

ment should then step in to remove such obstacles and thus prepare for the exercise work those cases which present obstacles interfering with the complete employment of this means.

The use of exercises in these cases cannot be too strongly emphasized. This feature of the treatment has been emphatically insisted upon by all writers on the subject and abroad has received more attention than in this country. Certain observers on the subject have emphasized the need so strongly as to insist upon daily training and exercise of the patients for several years after any operative procedure has been attempted. It might be more strongly put that the exercise and all measures directed toward physical development should be persisted in during the growing period of the child independently of any operative procedures which may be found advisable from time to time.

Several authors have treated at length on this question of the operative treatment of spastic conditions. Hoffa considered this question of Little's disease and the operative treatment in connection with other measures. Spitzzy has considered the question more from the treatment of spastic and spinal paralysis by nerve transplantation. Among other men, Bisch, Redard, Meniers, Bradford, Gibney and Bartow have all contributed articles on this subject. Glaessner has written rather an extensive article in *Zeit. fur Orthop. Chir.*, in which this matter of the operative treatment in these conditions is fully discussed. All give testimony to the value of this measure of the treatment in properly selected cases.



## BORDERLAND CASES.

A. C. ROGERS, M. D., FARIBAULT, MINN.

AS our civilization advances effort is made to classify defective and delinquent children more carefully. We not only have our institutions for the feeble-minded, our training schools for delinquent children, and our special classes in the public schools, and our association for the study of the feeble-minded, but also now our association for the study of backward and delinquent children. In this latter group is included what I have termed for the purposes of this discussion, Borderland Cases. I have intended this term to be comprehensive enough and to include all those cases of abnormal children which do not properly classify with the typical feeble-minded, and yet I shall naturally view them from the standpoint of an institution for the feeble-minded.

It is not my purpose at this time to discuss the educational or social status of the typical feeble-minded for whom, by almost unanimous agreement upon the part of those who have given their interests the closest study, the state should provide permanent, village community homes.

Perhaps one might for the sake of convenience make the following tentative classification of the group under consideration namely: (1) backward children; (2) temperamentally abnormal children; (3) juvenile insane, and (4) moral imbeciles. In this group are the children concerning which there is the most doubt as to eligibility to a school for the feeble-minded, or advisability, and, in some cases, possibility of retention in such an institution. In this general group are the children that, from various causes, are taken home and given an opportunity to try the battle of life independently.

I use the term, *backward*, as applying to those children who are simply slow in development, but whose progress is continuous, not subject to the marked limitations that characterize the typical feeble-minded. The backward child, if his environments are reasonably favorable, is not necessarily a subject for institution training. He is the typical pupil for a special class in the public schools and he has in him the capacity for continuity of purpose and action. His horizon may not be broad, his ambitions high, nor his imagination vivid, but he is practical, industrious, persevering, and, within his sphere of activity, will make a success. The public institutions occasionally find such children in their population, however, and they make the most satisfactory pupils and either go out to care for themselves or become reliable attaches to the institution, their superior ability being readily recognized not only by the medical officers and teachers, but by their former pupil associates. This class presents no special problem to the institution though some of the individuals may

puzzle for a time their public school teachers. (Illustrative cases, 800, 461, 224, 541, 239.)

The *temperamentally abnormal* child requires very careful individual study and training. His powers of observation and reasoning and his memory for facts are as good as those of the normal child, and yet he seems to possess a distorted perspective of life and is thoroughly out of harmony with his environments. He often is not, and feels that he is not, properly understood and is usually of a sensitive disposition and lacking in self-control. Correction of faults is particularly depressing and irritating and as such children develop, unless very judiciously trained, they become constantly further out of harmony with their surroundings, and if not actually insane, at least so eccentric that they lead isolated and unsocial lives. (Case X.)

The *juvenile insane* seldom, or never, pass beyond the problematical state. They often make good workers and when employed industriously exhibit the minimum of the erratic characteristics. Industrial training with pleasant diversions without free stimulation of imagination is, in my opinion, the best training and treatment for this class. (Case 166)

The class which we are accustomed, for want of a better term, to call *moral imbecile* are, of all the borderland cases, the most difficult to successfully handle because nothing appeals to them permanently except that which satisfies their selfish desire. I will not discuss this class at length but simply add that the people who give us the greatest trouble in institution life belong to either the temperamentally abnormal, the juvenile insane or the moral imbecile classes, and very often the line of demarkation is not very well drawn. They make our chronic runaways, our mischief-makers in the institution and are always demoralizing influences when outside.

I agree thoroughly with those who, following Dr. Kerlin's suggestion, would prevent moral imbeciles from learning to read and write or obtain any form of education that will enable them to increase the amount of mischief of which they are capable. Three or four cases who have received school training and been permitted to become wise in the knowledge of the outside world are today the source of more anxiety and trouble than any other fifty cases with which I have to deal. They are not successful outside although they may work for a while when help is scarce and receive good wages, but they make bad use of their money, are improvident and vicious and when they seek the protection of the institution, after every other resource is exhausted, they are thoroughly demoralizing to the discipline of the institution and their influence is exceedingly corrupting to their associates. One hesitates to forbid them an asylum when trouble comes and yet feels compelled to do so.

