

N. E. A. Commission.
Education of the mental defective,
the blind, the deaf and the
Crippled.

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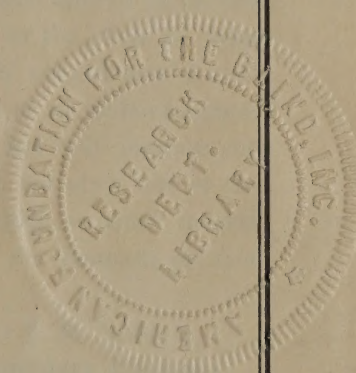
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Education of the

MENTAL DEFECTIVE,
56 the BLIND, the DEAF
and the CRIPPLED

in the

Public Schools



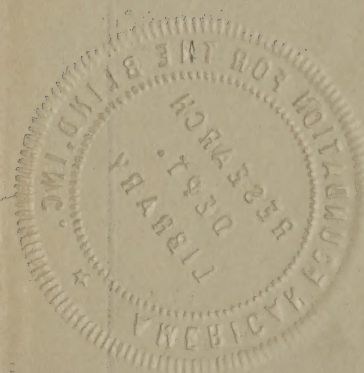
A Report Prepared for the N. E. A. Commission
on the Revision of Elementary Education

submitted 1922

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FOREWORD

The nature of this report upon education in public schools of the Mental Defective, the Blind, the Deaf and the Crippled, and a statement of the experience and the distinctive work of those that have contributed to it, are set forth in a Preface by Anna Laura Force, a member of the Committee on Revision of Elementary Education. The introductory chapter by Clara Harrison Town outlines briefly, but with sufficient fullness to make clear every salient feature, the problems of such education and of the methods that have been applied in various efforts to solve them. The report itself is of such value to the study of these important branches of our public school system, as to amply reward careful consideration of all interested in education whether as citizens or as philanthropists.

It is therefore submitted with confidence that it will not only increase the high esteem in which are already held those that compiled it, but prove one of the most instructive contributions yet made to a subject to which so much earnest thought and painstaking work has been given by some of the foremost masters and authorities in the educational world.

MARGARET S. McNAUGHT,
Chairman of the Commission on Revision of Elementary Education.

PREFACE

The following report upon the education in the public schools of the Mentally Defective, the Blind, the Deaf, and the Crippled was prepared by specialists who have done outstanding work in these special fields. This study was begun in 1918 under the direction of the National Education Commission on the Revision of Elementary Education.

It has been the aim of the committee to present the best type of organization and method of procedure for classification of pupils according to results of mental and physical tests. Recommendations have been made in simple and direct language so that superintendents, supervisors, and teachers interested may classify and organize their schools upon a psychological and pedagogical basis.

The Table of Statistics is the result of a careful survey through questionnaire returns and reports. It presents to the student a picture of progress made and possibilities for further study by those interested in the scientific aspect of this problem.

Dr. Clara Harrison Town as chairman deserves the credit for assembling the material and especially for the exhaustive report upon the education of the Mentally Defective in the public schools.

As a member of the Commission on the Revision of Elementary Education and as responsible for this report, I take this opportunity to thank the contributors and all school officers who have responded so generously to questionnaires. I also wish to express my indebtedness to the members of the committee who by their splendid co-operation have made this report possible.

Respectfully submitted,

ANNA LAURA FORCE,
Member of Committee on Revision of Elementary Education.

REPORT OF COMMITTEE ON THE REVISION OF THE EDUCATION OF THE MENTALLY DEFECTIVE, THE BLIND, THE DEAF AND THE CRIPPLED IN THE PUBLIC SCHOOLS.

(Submitted February, 1922.)

The Committee was appointed by the Commission on the Revision of Elementary Education of the National Educational Association in 1919.

Member of Commission in charge of investigation—Anna Laura Force, Denver, Colorado.

MEMBERS OF COMMITTEE

Clara Harrison Town, Ph.D., Psychologist, Children's Aid Society, Buffalo, New York, Chairman and Writer of Final Report.

Francis N. Maxfield, Ph.D., Director Bureau of Psychology, Department of Public Instruction, State of Pennsylvania.

Donald G. Patterson, A.M., Professor of Psychology, University of Minnesota.

S. Alice Russell, Psychologist and Director of Special Schools, Denver, Colorado.

Clara Schmitt, Ph.D., Psychologist, Child Study Department, Chicago Public Schools.

Arthur H. Sutherland, Ph.D., Director Department of Psychological and Educational Research, Los Angeles City School District.

Robert W. Woolston, Superintendent of the Illinois School for the Blind, Jacksonville, Illinois.

Josephine E. Young, M.D., Director Orthogenic Clinic, Rush Medical College, Chicago, Illinois.

INTRODUCTION

We do not have to turn back many pages in the history of public education in the United States to find the day when the function at the school was fulfilled if the children were exposed to a certain set educational régime. Today the requirement is quite other than this. It is to provide for *each individual child* the educational aids necessary to *its* fullest possible development.

Individual differences in the original endowment of children are now recognized and with this recognition comes the realization that if children vary in endowment so must their school work vary in kind and in amount. It is now required of the schools that the curriculum be flexible and that it be adjusted or changed entirely to fit the needs of each and every pupil, whatever may be his peculiarities, his inferiorities, or his superiorities of endowment.

The children who formerly, on account of mental inability to cope with the regular school work, dropped out of school or lingered indefinitely in the lower grades, are no longer allowed to drift. They are gathered together in small groups and given special training adapted to their needs. The children, who formerly, on account of superior mental ability found themselves bored and idle in the regular grades, are no longer allowed to waste their time and form habits of mental laziness. They are given work adapted to their abilities. The deaf, the blind and the crippled children, who formerly found no place in the public schools, and who, did they wish an education, were forced to seek it at a residential school, are now especially provided for in the public schools.

Not in all school systems has this special education of atypical children been introduced. In the larger and more advanced school systems it has for some time been an accomplished fact, and the example set by these systems is rapidly being followed in all parts of the country. Each year more and more cities establish special education for the mentally defective, the blind, the deaf, and the crippled. Ten States have made statutory provision for public school instruction of the mentally defective, eleven States have made such provision for the deaf, nine States for the blind and five States for the crippled. In several of these States the statutes go so far as to make mandatory the formation of special classes in all school districts in which a specified number of children who require it are discov-

ered, and to provide for a liberal contribution toward the support of such classes. Such State action is necessarily followed by the inauguration of the work in large numbers of cities. Wisconsin's list of twenty-four cities supporting classes for the deaf is a good example.

At present we have records of classes for the mentally defective in one hundred and eighty-two cities, of classes for backward children in seventy-four cities, of classes for the blind in twenty-two cities, of classes for the deaf in seventy-eight cities, and of classes for the crippled in fourteen cities.

The organization and conduct of these classes and schools for the mentally defective, the blind, the deaf and the crippled entails many difficult problems, problems not only difficult on account of their novelty, but intrinsically difficult. The picking out of the mentally defective children, the analysis of the mentality of these children in order to arrive at a knowledge of their various abilities and disabilities, as a basis for their pedagogical training; the securing of treatment for their many and various physical defects and disorders; the organization of classes; the equipment of classes; the arrangement of curricula; the training of teachers; the salary of teachers, all are problems concerning which school systems inaugurating special education are eager for guidance.

