeble-minded or idiotic. Feeble-mindedness (amentia) is a clinical entity, and should not be confused with the ordinary types of retardation.

There are the functional types also—in other words, children who are retarded mentally because of functional nervous disease, and in whom we find neurasthenia, psycho-neuroses, psychopathic personalities and neurotic make-ups just like we do in adults.

In treating these cases they fall into two main groups, the private cases and those observed in the homes of the poor. There should be a clinic established in every community; there should be a mental specialist working in co-operation with the pediatrician. The diagnosis should be made early, long before the case becomes hopeless from every point of view. Questions such as this will arise: when did the fontanelles close? If they did, find out the reason for it. It may be of little significance, yet it may be the first symptom indicative of feeble-mindedness.

Dr. Philip F. Barbour, Louisville, Ky.—Like Dr. Elias, I am delighted to have heard this paper. It has infused into me a little hope for this class of cases.

I know of nothing more distressing than to have three or four patients come into my office with their mothers, grandmothers and aunts to consult me without being able to give them a cheery outlook on life. I am glad Dr. Boynton has found some way to help them. It is a good thing we are finding out some of the defects of the thyroid gland and cretinism are remediable. We may find some gland or group of glands is responsible for the Mongolian type of idiocy and be able to give help to these children, but it seems a hopeless kind of business, and very few of us have the time to give these children the kind of treatment mentally they ought to get.

In Louisville we have a clinic established for backward children, which is under the care of a very accomplished psychologist, who sees every child and makes a mental picture; he makes a Binet-Simon test of the child and pediatricians go over the child for physical defects of the eye, ear, nose and throat, and see if they can be corrected or eliminated. A psychiatrist also makes an examination, so that we get a complete record of every child, and we hope to accomplish something with it.

As pediatricians, there is one thing we ought to do, and that is to lay more stress on the prevention of idiots and imbeciles. We ought to stress alcoholism and syphilis and things of that kind which we know are at the bottom of our idiots and imbeciles. It is a good thing the world is waking up to the importance of these things. As doctors, we can say something to our clientele about right habits, of right thinking and of the danger of bringing children into the world that can not walk. While we can not do very much, we ought not to hold out blank despair to the mother without trying to do something for the child. Every voluntary movement we can get the child to make has its effect upon the development of the brain, and we ought not to stop working until we get the mothers working along with us. It is an awful thing to knock out hope from a mother's heart with an imbecile child, even though there is not much for us to accomplish.

Dr. Boynton (closing).—A great many of these cases can be immensely improved, and I think many of them can be actually cured, even though an exact, scientific diagnosis has not and can not always be made. I tried, in my paper, to stress the necessity of avoiding, if possible, making a diagnosis of idiocy, because of the hopelessness of the case if we accept this diagnosis. When this spastic, microcephalic case came into my office, I had absolutely no hope for any improvement. The mother said the child had held up its head a little better when it was six or seven months old than it did when it was two years of age. On this basis I tried the thyroid, iodine, and so forth, and, much to my amazement, the child limbered up. I do not mean that this child is cured, but greatly improved.

I suppose I have had fifteen or twenty cases, one of which I do regard as a cure after having worked with her for two years. She does not talk much, but answers questions intelligently and readily. I doubt if any one, after examining her, would pronounce her abnormal. She is only three years old now. All of these cases are improving—the ultimate outcome remains to be seen. Who can say what may be accomplished in this much-neglected field?