I have long believed that with this class of persons there should be a special statutory provision that would permit placing them under permanent custody by an act of the court, each case to be decided upon its history and merit.

I have said that in these borderland classes are found those who for various reasons will be taken out of the institution and given a trial in the struggle of life independently, but I do not mean that all who are taken out belong to this class.

In this connection I have thought it might be of interest to check over the list of inmates that, during a stated period of time, have passed out of the Minnesota institution for feeble-minded, and see what they represent. For this purpose I have taken the last decade because it would represent conditions after a fairly complete stage of institutional development had been reached. I should also state that the Minnesota institution receives all classes of children who, by reason of mental weakness, are unable to receive instruction in the public schools, there being no age or other limitation except as stated.

From Jan. 1, 1896, to Jan. 1, 1906 I find that there have been 663 inmates dropped from our rolls.

342 of this number have died.

37, have been deported or removed to other states or countries.

15, have been transferred to other institutions because of improper classification.

1, placed in state public school.

1, in school for deaf.

1, in school for blind.

12, transferred to hospital for insane.

1, discharged as incorrigible.

2, discharged as insane and sent home.

Of the other 266, dropped,

27, died at home.

51, returned again to the institution.

3, were sent to private institutions.

94, are known to be at home.

91, are unaccounted for.

Of the fifty-one who returned to the institution, their average attendance in the institution previous to being taken home was three years and eighteen days, and the reasons given for their return were as follows:

18, too great a care at home.

20, could not be controlled (these were children whose parents expected to attain better results by private and special teaching, but failed.)

6, were in ill health when taken home and afterwards improved and then returned.

3, returned for better (medical) treatment.

2, parents or responsible friends, died.

2, returned of their own accord.

In the group of ninety-four who are still at home are represented all degrees of inaptitude (about twenty-five being practically helpless, but

the parents and friends are in a position to care for them and willing to do so.)

The number reported as not self-supporting represented an average time in the institution of three years, five months and two days.

Of those reported as self-supporting, the employments are as follows:

#### BOYS.

- |  |                                  |
|--|----------------------------------|
| 1, helper in street car barn.            | 5, farm hands.                   |
| 1, " " livery barn.                      | 1, in barrel factory.            |
| 1, elevator boy.                         | 2, in flour mill.                |
| 2, in the army (1 bugler and 1 private). | 1, attendant in insane hospital. |
| 1, helper in installing gas machines.    | 1, working with lumber company.  |
| 1, working on range.                     |                                  |

#### GIRLS.

- |                     |                            |
|---------------------|----------------------------|
| 3, doing housework. | 1, working in bag factory. |
| 1, nursing.         |                            |

6 girls have married and two of them had one child each. The girl employed in the bag factory expected to be married soon.

### ILLUSTRATIVE CASES.

#### BACKWARD CHILDREN.

F. P. (800) Fourteen years of age when admitted and remained in the institution three years; hearing defective, otherwise physically normal. In school could read and write and work simple fractions in arithmetic; could draw fairly well with pen and ink; always industrious and patient at his tasks whether in school or at prescribed industrial work; always well behaved. His first work outside was in a store where he received \$10 a month and board. Of late he has been employed to assist mechanics in putting in gas machines. Received \$6 per week. He is frugal and helps to support his parents.

C. D. (461) Fifteen years of age at time of admission. No physical deformity. Was in school six years, reads and writes well. Did good work on farm and faithful as driver of delivery wagon and as a mail carrier. Pleasant and courteous in disposition. Left the institution in 1899 and during the seven years at home he has worked for various farmers but mostly with a lumber company. He supports himself entirely. He is a member of the city band in one of the northwestern towns.

A. E. (224) Twelve years of age when admitted. Imperfect speech but no other physical defects noted. Was in the institution ten and a half years. Could read in second reader and write a fairly good letter; was superior for a backward boy in arithmetic and number work. Was always industrious and faithful at any kind of work assigned him. Has been at

home about eight years and during most of this times has supported himself and his mother. He visited the institution recently and assured me that he had \$500 at interest in the bank.

G. B. (541) Nineteen years of age at time of admission. Remained in the institution five and two-thirds years. Was too old to be assigned regular school work except training in band. Was given systematic employment in barn, chores and driving, as the discipline of consecutive occupation seemed to be the requirements in his case. He has been out of the institution about ten years, employed in pine woods, livery stables and on farms, and most of the time has received good laborer's wages. Visited the institution last December and stated that he was receiving \$30 a month. He claims to have some money laid up although it appears that he loans most of his surplus wages to his relatives who owed him at last accounts between \$200 and \$300.