This report is an effort to put at the disposal of such school systems the fruits of the accumulated experience of their precursors in the work. It is an effort to present as succinctly as is compatible with the nature and the number of the subjects discussed, the salient problems involved in each subject, together with tried and practical methods of meeting these problems.

If it proves to be of practical assistance to superintendents in the organization and in the conduct of special education for the mentally defective, the blind, the deaf and the crippled, it will have fulfilled its fundamental aim.

If it succeeds in leading some readers to a realization of the importance to society at large of the public school work with the mentally defective, and in leading these readers to the sobering reflection that as yet no public school system has used its unique knowledge concerning the feeble-minded children in the community to induce more adequate State aid for the feeble-minded, it will have fulfilled another aim.

If it succeeds in leading some readers to a keener realization of the necessity for thorough individual psychological analyses as the basis for individual pedagogical training of the mentally defective, the deaf, the blind, and the crippled, it will have fulfilled still another aim.

Finally, if it succeeds in raising to a higher level the special education departments of our public schools and so makes living for these pitifully handicapped children a fuller, richer, and happier experience, it will have fulfilled its chief aim.

CLARA HARRISON TOWN.

REPORT OF THE COMMITTEE ON THE REVISION OF THE EDUCATION OF THE MENTALLY DEFECTIVE, THE BLIND, THE DEAF, AND THE CRIPPLES IN THE PUBLIC SCHOOLS.

The committee appointed to prepare recommendations concerning the revision of the education of the mentally defective, the blind, the deaf, and the cripples in the public schools concluded that such recommendations could be intelligently made only on the basis of accurate knowledge concerning what was already being done for these classes of children in the schools throughout the country. It therefore determined to send inquiries to all State departments of education, to all State boards of charity, and to superintendents of all city school systems of a size sufficiently large to be likely to contribute some methods of value. The purpose of this investigation was not so much to collect statistical information in regard to the quantity of work being done for the various defective classes, as to ascertain exactly what methods were in use for their selection, classification and subsequent training.

The work of obtaining this information was apportioned among the committee members and questionnaires, in most instances accompanied by personal letters, were sent out. The information furnished by the replies is presented tabulated under cities¹ and also under States.² In addition are presented separate compilations concerning:

1. State laws concerning and State aid providing for public school classes for defective children.³
2. Varieties of industries used for the training of mentally defective children.⁴
3. Professional requirements for teachers of classes of mentally defective children.⁵

As the demand for teachers to teach classes of mentally defective children is far in excess of the supply, inquiries were sent to the universities and the better known colleges concerning courses offered in preparation for this type of teaching. A list of universities and colleges and a few other institutions offering such courses is presented. In some instances the courses are briefly described.⁶ Universities and colleges offering clinical aid to public schools are also listed.

The returns indicate that:²

- 182 cities support classes for mentally defective children.
- 74 cities support classes for backward children.
- 10 cities support speech corrective classes.
- 22 cities support classes for the blind.
- 41 cities support classes for the deaf.
- 14 cities support classes for cripples.
- 157 cities use psychological tests in the selection of mentally defective children.
- 98 cities depend upon teachers for the mental testing.
- 54 cities employ psychologists to make mental examinations.
- 6 states employ psychologists to classify children and to establish special classes in the smaller school systems.

Psychological aid is in many localities offered to the public schools by university, state or local clinics.

¹Statistical Table I, Page —.
²Statistical Table II, Page —.
³Appendix, Page 83.

⁴Appendix, Page 85.
⁵Appendix, Page 86.
⁶Appendix, Page 88.

RECOMMENDATIONS CONCERNING THE EDUCATION OF THE MENTALLY DEFECTIVE IN THE PUBLIC SCHOOLS.

The recommendations concerning the education of the mentally defective in the public schools are presented in the two following sections:

The first section discusses:

1. The fundamental aims underlying the organization of the work in the schools and the methods seemingly best adapted to the securing of these aims. Other methods of organization which have been tried and found inadequate are also described for the purpose of saving school systems the delays and disappointments inevitably connected with their try out.

2. The relation of public school work with the mentally defective to the larger social problem presented by the feeble-minded. Opportunities for service and means for meeting them.

3. Methods of classification and examination of children for the purpose of discovering those who require special methods of instruction—the feeble-minded and those having special mental defects.

4. The psychological examination of individual cases. The necessity for and means of obtaining it.

5. The psychological clinic, its organization, personnel, equipment, records. Co-operation of clinic with social agencies. Co-operation of clinic with school departments of health, hygiene and compulsory education.

6. Clinical examination. Its scope. Guide for physical, pedagogical, and mental examinations and social investigation. Diagnosis. Classification of children for the purpose of school training. Type of children brought to clinic. Varieties of training required. Speech training. Registration and after care.

The second section discusses:

1. School organization. Single class. Group of classes. Special building. Visiting teacher.

2. School training. Training of the feeble-minded—academic, speech, manual, industrial, and physical. Industrial plant for feeble-minded who have completed school training. Equipment.

3. Teachers' qualifications and training.

SECTION ONE

Aims and Methods of Organization

In formulating and developing a plan for the education of the mentally defective in the public schools, it is necessary to bear in mind two distinct aims:

1. The improvement of the school system as a whole.
2. The adequate training of the mentally defective.

From the standpoint of the professional public school educator the specialized instruction of the mentally defective is important as one phase of a much larger problem—the classification of all children according to their capacity for school progress. Such classification is desirable because the more nearly the members of a group approach each other in ability the less time is lost by individuals and the greater is the progress made by the group as a whole. That portion of a class which is incapable of comprehending the grade work not only fails itself to profit by the instruction but prevents the other portion of the class from adequately profiting therefrom. The usual response of any individual to an intellectual appeal beyond his comprehension is inattention, and when the appeal is long continued, relief is sought in some other activity. With school children this “other activity” is apt to be of a kind which distracts those who would otherwise profit by the instruction, and thus the element of disorder is introduced and class efficiency is reduced. On this account the removal of the mentally defective children from the regular classes results in improved opportunities for the average and the brilliant child as well as for the mentally defective child.

There are certain critics who hold that the mentally defective child is now receiving an undue share of attention and that the superior child is in comparison neglected, when logically the latter should receive maximal attention on account of his superior ability to render society a return in service. These critics apparently overlook or underestimate the fact that the removal of the mentally defective from the regular class rooms results in probably a greater advantage to the children remaining in the classes relieved of their presence than to the defective children themselves. If these critics would observe the work of classes containing three or four defectives, and the work of the same classes after the removal of these defectives, and would also observe the work of the defectives while in the regular class and later in the class made up of defectives alone, they would probably reach the conclusion that the greater relative gain was made by the regular classes. A comparative study of the accomplishment during six months of a class containing three or four defectives and of the accomplishment during the following six months of the same class relieved of its defectives would be a convincing manner of presenting the situation. All must admit that in forming classes for the mentally defective we are separating the normal from the defective just as surely as we are separating the defective from the normal. Indeed in many school systems the movement is initiated solely by the desire to improve conditions for the normal children and not by any wish to help the defective ones. Therefore there is warrant for holding that segregation of the mentally defective in special classes is a measure for the benefit of the average and the superior children as truly as it is a measure for the benefit of the mentally defective children, and warrant for contradicting the statement that in providing for the separate instruction of the defectives the schools are spending more than a just proportion for the benefit of this class. The fact is the expenditure is for the benefit of all the children.

