

solution, arise which are of the utmost importance from the practical standpoint of care and training: First, the question as to the different kinds of things cases of each mental age are capable of doing without training; second, the question as to the kinds of tasks they are capable of learning to do under training. A solution of the first problem would enable us to put every case admitted at once to any one of a number of tasks for which we knew his grade of intelligence to be sufficient, without loss of time. A solution of the second problem would enable us to outline at once his course of training covering years of time, without experimenting and waste of effort. Let me add here that at present we know really very little about the training capacities of the different grades of feeble minded. Our knowledge of what normal children of different ages can learn to do does not help us much, because the normal's grade of intelligence does not remain constant long enough. The feeble-minded adult with a mental age of eight can learn to do many more things than we ever find the normal child of eight capable of doing, simply because the former has many years to the normal child's one year in which to learn to do them while he is mentally eight. In my judgment there is nothing that seems more promising and practical for any large institution for the feeble-minded to do than to take a list of industrial tasks, supply the necessary equipment, and determine what grades of intelligence are adequate for taking the training required in learning to do these tasks. It would not only make the existing feeble-minded much more useful, but, by making the institution more of an industrial home for trained, if not skilled, labor, it might become more attractive for the higher grades, which for eugenic reasons we want most but get least.

3. Re-Examination of Inmates.—One of the oldest and most discussed questions about feeble-mindedness is that of the permanency of the condition. The new method of determining grades of intelligence with mental tests gives the possibility of solving it, but has not yet done so to the satisfaction of all. We have begun to re-examine most of our inmates. The results, together with those of other investigators in other fields, indicate that the majority of feeble-minded children keep on developing in intelligence in about the same way as do normal children, but at a slower rate. There is also good evidence that a large minority develop at quite irregular rates, relatively fast at first and much more slowly later, stopping entirely before normals do, degenerating after they have stopped, and various combinations of these conditions. It is evident at least that these re-examinations of the feeble-minded are necessary if a close record is to be kept of their mental progress.

4. Courses of Instruction and Training In Use of Mental Examining.—At various times instruction and training have been given in the methods of mental examination and in the use of the Binet-Simon tests to persons from public institutions and schools. About seventy-five have received training in the use of mental tests at the school for feeble-minded during the last three years. The use of the tests was also demonstrated in a number of other institutions and public schools on different occasions. The immediate object for this was simply to meet the demand, and to further provide for this demand regular courses of instruction and training were authorized by the laws and approved by the Board of Control in May, 1913.

Six weeks summer courses are now a regular part of the Work of the research department. These courses, however, have a further object besides that of furnishing instruction to those wanting it. This is the help it will lend in handling the problem of feeble-mindedness itself. One of the main reasons why such a small percentage of the higher grades of feeble-minded do not receive special cure and training is because the public schools are not equipped for the ready diagnosis of the condition of feeble-mindedness in public school children. Even where special classes for the so-called "backward" children are established, and this is in less than 15 per cent of the public schools of the country, the existing feeble-mindedness is usually not recognized. In this way the public schools are today unknowingly one of the factors that perpetuate feeble-mindedness, by helping to pass the higher-grade feeble-minded out into society as they grow up, instead of doing all that is possible toward their segregation. To train public school teachers in the use of the methods of mental examination, thus giving them a more ready means of recognizing feeble-mindedness in public school children, even though they remain far from being expert examiners, should in time do much for the eugenic phase of the problem.