T. W. (239) Eight years of age at time of admission. Rather deaf and markedly willful but perfectly amenable to control by those who understand him. Typical case of backward child who becomes a permanent attache to the institution. Passed through systematic school and industrial training. Receives \$10 a month as farm helper and teamster always faithful and reliable. He pays for his own clothing and incidental expenses and lives as independently as any employe. His team is the pride of the community.

#### TEMPERAMENTALLY ABNORMAL.

Female. (X) Twenty-one years of age at time of admission. Possessed good common school education; an orphan child, adopted. Foster parents indulged but had not been successful in management of child. They consider her unreasonable and ungrateful and she felt that she was too much restricted, too severely criticised and misunderstood generally. After admission she was nervous and hysterical and spent her time after first admission in writing to friends concerning her horrid treatment by her foster parents who had sent her to the institution simply to get rid of her. I found her so much more capable intellectually than I had been led to suppose from the application that I found myself at first in sympathy with her attitude toward her foster parents. Systematic employment, especially in sewing and plain and fancy needlework, which she performed nicely, encouragement where merited and quiet restraint of her impetuous feelings, soon changed her disposition and developed a healthy ambition. It seemed to me that this was a striking case of temperamental abnormality that ought to be radically improved, so my first and earnest thoughts were directed towards releasing her from the inmate relation of the institution; her foster mother having died, it seemed unfair to throw the responsibilities of the care of the home for the foster father upon her inexperienced shoulders, at least until a much longer trial had been made

of her independent capacity. She was discharged and placed among the employes of the institution in the close association of a responsible and sympathetic woman, and has so much improved in every way that she is carrying her work quite successfully. Her nervousness and tendency to hysteria occasionally manifest themselves but not nearly so much so as formerly.

#### JUVENILE INSANE.

M. K. (166) Seven years of age at time of admission. Had been committed to a hospital for insane. Was often excited to the point of frenzy. Would jump and tear his hair and often strike his head vigorously against the wall. Was amenable, however, during a portion of the time to regular school training and learned to read and write, to add, subtract, etc., and count money and make change for small amounts. He early developed a special pride in his writing and occasionally called attention to the fact that he could write better than the Superintendent, (which was true.) In industrial work he became quite proficient and was exceedingly helpful on the farm and in the garden, and also became an excellent milker. Occasionally, however, he would exhibit outbursts of frenzy and unreasonableness and his letters are always full of inconsistencies and extravagant statements. His imagination is exceedingly active. He has been allowed to try work outside for several summers and during one season was in Montana living with a sister and working in the mines, and while he has worked well wherever he has been for a time, he has always sought the motherly influence of the institution after each of these periodical outings.



SOME ABNORMALITIES OF PHYSICAL DEVELOPMENT ASSOCIATED WITH MENTAL DEFICIENCY AND SOME TYPES OF THE FEEBLE-MINDED.

J. MOORHEAD MURDOCH, M. D., POLK, PA.

Though it is very true that we cannot properly judge the mental status of an individual from his appearance; and though marked physical imperfections are frequently found in individuals of normal or even unusual mental attainments, it is still a fact that physical imperfections are much more frequent among the mentally deficient than among the mentally normal. Particularly is this true in regard to shape and size of the head. The average circumference of the head, for man, is 21.8 inches; for woman, 21.1 inches. In an adult whose head measures but 17 inches in circumference there is, almost without exception, stunted bodily growth and non-development of the higher cerebral faculties.

Heads with a circumference much greater than the normal are as a rule due to hydrocephalus in early life, though occasionally to hyperplasia of the cerebral substance. In either case, almost without exception, the individual is dwarfed and instead of the large head being accompanied by great intellectuality, the reverse is the rule.

In the comparison of various-shaped heads the cephalic index is of great interest and value. This, as you know, is obtained by dividing the greatest transverse diameter by the greatest antero-posterior diameter and multiplying by one hundred. Normal variations in the cephalic index range between 75 and 85, an abnormally long head giving a cephalic index below, and an abnormally short head a cephalic index above the normal.

The English and the Negro have, as a rule, long heads. The Germans, and in fact the majority of continental Europeans, have short, round heads. As would be expected, there is no uniformity in this respect in the inhabitants of our country.

Mongolian imbeciles have short, round heads with a cephalic index from 87 to as high as 100. A Mongolian imbecile in the institution under my charge has a cephalic index of 100. Long heads are not so frequent among the imbeciles but are not at all uncommon. One girl whose photograph was shown has a cephalic index of 64.5.

Aside from the abnormalities of shape and size of head, abnormalities of the scalp, the palate, the teeth, the ears, the nose and face; abnormalities of bodily form, the genitalia and the extremities are of much more frequent occurrence in the feeble-minded than in the mentally normal.

Owing to the plasticity of the tissues in youth the features of the imbecile, as a rule, portray his mental defect to a much greater degree than do the features of the insane, whose mental aberration is acquired later in life.