Aim 1.—The Improvement of the School System as a Whole.—In the formulation of plans for the segregation of the mentally defective children in separate classes, the securing of finer conditions for the normal children should always be kept in view as a guiding principle. It is quite possible and indeed quite usual

to organize special classes in such a way that they fail entirely to accomplish this result. The children for the special classes should be so chosen that the benefits to the regular classes would be striking and above all permanent. This can never be accomplished by making up the special classes of children culled from many grades and groups on account of continued and conspicuous failure. Such a method helps a few discouraged teachers for a short time but is of no lasting benefit to the system. On the contrary, certain classes, or if the work is conducted on a large scale, certain schools, should be relieved of all their defectives and given the opportunity to demonstrate the effect on class work. Moreover if the work is conducted on a small scale (as it usually is, even in large cities), the classes first relieved should be the first year classes. The reason is that the little defectives have a long school life before them, and if not placed properly at the beginning will be a burden to many successive classes, whereas the places of the defectives removed from the higher grades, which they have reached in complement to age and size, will soon be filled by other defectives coming up from the lower grades in never ending procession. By keeping the lower grades free from defectives we relieve the lower grades and also the advanced grades of the near future. As a result in the course of a few years the whole system is demonstrably benefited, and the work with defectives is established on a firm basis owing to its intimate relations with the welfare of the system as a whole. Miss Alice Russell, the much lamented organizer and supervisor of the education of defectives in Denver, Colorado, was very strongly in favor of the plan here sketched and in the course of correspondence concerning this report stated that her experience in Denver had convinced her of the wisdom of such a method, and that had she again to organize such work she would adhere strictly to this plan.

Failing to appreciate these facts certain school systems have formed their first classes for defectives of boys and girls of fourteen, fifteen and sixteen years of age who have failed to progress satisfactorily, and after a couple of years' trial have abandoned the special class work entirely. This is very likely to occur in the smaller towns where psychological assistance is difficult to secure.

Aim 2.—The Adequate Training of the Mentally Defective.—The other aim which must guide in the formulation of plans for the special training of the mentally defective is the provision of adequate training for the defective children themselves. In the above discussion we remarked that the natural response to an intellectual appeal beyond the hearer's comprehension is inattention. If a child remains for hours each days in a class room in which the instruction is too complex for his small intelligence he soon ceases to make any effort to attend and develops the habit of paying little or no attention to anything the teacher says or does. The mind thus denied the usual school room stimulus to activity, grows more and more inactive and sluggish, and less and less capable of attention or effort of any kind. If a mentally defective child has occupied a seat in a regular class room for four or five years the task of training him to respond to the simplest school room instruction is gigantic because it must overcome years of enforced inertia. Much more hopeful is the attempt to train the little defectives who have not been subjected to this deadening influence. If they can be trained at all the appointed time to begin training is extreme youth, and if the public schools hope to be successful in the training of defectives such training must start at the very beginning of their school careers. Miss Russell was strongly of this opinion. Indeed from the standpoint of the psychology of the individual and from the standpoint of the education of the individual there could scarcely be a contrary opinion. It has been solely from the standpoint of expediency in school administration that the attempt has been made to supply the older defectives with special training at the expense of the little ones. We have endeavored in discussing the first aim to point out that this is a short sighted

policy from the standpoint of school efficiency; that it relieves some special situations but only at the expense of the permanent strengthening of the system.

The two aims—improvement of the school system as a whole and the adequate training of the mentally defective children—are therefore at one in dictating the policy that the special education of defectives should be begun at the earliest possible hour of their school life.

Social Problem Involved

In the consideration of the training of the mentally defective in the public schools one finds involved a most serious social problem. We know that the United States, in common with all civilized countries, carries the burden of a vast host of feeble-minded persons, by conservative estimate at least one to each three hundred of the population, or in round numbers three hundred and fifty thousand persons. We know that but a small proportion of these defectives, in round numbers thirty-nine thousand, are cared for in both public and private institutions,* and that many of those not so cared for swell the lists of dependents, delinquents and criminals cared for periodically in poor farms and penal institutions of various sorts. We know that such a life is for those feeble-minded who live in the community without adequate home supervision, inevitable, on account of the inability of even the highest grade of feeble-minded persons to resist the suggestions of their companions. We know that it is impossible to train them to the point of ability to make independent moral judgments. The aims and ideals which teachers strive to instil are perhaps retained verbally but have no weight against a strong personal appeal to act contrarily. So long as the companions of the feeble-minded are of the righteous sort all will go well, but unfortunately they are not always of the righteous sort. It is therefore useless, worse than useless, socially vicious, to attempt to train the feeble-minded of any grade for a free life in society. When schools discover that pupils are surely of a feeble-minded grade they should make every effort to secure for them a life apart from the general public, sheltered in some institution which will supply healthful activity and at the same time shield from vicious companions and the possibility of perpetuating their weakness in families of feeble-minded children. It is too true that it is at present difficult, indeed usually impossible, to place children in such institutions, owing to the inadequacy of institutional accommodation in all parts of the country; the Boston school system being perhaps the only large city system which is able to place anything approaching an adequate number of children in institutions.

It must be borne in mind, however, that the public school system is the only organization which has the power to discover the feeble-minded at an early age; it is the only organization to which all children must report at school age. The school system alone has the power to secure the actual facts which will give force to a demand for greater institutional provision. Other organizations produce general statistical evidence, but the schools alone have the power to collect the facts which would enable them to say: "Here is a list of — children of school age, who have been studied by competent authority and pronounced feeble-minded, and who require institutional protection. A large proportion of these children, if now neglected by the state, will later demand attention of a much more costly kind from courts and penal institutions." It is probably unreasonable to expect adequate institutional provision for feeble-minded children until the public schools make the extent of the need known. It is of interest in this connection that the London schools are required by law to report all imbeciles and idiots and all feeble-minded who, having attained the age of sixteen (the upper age limit for special class children) are unfit socially and in need of institutional care. Unhappily our public schools have been particularly slow in recognizing the whole problem of the feeble-minded committed to their care, and so far there has been no well-planned demand from the schools

*Annual census of the insane, feeble-minded, epileptics, and inebriates in institutions in the U. S. Jan. 1, 1918, Pollock and Furbush.