Dr. A. C. Rogers, School for Feeble-Minded: Mr. Chairman, Gentlemen and Ladies: In a general way the research department at the institution for feeble-minded and colony for epileptics stands for anything and everything which will throw any light on either the nature, the extent, or the cause of mental deficiency or epilepsy. To be successful, certain things are especially important in any research work. First of all there must be some definite, fairly clear idea of what is to be worked out. That is obvious. It might happen once in a long while that the dropping of a little sulphur and a little rubber on a hot stove would enable a Goodyear to vulcanize rubber, to produce a combination which he had been looking for for years. It might happen once in a thousand years that an apple falling on an Isaac Newton's head would suggest the law of gravitation and result in working out wonderful mathematical problems. But Edison has not obtained his results in that way. He has had definite problems in mind and he has worked for definite ends, and if he found in the course of his investigations that his methods were wrong, he simply worked some other way. Those wonderful results of Mendel were not the result of any haphazard work, but the faithful, conscientious work of months and months, involving eighteen thousand definite experiments. That is the way results in science are obtained and the only way that any real progress is made. So, first, there must be some clearly defined purposes. Next, there must be those who are trained technically, who know the conditions, characteristics and reactions of the materials that they work with in order to evaluate those reactions, and make their results conclusive.

Then there must be, in addition to that, the financial support of those who do the work, because the enthusiasm that is necessary, in addition to the technical knowledge of the investigators, must not be marred or chilled by the constant thought of the wherewithal with which to get their daily bread.

Then there is a fourth requisite, the clinical material, in whatever line of study it may be, and it must be abundant, because only in that way are the variations in the experiments obtained, the proper comparisons made,

and consequently the deductions secured that can have a broad application.

Now, work that has been undertaken at the school for feeble-minded and colony for epileptics, has had for its definite purpose additional information concerning the nature and extent of mental deficiency. What mental deficiency is, and how it has been studied from the standpoint of laboratory reactions, Dr. Kuhlmann has already told you. The doctor is so very modest about everything that he does, that I do not know whether you really appreciate, even after hearing his paper, what it represents in the way of investigation, the immense amount of work involved.

As to the extent of mental deficiency in this state, our work has been mostly confined to a study of the families represented in our institution. The result for something over two years is shown here in this summary. (Wall chart.)

The number of families studied up to the first of August was three hundred seventy-seven, representing four hundred seventy-seven inmates, or patients, in our institution. This work has involved a study of our people in the field—that is in their homes and home communities. Our field workers have charted the individual families as completely as possible and covering as many generations as possible. Over against the four hundred seventy-seven feeble-minded in our institution, we have obtained in the studies definite knowledge of one thousand seven hundred forty mentally deficient people in the same families, covering the different generations as far as we are able to obtain information. The studies involved a charting of thirty thousand two hundred seventy-three persons, of whom some definite knowledge of the characteristics and social reactions was obtained for about one-half.

The whole subject of mental deficiency touches society, as has been stated before, in several ways. First, in the way of pauperism. The chronic pauper family is always the feeble-minded family, and yet it is only just recently that this fact has been recognized. We have been so in the habit of considering isolated individuals and forgetting that those individuals represent a defective strain.

It touches on criminality. Mental deficiency is now being recognized as a fundamental cause of a good percentage of criminality and is now being dealt with in a preventive way. As these cases come before the juvenile court, they are, so far as possible, turned over for segregation in village community homes instead of being committed as criminals, to become recidivists.

It touches the public schools, and here is the place to do a large amount of sorting of cases.

I will now show one charted family study, one of the last prepared. (Wall chart used.) In this family there are one hundred eighty-seven people charted, of whom one hundred ten were unclassified, ten normal, twenty-one feeble-minded, three epileptics, two insane, eleven sex offenders, six alcoholic, two paralytic, five nervous, two migranics, eleven died in infancy. There were seven miscarriages and two died young. We can only note a few things in detail in passing. The family is very immoral and is known as a family of prevaricators,—a family of liars: "the truth is not in them."

There were incestuous relations between two of the sisters and the brother and the father. Another girl is immoral in the same way. She was in the third grade in the public schools, making indifferent progress, and is of the mental age of fourteen. She had two illegitimate children, the paternity of which is in doubt, as she had relations with both her brother and her father, and yet one of her children is very bright. There is a story which has never gotten further than a little gossip—the field worker has never been able to verify it—to the effect that she was met out in the woods by a hunter, and this child's paternity was due to the hunter. It has some justification in the fact that the child seems entirely different from any of the rest of the fraternity.

One child was hydrocephalic, and could neither walk, nor talk, a low-grade idiot.

The only one that is making any headway at all, is a boy. He owns a little land and is making a better living than the father, and yet he is recognized as being one of the insignificant citizens of the community, though not dependent upon the community. That is the best that can be said for any or the family. They are practically all feeble-minded.

The father is of bad stock. He is immoral, and a very ugly man. The only thing he has to his credit in the community is that he fought the Indians in 1862. Aside from that, his history has been that of a very bad man, ugly, cross, irritable, lazy, and everything that he should not be.

The mother is quite an old lady now, of low mentality. She can't understand why this girl should not be at home helping her. She says the girl is all right mentally, that there is nothing the matter with her. That is the situation we are up against very frequently. Parents themselves who are quite mentally deficient, do not appreciate what it means to have mentally deficient children. It is no problem to them. They feel as if segregation, putting them in a public institution, is a shame and a disgrace, when they could be at home helping them.

We never have trouble in taking care of the girl from better and more intelligent families, whether there is a strain of deficiency in the family or whether it is an acquired case. They usually recognize the necessity of the detention of such a girl. It is in the families where the parents are distinctly mentally deficient that we have the trouble.

That is just simply a rather typical chart. They all show similar conditions, only with variations.

We find, as we go on, more and more of the connecting up of certain families of which we had no suspicions before. Recent investigation shows the distinct descent of a certain mentally deficient and degenerate family, from some of that old penal stock that was sent over to the southern coast of North America by our good English fathers. We are getting some of the results of it in some of the public institutions today. We feel that the field investigation should be pushed with still more vigor, as it is throwing much light on the nature and extent of the general problems.

There are other phases of this problem that need investigating. The actual physical, anatomical and pathological conditions have never been as thoroughly studied as they should be. We have much reason to believe that a careful examination of the brains of all these children and people who are distinctly mentally deficient, would disclose the fact that certain of the

brain cells are not fully developed, or the number is smaller than it should be. It is entirely possible to have a large number of the brains of the children carefully examined after death with a view of definitely determining this point, there being abundant material available of all degrees of mental defect. It simply means that someone of approved technical ability and experience must give constant time to this one study for a long period. We hoped that we might be able to have this sort of work done at the university, and it has some material now of ours for examination, but as a matter of fact, the professors and their assistants are, from the very nature of the thing, obliged to give their attention to the teaching and so can do little research. If the time does not arise soon when they can select a few that can give their whole time to laboratory work, we ought to supplement their endeavors and have investigators doing that very sort of thing. The field of investigation is almost unlimited, and yet exceedingly promising. We should not duplicate work that is being done at other places unless such work is necessary to assist them in some way, but we should select a particular line of research that will contribute something entirely new. Work is being done in the east among children to see what effect changes in nutrition have to do with tissue building, but that is a branch of study by itself. And so I say the field is almost unlimited, and we hope that we can be the means of promoting something additional as a definite contribution to the problem.

Geo. A. Franklin, Superintendent of Schools, Fergus Falls: I am very glad to be here. I see Ave who deal with public school children have something in common with almost all the institutions. We have in our schools nearly all grades of mentality, some partially blind, some partially deaf, so our work correlates rather closely.

I suppose Dr. Rogers was giving us a little hint that, we ought to take hold and help in this research work. I wish we could do it. The doctor told why we could not do it. We haven't the time or the money or the trained people to do it, but I wish the time would come when we could find out where we should draw the line, where we should say, "This child should not attend the public school for his own good and that of others." All these questions could then be settled. I suppose there are cases of this kind about which we ought to know. I hope the time will come when we shall know just which ones we should segregate, and how to better care for those who remain with us.

I thank you for being allowed to be here to listen to your reports and discussions.