for institutions. At present the school administrators, in the multiplicity of interests demanding their attention, are too apt to consider the feeble-minded problem as one that may be postponed, as rather distasteful, hopeless and outside their regular jurisdiction. They perhaps send several letters to the state institution requesting care for some cases which seem particularly to require it, and after receiving courteously worded replies to the effect that the institution is overcrowded and that there is a waiting list of several hundred, they are content to let the whole matter rest. Some superintendents state plainly and positively that they consider the school's interest in the feeble-minded should be limited to their instruction in the schools, and that coöperation in the state work of their institutional care, even to the extent of advising the parents, is unwarranted. Such an attitude on the part of the school administrators proves them to be asleep, either to the actual feeble-minded situation and the part in it which the schools alone can play, or to that larger conception of the function of the public schools which extends their province of education to include the whole community in which they are situated. If the superintendents of those city systems which support classes for mental defectives realized the social menace of retaining the feeble-minded in the community and the inadequacy of any training a school can offer to fit the feeble-minded child for a self-directed life in the world, they would surely have initiative enough to at least keep files of their feeble-minded pupils and at the end of a school year see that such files were submitted to the state legislature as incontrovertible evidence that greater institutional provision is required. There is little doubt that such evidence would meet with more consideration from legislators than statements of the estimated number of feeble-minded persons in the community. The fact that nine states have made provision by statute for the special instruction of the mentally defective in the public schools has already forced attention to the situation and the prospect is good for a much wider appreciation of the problem in those states where such education is mandatory. Efforts to educate the feeble-minded in groups will soon prove the statements of those already familiar with the type that no amount of training will make even of the higher grade feeble-minded person a morally responsible individual. In districts where this is discovered a realization will grow that some sort of supervised life is essential for such persons, and once this fact is widely recognized a demand strong enough to secure results will follow.

This problem is most important in its bearings upon the adequate training of the mentally defective children in the schools. Fortunately the mentally defective children are not all feeble-minded, are not all of institution type. The sort of training required by them depends entirely upon two conditions—their type of mental defect and the life they are destined to lead after leaving the school. The feeble-minded, and they comprise all those who are incapable of being trained to the point of a self-directed life in the community, should be trained for institution life, and the schools should hold them only until more adequate provision can be made. A detailed treatment of the subject of their training will be found in the section dealing with school training. Other children with a less profound type of mental deficiency than feeble-mindedness or with some discrete mental defect rather than low-grade intelligence must be trained with a view to community life and according to their individual idiosyncrasies. A detailed treatment concerning this type of training will be found in the section dealing with school training. The training appropriate for the feeble-minded group is absolutely different in all essentials from the training appropriate for those who are to take a place, however humble, in society, and the success of the public school special classes depends largely upon the adjustment of training to differential diagnosis.

Classification

The first problem which confronts the school system which introduces the special instruction of the mentally defective is classification. How shall the mentally defective be separated from the great mass of children? Our question-

naire returns show that the first selection is allowed to rest sometimes with the grade teacher, sometimes with the school physician, or the school nurse, and sometimes with the teacher of the special class or the supervisor of the special classes. Often the final decision is made by a committee comprised of superintendent, principal, and teacher; or principal, teacher, and physician; or superintendent, teacher, principal, and nurse; or principal and supervisor.

Repetition of grades, excessive age for grade, special defects or disabilities, and misconduct have all been used as a basis of separation, but these methods are now very generally supplemented by mental tests. The questionnaire returns show that mental tests are used as a basis of separation in 157 of 182 cities which support classes for mental defectives. Fifty-four of these cities employ a psychologist to do examining, and in ninety-eight cities it is done by teachers.

Mental Tests.—Mental tests were first used to discover the mentally defective in the schools by Dr. Alfred Simon in Paris in 1908. Psychological examinations had already been much used in both Europe and the United States in the study of difficult and puzzling children, but no comprehensive attempt had been made to use mental tests in the classification of school children. Binet presented a well-organized system of testing, well organized both from the point of view of making the tests and of the subsequent determination and summing up of the child's ability. This system of testing was introduced into the United States by Dr. H. H. Goddard, and as it supplied a conscious need it attracted immediate attention, and is now in its various American adaptations much more widely known than in France.

Under existing school conditions testing all the children by the Binet system is impossible on account of the enormity of the task. To be of diagnostic value the Binet tests must not be given in haste nor be given by persons untrained in psychological testing. Fortunately it is entirely unnecessary to test individually each child in a school system; it is enough to test those children who do not progress satisfactorily. These children are usually chosen on account of repeating grades, of being over age for grade, of having special defects of some kind, or on account of difficulties of discipline. During the last few years, however, mass mental tests have been much used for this purpose. As a whole class may be tested at once, this is a very practicable method, especially as picked teachers may be trained to make the tests. The method seems to be proving successful in making the first rough separation, and the prospect is that the mass method of testing will be developed to much greater perfection and be very widely used. There are already a number of mass tests which have been used quite extensively—the Otis, the Pressey, of which there are several groups suited to varying ages and to different test purposes; the Haggerty, one series for little children and several for older children, the picture game test for kindergarten and first grades (Town) and the National Intelligence Tests, prepared under the auspices of the National Research Council by M. E. Haggerty, L. M. Terman, E. L. Thorndike, G. M. Whipple, and R. M. Yerkes.

The scores obtained from a class subjected to a mass test are arranged in rank order and the lower five or ten per cent of the pupils are given individual psychological examinations. Still better, group tests may be used for which percentile ratings for the various grades have been established from a tabulation of scores obtained from many parallel grades. Individual scores may then be compared with these percentile norms rather than with the single class norms. In practice we find that when norms derived from many classes, from large numbers of children are used, the number of children in a given class whose scores fall below the ten percentile of the norms will be considerably less than the lower ten per cent of said class.

There is one danger in this method of testing against which one must guard, by considering the age of each child examined. It is quite possible for a mentally

defective child who is retarded several years in school grade to make a score well above the ten percentile rating of his grade. In all cases in which a child is much over age for grade his score should be compared with an age percentile norm rather than with a grade norm, or if age norms are not obtainable, with the grade norms of children of his age. The true retardation of the child will then be revealed. Such children are the very ones whom teachers are apt to overlook when questioned as to the intelligence of their children; being capable of doing the class work, and attracting no attention by initiative or originality, such children fail to make an impression of any kind upon the teacher.

In order to find all the children who require special aid, it is well to supplement all of these rather mechanical statistical methods by asking the teacher to designate the children who are experiencing great difficulty with the class work, the children who are falling behind the average child in achievement. There are children who at six, seven, and eight years of age show little if any quantitative deficiency in intelligence, who are nevertheless mentally defective. Some of these children are actually feeble-minded, but the arrest of their development is just beginning to be evident. Whatever may be the fact in normal individuals, we have many data to indicate that in feeble-minded individuals mental development does always progress at a regular rate. The same child may possess seventy-five per cent intelligence at six years and fifty per cent intelligence at ten years. Such a child would be an imbecile at six years, just as truly as at ten years of age, and should be eligible to a special class for defectives at six. As illustration, at the Lincoln State School and Colony several years ago there were two sisters, eight and twelve years of age, respectively, both of whom by the Binet-Simon intelligence scale showed an intelligence level of six years; the younger girl, therefore, had seventy-five per cent. normal intelligence and the older girl fifty per cent., and yet both were undoubtedly imbeciles. At the same institution there were two brothers, eight and eleven years of age, both of whom had the same degree of mental development—an intelligence of seven years. The younger, then, had eighty-seven per cent normal mentality and the older sixty-three per cent, but both were imbeciles of the same type. There were also four brothers, aged six, nine, twelve, and fourteen years, respectively; the intelligence level of the six-year-old boy was five years, and that of each of the other boys was seven years. The percentage of normal intelligence reached by the youngest boy was eighty-three. That reached by the nine-year-old boy was seventy-seven, that reached by the twelve-year-old boy was fifty-eight, and that reached by the fourteen-year-old boy was fifty. Yet these boys were undoubtedly all imbeciles. The cases cited are not exceptional; they are chosen because all the members of these family groups are of school age, while the youngest members are still young enough to show a high percentage of intelligence development by a quantitative rating. Were these children public school pupils, in justice to their mentality they should all be eligible to special class membership, but if the examiner limited himself to any form of the Binet scale as a means of diagnosis four of these children would be excluded from such advantage for several years until they would show a quantitative deficiency of intelligence great enough to indicate feeble-mindedness. This is plainly wasteful, and is besides quite unnecessary. Such children are discoverable by a clinical psychologist who has a knowledge of and experience with the various forms of abnormal mental conditions, and also means of diagnosis other than quantitative intelligence scales. They are also very apt to be detected by the grade teacher who, though unable to diagnose the trouble, feels sure that certain children are not as children usually are. Perhaps she asks that such a child be given an intelligence test; the test is given by someone trained in the technique of Binet testing but not in the psychology of abnormal mental states, with the result that the teacher is told that the child is not deficient. If a psychologist is available the selection of such children by the teacher is a great aid in finding the defectives.

In addition there are little children who are not feeble-minded and who show no quantitative difference in intelligence who have grave qualitative defects which often prevent them from learning to read and write under ordinary class-room methods, and therefore effectively prevent school progress. Nevertheless these children possess intelligence, and if the cause of their difficulties be discovered early enough there is a possibility of remedying or compensating for the defects by special pedagogical training. There is a chance of developing in these children average efficiency, whereas if they are deprived of special aid in their early years they fail entirely and finally, as a result, take places among the mentally inferior. Such children profit more by special training than any other type of child, and their training is a greater asset to the community. Such children are not discoverable in the first grades by any form of intelligence scale. The teacher knows of the class-room difficulties, and the clinical psychologist is able to analyze them. The Binet tester, on the contrary, is baffled.

To overlook such children in the special class work is a grave error. That there is a tendency to overlook them at the present time is probably due to the fact that while quantitative differences of intelligence have been popularized by the psychologists, the qualitative differences have not, and so such differences remain unknown to many educators. The result is that the statutes of several states—New York, New Jersey, and Massachusetts—and the boards of education rulings of several other states are couched in terms of quantitative differences of intelligences. The states mentioned provide for the special training of all children three or more years retarded, and state boards are ruling that the special classes be made up of children of intelligence ratings between certain set percentages of normal intelligence for their ages. These rulings certainly make impossible much of the benefit that might result from special class work. Possibly the guiding thought in these rulings is to limit the special class work to individuals absolutely feeble-minded—those persons who are incapable of being trained to the point of adequate self-direction in community life. From the point of view of the efficiency of the school system this seems to be a very short-sighted, a very limited policy. Another motive for these rulings may be a desire to guard against mistaken diagnoses by Binet testers. We think the better way to guard against mistaken diagnoses is to place the final diagnosis, at least, in the hands of a well-trained psychologist, and not to cripple the policy of the system in order to safeguard the diagnoses of persons not sufficiently trained to be entrusted with more authority.

Psychological Examination

The first rough discrimination made and the difficult children ready for individual testing, we have reached the stage of careful examination and analysis. In order to train a defective child, it is necessary not only to know the fact of mental deficiency and its degree, but also to know the character of the defect which is responsible for this mental deficiency. In order that mental analyses be made which are of real service to the teacher as a guide to the training of the children, it is essential that a clinical psychologist be available to make the final examinations.

In city school systems this fact is sometimes recognized by the administrators, but more frequently it is not. The grade teachers are more often alive to the need, and frequently on their own initiative travel with some difficult child to the nearest university, which may be fifteen or twenty miles distant, in order to gain an insight into the child's difficulties. Perhaps the greatest progress toward an efficient handling of the problem has been made by those systems which have established public school clinics under the direction of a psychologist. Schools in university and college towns often have access to well-established university clinics which are willing to assist in the public school work. Co-operation of this sort may prove to be the better way of meeting the situation; the psychological work of the schools

being at the same time university work may conform to higher standards than if totally divorced from university influence. Moreover, being in the schools and yet not of them, the work may escape some of the impediments of public school administration.

The state universities and colleges are also making an effort to assist the smaller towns of the commonwealths. This method is capable of great expansion, and it has the advantage of carrying university procedure and standards into the schools in a way that is rarely possible for an employé of a city system. Eighteen universities and colleges are now giving more or less clinical assistance to schools.

The newest movement of all is that inaugurated by the state departments of education of New York, Michigan, Minnesota, Wisconsin, Wyoming, and Pennsylvania, which have added to their equipment a psychologist whose function it is to visit the smaller cities of the state, examine the difficult children, and establish special classes for defectives. The potentialities of this movement are enormous. Of course, if more than a scratch on the surface of a state situation is to be made, a corps of psychologists instead of one must be appointed.

On the whole, there is much in favor of extending the psychological work through the agency of the state universities. It is in the universities that the new methods are developed, and it is to the universities that we must look for the guardianship of the scientific integrity of method which alone makes a psychological examination of value. The details of such a system must be worked out to meet the local conditions. The Colorado State Teachers' College at Greeley developed a plan by which the college supplies the psychologist, paying the salary, and the city supplies the equipment and pays the traveling expenses of the psychologist. The plan involves the division of the psychologist's time between several cities, to each of which would be devoted a set period of time each month. The work has been started but has not been very fully developed.

The facts that eighteen university clinics and five state boards of education are assisting schools with their clinical examinations demonstrate that ways are being developed to extend the use of psychological methods to the small communities which would find it difficult to develop clinics of their own. A beginning has been made which promises great developments in the near future. In the larger cities, where the number of children to be handled is very great, the movement now is toward the establishment of psychological clinics as integral parts of the system. Whether such clinic be a part of the school system or not, its assistance is certainly indispensable to an adequate handling of the situation.

Public School Psychological Clinic

Personnel.—The personnel of the most modest public school clinic should comprise a directing psychologist, an assistant psychologist, a social service assistant and a record clerk. In school systems where no provision is made for medical examinations there should also be a physician. In some school systems like that of Newark, New Jersey, where there is a highly developed medical clinic this would be useless duplication. The clinic must have at its disposal, however, a record of the physical condition of the children examined. The business of the clinical psychologist is to secure a complete picture of the child's abilities and needs, and this includes not only a mental analysis, but a physical and social picture as well. It must always be remembered that the capacity of any child is the point product of the three aspects of his life—mental, physical and social, each mingling with and determining the others. This fact makes the results of an examination by a physician and the results of an investigation by a social visitor indispensable to the data on which the psychologist must base his judgment of the case. It is sometimes possible to obtain both of these reports through correlated agencies. As the social visitor is always needed for taking children to medical clinics, as well as for visiting homes to gain the parents'

consent to take them there, it is essential that she be a member of the clinic personnel. She should be in more intimate touch with the clinic work than a person working primarily with another agency could possibly be. The successful follow up work with the children depends largely upon the training, and the wisdom of this visitor, and great wisdom is demanded of the director of the clinic when he makes choice of this assistant.

Coöperation of Clinic with Social Agencies.—In large cities it is always possible to add much to the social visitor's findings by coöperating with existing social agencies. In cities where there is a social service register such as exists in Chicago and other large cities, it is often possible to ascertain through a simple telephone conversation from whom and at what time the family of the child being studied has received assistance of any sort. This information may be followed up by inquiries to the agencies mentioned as giving aid and much valuable family history gained in the minimum of time. The social agencies are always glad to co-operate and in turn the psychological clinic should be ready to assist them in the diagnosis of difficult cases. The clinic should also be in close coöperation with the school nurses who may often be working with the same cases in a way that will supply all the home history that is necessary. The attendance department is also one with which the clinic should be in close touch. This department is apt to be in possession of much information concerning family situations of school children, and it can also often call attention to mentally defective children whom it is handling from a different angle. In Kansas City, for example, as a result of new rulings concerning continuation schools for young people of school age who had not finished minimum school requirements and yet were working, a number of working children who were actually feebleminded were discovered and sent to the psychological clinic. Unfortunately nothing could be done for them as no institutional care was available, but the machinery for discovering these older cases was in motion and the names and addresses of these children with their mental diagnoses are on file in the clinic.

Equipment.—The clinic should be installed in two or three rooms and should be well equipped with apparatus for mental testing of all kinds, for making anthropometrical measurements and for testing vision and hearing and examining nose, throat, heart and lungs. If the medical examinations are made at the clinic some additional apparatus will be needed for blood tests, etc.

We append a list of clinical apparatus which has proved of service. This list is of course merely tentative and would vary with the preferences of the psychologist in charge. In addition to the usual office furnishings there should be a laboratory table, a filing case, a case for apparatus, a low table and several primary chairs for little children, and a typewriter. In one room there should be running water that the children may wash their hands before touching the apparatus which so many other children subsequently handle. This is essential.

Records.—One important item in the conducting of a psychological clinic is the recording and filing of the results of the examinations. We find the use of minutely itemized forms, for the majority of the records, unsatisfactory. Such forms are apt to lead to mechanical methods which defeat their own purpose by frequently failing to secure the individually important items which the form fails to suggest. There are, moreover, on all such forms, many items which are irrelevant to the case being examined which occupy space which could be used to better advantage. We favor limiting the itemized forms to the blanks for the anthropometrical measurements and to that for the Binet test record, for which the items are of course invariable. To aid in securing a history of the child we prefer a guide which may be kept at hand for reference during the examinations, the items secured being recorded on blank sheets with printed

subject headings. Many mental tests are provided by their publishers in the form of blanks, and as the tests used vary with the requirements of the child, forms for recording set series of mental tests involve much waste and some confusion. For a research concerning certain tests as tests such forms are useful, but for individual examinations in a clinic the need is a different one.

It is convenient to have blank record sheets prepared, with headings designating their purpose. These should be of letter size, and it adds much to facility in consulting files if different colored sheets are used for each phase of the examination, for example—white sheets for the mental examination, pink sheets for the physical examination, blue sheets for the history record, yellow sheets for the pedagogical examination, and green sheets for the summary and recommendations. There should be a separate folder for the records of each child, labelled with his name or serial number. The summary blank is indispensable and a duplicate of this should, as a rule, be sent to the principal of the school which the child attends. We append a sample series of blanks, adding a guide which has proved useful in obtaining the history of children, and a guide for the physical examination.

In addition to the record sheets it is necessary to keep a card index of the children examined. The most important items concerning the child are recorded on the card—name, address, age, school, grade, summary of examination findings (brief), diagnosis, recommendations. The reverse of card should be used for a record of subsequent happenings, for example—Jan. 6, glasses provided by Dr. ——. Feb. 4, adenoids removed, Dr. ——. Mch. 8, More attentive and controlled (mother). April 1, Can pronounce "th." Less monotony of tone (teacher). It is well to add a second card to the file for each child transferred to a special class, and to record quantitatively and at set intervals, his progress in each activity pursued in the school. By the use of colored metal markers it is easy to indicate the cards of feeble-minded children, of mongolians, of epileptics, of those children suffering from physical defects or any other group of children which is of especial interest.

Coöperation between Clinic and Classes for Defectives.—The discussion of records has assumed an intimate relationship between the clinic and the special classes for defectives. The work of the clinic must be closely correlated both with the establishment and supervision of these classes. The task of the psychologist is only begun when he makes the diagnosis. To be of service this diagnosis must be followed by the sort of training designed to relieve or correct the difficulties which it has revealed. In order that this may be effected the psychologist must be in intimate touch with the teacher of the child and he must strive to make her understand the child's needs and to help her in planning her school regime.

One method of securing the desired relations between the psychologist and the special class teachers is to make a member of the clinic staff, an assistant psychologist, supervisor of these classes. The special classes should be considered as an arm of the clinic, an arm reaching out into the schools, just as the social service division of the clinic is an arm reaching out into the homes. The psychologist will add to the effectiveness of the special class work if he meets the teachers as a group once every week or perhaps every two weeks and talks to them in relation to phases of their work in which they may need help, analyze new cases, presents new methods, etc.

In some cities at present there is the loosest possible connection between the special classes and the psychological clinic, and in consequence much of the work of the psychologist remains unproductive of results. In other cities the organization and supervision of the special classes and the clinical examinations are all in the hands of one person without adequate assistance, which means that neither

: the class supervision nor the clinical work receives the attention essential to the best results. Such administrative mistakes are, perhaps, inevitable during the first years of clinical and special class work in the public schools, but they should not be perpetuated, and repeated, and it is hoped that the work of this committee will make them less frequent.

Clinical Examination

Whenever possible it is of advantage to have the child brought to the clinic by the parents. When the psychologist himself has an interview with the parents, not only is his appreciation of the child rendered more profound thereby, but he gains the opportunity to help the parents to a realization of the child's needs, which frequently leads to correction of physical defects and correction of errors in the general regime of the child's daily life. Such interviews also bring the clinic and the special class work into rapport with the homes. The parents then understand that a special effort is being made to help their children, that they are receiving even more attention than is the average child, and they lose the idea which is prevalent in many places where special class work is attempted, that their children are being deprived of the training in reading, writing, and arithmetic to which they are entitled.

Each child sent to the clinic should bring with him a copy of his school record, which should contain dates of entry into the various grades and number of absences during each term. He should also bring a statement by his teacher concerning his school work. The items for the history are gleaned from this school record, from the interview with the parents and the investigation of the social service assistant.

The clinical examination of the child may well begin with tests of strength and lung power as with these it is usually easy to gain his interest and coöperation. These should be followed by tests of vision and hearing, because if there is a defect in either of these senses the mental examination must be adjusted to the difficulty caused thereby.

The mental examination, made by the psychologist, first seeks to determine the grade of the child's general intelligence, a quantitative statement in terms of years of general mental development. This is usually accomplished by the aid of some form of Binet Intelligence Scale—either the Goddard Revision, The Stanford Revision, the Binet Revision, or the Yerkes Point Scale. In many instances from such an examination a psychologist is able to determine both that a child is feeble-minded and his degree of feeble-mindedness, in others the diagnosis remains doubtful, and further examination and perhaps protracted study during subsequent visits or in the school room is necessary in order that a diagnosis be made. Difficulties in making diagnoses sometimes result from the complex nature of the defect, and sometimes from the emotional attitude of the child during the examination. Extreme reticence, fear or stubbornness defeat the examination; it is essential to gain the confidence of the child.

Often so many physical defects are revealed by the examination that the psychologist attributes much of the mental deficiency or abnormality to physical limitations or physical strain and stress, and final diagnosis is postponed until the child's physical condition is improved by surgical interference, medical care, change of diet, change of sleep habits, or adequate physical exercise and fresh air. Indeed physical defects, to a greater or less degree remediable, are found in from eighty to ninety per cent. of children brought to a clinic. This at once proves the necessity for a physician's aid in diagnosis. In the larger cities the schools have the advantage of the medical clinics of the great medical schools and hospitals, but in smaller towns the problem is a different one. As school systems in these towns are often innocent of even the most superficial medical inspection, if a psychological clinic is organized it is essential that a physician

be employed if not for all for part time, to make the physical examinations. We append a guide for the physical examination which includes the essential points.

No matter of what grade intelligence the child proves to be, unless the remediable physical defects are corrected it is useless to expend intensive effort in pedagogical training. Such child has encountered pedagogical difficulties or he would not have arrived at the clinic. If we leave a discovered defect uncorrected it is probable that he will continue to encounter these difficulties in spite of improved pedagogical conditions. With a clinic system which coördinates the efforts of the home, the clinic and the school, through a familiarity of the psychologist with the school, with the teachers, and with the parents, and a wise strengthening of these contacts by the clinic visitor, it is possible in many cases to accomplish all that is required for the child's welfare. Some state boards of education make the correction of remediable physical defects a condition for acceptance to membership in a special class. Whether this will prove to be a wise procedure is questionable. The fact that in some communities it is even impossible to enforce a vaccination ruling makes its possibility of enforcement seem quite doubtful. The ideal manner of securing the correction of the physical defects of the children is, of course, through coöperation with the parents, the only objection to this method is that in many cases this coöperation is not secured. But it is questionable whether there will not be as great difficulty when the attempt is made to force the parents to allow medical care.

Special Types of Clinic Cases.—Among the children examined at a clinic there are always some who prove to have an average amount of intelligence although they bring school records which show them to be at a standstill pedagogically. From the psychological and pedagogical standpoints these are the most interesting of all cases, and unless the school failure can be directly traced to severe nasopharyngeal obstruction, defective vision, impacted teeth, or other physical defect or disorder, the psychologist's best skill is required to discover the underlying cause of the child's failure. If he succeeds in reaching a true analysis of such a child's mental abilities and disabilities, and succeeds also in giving the special teacher a just appreciation of that which must be done in the school room to meet and counteract the existing difficulties, a task of absorbing interest for psychologist and teacher is begun, a task which will mean for the child intensive effort, but which may mean the substitution of success for failure in school and in life as well.

The psychological examination of such cases must be carried much further than the examination of general intelligence. A thorough psychological analysis must be made, one that is fine enough to admit of the discovery of not only deficiencies, but anomalies of sensation, perception, memory, volition, emotion, coördination, language, etc. The tests used for such an examination will depend upon the type of child to be studied and upon the discretion of the psychologist making the study. The essentials to the success of such an examination do not reside fundamentally in the tests employed, but in the psychologist's ability to use advantageously the many available methods of analytic testing, and in his power to observe and interpret the child's behavior.

Pedagogical Examination.—It is practical to base the pedagogical examination on the subject matter of the school work. Sets of questions and problems testing ability in the work for each grade in each subject of the curriculum should be prepared in the form of blanks and used for the routine examination of each child brought to the clinic. These, of course, would differ with different school systems. A child should first be given the questions prepared for the grade which he is attending, if he fails in that the tests for the lower grades should be used until his level of achievement in each branch is reached. If his ability seems to exceed that required for the passing of his grade tests, he should be given the

opportunity to demonstrate his maximum ability. Standardized educational tests, such as the Courtis, the Thorndyke and the Thurstone have not proved very satisfactory for these individual examinations. They are designed rather to test class progress than individual abilities.

Diagnosis.—The psychological diagnosis rests upon the total information concerning the child obtained from all examinations and investigations—psychological, physical, pedagogical, historical and social. When the diagnosis is made a brief summary of findings and conclusions with recommendations should be prepared.

Classification for School Training.—On the result of such thorough clinical examinations the classifications in the special classes should rest. The final summary of the case should always be accompanied by advice as to the disposition of the child in school. If special class training is indicated the class best suited to the child's needs should be mentioned. The child should then be transferred to the class designated after which the psychologist should hold a conference with the teacher concerning the special requirements of the child.

The fineness of the classification of the children in the special classes depends somewhat upon the size of the system and number of classes available. There are a few guiding principles, however, to which one should always adhere:—

- 1.—The type of training given to feeble-minded children—that is, children who are incapable of developing ability to independently govern their own activities—must be different in character from the type of training given to children who are not feeble-minded in the above sense, but who are handicapped by special mental defects.

- 2.—The younger children should on no account be placed in the class rooms with the large boys and girls, even though the latter may have the same degree of intellectual development. Among the little ones we find many who are handicapped by some special defect or weakness which we may hope to relieve, or for which we may hope to compensate by special pedagogical training. Such children if neglected later swell the group of the permanently defective, but if skillfully trained from the beginning they may possibly attain to a life of approximate normality. In these classes for the youngest defectives the attention must be trained and there must be expert speech training and language work. The teaching is individual and very intensive, and the teacher's entire time and her undivided attention are required to carry such a class through the day at the desired level of effort. The permanently defective require an entirely different regime, and if they are trained in the same classes with the little ones a division of the teacher's interest is called for which necessarily detracts from the value of her work.

In schools in which several classes for the youngest defectives are formed there is a better chance to separate the hopeful cases from those which already at five, six, or seven years of age can be definitely diagnosed as feeble-minded. For a teacher to attempt to train these children as she should train the more hopeful cases, who possibly have the same intelligence rating though very different mental abilities and possibilities, is a waste of time and a strain against insurmountable difficulties. The young feeble-minded children should be placed in separate classes if possible. If a small number of classes prevents this, the teacher should be informed of the diagnosis and should pursue a different and much less intensive form of training with the feeble-minded little ones.

We are of the opinion that those cities are wise which exclude from the special class work all children ranking below the kindergarten grades of mentality—the five year level. Idiots and low grade imbeciles have no place in public school classes, they are not subjects for teaching but for nursing, and nursing

has not as yet been recognized as a function of the public schools. It is only during these present years when there is inadequate institutional provision that the schools should attempt to train even the high grade feeble-minded, and we do not believe that this obligation should be extended to include those feeble-minded who are incapable of profiting by the simplest types of school training. On refusing such children, the schools should register their names and addresses and their mental diagnosis and should endeavor to secure for them adequate care elsewhere. If public schools are for any reason compelled to care for children of so low a grade of mentality it is useless to attempt more than nursery and playground training, which could be as well handled by women not trained in teaching.

3.—In school work with feeble-minded children over twelve years of age the sexes should be segregated. This is better for two reasons: 1.—It is unwise to facilitate intercourse between the older boys and girls as their lack of moral ideas and moral stamina, coupled with a normal development of physique and of instincts, is apt to lead under such conditions, to most undesirable sexual complications. 2.—The desirable industrial training for boys and girls of this age and type is quite dissimilar, and a better organization can be secured when the training is conducted separately.

Special Types of Children Requiring Special Training. Speech Cases.—Among the children brought to a clinic for examination are some who are not, properly speaking, subjects for special class teaching, but who need individual training in order to overcome some special difficulty. Among these are the very numerous cases of stammering and stuttering. It is very essential that these boys and girls be helped, for if not corrected the speech difficulty will certainly prevent full efficiency. For instance, one boy reached high school age and grade retaining an infantile stammer which made his speech absolutely unintelligible to those who were not accustomed to it. He could not be passed on to high school with this defect. Intensive speech training resulted in the correction of the defect. This success was gained only at the expense of enormous effort on the boy's part under the guidance of a teacher not connected with the school system. One little boy in a first year class was reported by his teacher as speaking no word but his own name. A clinical examination revealed the fact that the child had a severe infantile stammer, that much fun had been made of him in an effort to shame him to greater effort, and that he had taken refuge in complete silence when with strangers. This examination was unproductive of results because there was no pedagogical aid supplied by the school system. The mother was greatly interested in the examination, was anxious to do all in her power to help her child and did have an eye defect corrected by glasses. She felt, however, that the school was unjust to recommend special speech training and not to provide the same. In this city the clinical examinations were the work of a university and the school side of the problem had not been well developed. There were in the system two classes for defective children, but they were made up entirely of boys and girls of ages between thirteen and sixteen, the little ones of this system being entirely neglected.

Fortunately an increasingly large number of cities are recognizing the necessity for corrective speech work, and are assigning special teachers for speech training. In various localities special classes are held several times each week, and to these classes are sent from the neighboring schools all those children who suffer from speech difficulties.

It is quite possible to develop this speech work through the teachers of the special classes for defectives. It is absolutely necessary to have a teacher trained for corrective speech work in any group of special class teachers. Such a teacher might well be assigned to speech training alone, and devote part of her time to

speech classes made up of children sent from the regular classes. Indeed this is, perhaps, the most satisfactory manner of developing the work as it results in greater uniformity in the corrective speech training. The organization and supervision of these speech classes may well be the function of the organizer and supervisor of the special classes for defectives.

Disciplinary Cases.—There is a large and interesting group of children which finds its way to the clinic. It is composed of children who though keen intellectually and quite up to the average in school grade are in continual difficulty on account of misconduct of various forms. Such children should be welcomed to the clinic, which should use all its resources in the effort to discover and remedy the causes of the conduct disturbances. Often some physical irritation such as that caused by impacted teeth or adenoid vegetation is the basis of all the trouble, often it is a question of unwise daily routine, unhygienic living, late hours and constant mental excitement from low grade moving picture shows, substitution of coffee or other stimulants for nutritious food, etc., often it is due to a lack of parental discipline and control. It is the function of the clinic to make these causes clear to the parents and to teachers and to advise concerning the subsequent treatment of the child.

Registration and After Care.—A function of the clinic which must not be overlooked is the after care of the children who are sent to it for help. It can not be stated too often that examination and diagnosis are of little practical value of the knowledge thus secured, if not utilized in the guidance of the child's life. While the child is of the school system the social visitor should at regular intervals survey conditions and determine whether the child is receiving the required care. At fourteen or sixteen, however, the child drops out of school, and is usually lost to view. There should undoubtedly be a continuation of the supervision begun by the school. A complete file of all the mentally defective children examined must of course be preserved at the clinic, but for both practical and statistical purposes these records should be kept up to date throughout the life of all feeble-minded persons. An immense amount of data concerning the sort of lives lived by these persons in the communities would be collected, which would be of untold value in securing provision for their care. The Juvenile Protective Association in Chicago traced the subsequent careers of many children who had attended the special classes of the public schools of that city, and prepared charts of the careers of several which they considered typical. These charts present graphically the journeyings of the boys and girls from juvenile court to criminal court, from juvenile corrective institutions to jails and prisons, with intervals at home long enough to get into some new trouble, which sent them back to the courts. Continued supervision is also necessary in order that when institutional provision is ready, we may know where those children are whom we have striven in vain to place under protection several years before.

That this continuation of supervision should take place is quite clear, that the public schools should undertake it is not quite so clear. But as the schools alone know of the persons to be supervised, the obligation surely rests with them to see that such supervision be accomplished, at least to the extent of keeping the registry of addresses up to date. Such after care may well be made a very profitable field for public school research, as from the data collected concerning the subsequent lives of the pupils may be derived explicit information concerning the occupations which they follow and their successes and failures in the same. This knowledge could then be used as a guide in planning the occupational training to be given children of parallel mental endowment.

Such supervision might well be the function of the state department which has supervision of the institutions for the feeble-minded, or in large cities the function of the city department having supervision of similar institutions. If

such supervision is undertaken by these departments, the public schools as well as all the other social service agencies which come into contact with the feeble-minded, should report the names of all feeble-minded persons known to them to the departments. In Ohio state registration of the feeble-minded has begun. The public schools of Toledo place the names of their feeble-minded on the Institution waiting list, while those of Youngstown register theirs with the Children's Service Bureau.

Dr. Francis Maxfield is of the opinion that it would be well to legally commit all cases of feeble-mindedness to the State Department of Public Welfare, or analogous department, as this would make it possible to supervise all cases under the parole system, and to later send to institutions those for whom such care proved necessary, without further commitment. This appears to be an excellent and very practical means of accomplishing both registration and supervision.

It must always be borne in mind that much more than supervision through inspection by a visitor is desirable for the actually feeble-minded persons, and this for two reasons,—first—the feeble-minded function effectively only under constant direction and guidance, and their work without such guidance is rarely of a quality to gain for them an income sufficient for decent living. This is not true in all communities for instance in the beet fields of Colorado it is quite possible for a boy of imbecile grade to accomplish work which commands a good wage. One boy succeeded there who could not distinguish whether he was given the wage he was promised; second—the feeble-minded are totally lacking in strength of purpose, in governing ideas; they are therefore at the mercy of those who wish to govern their actions, and though they are not naturally vicious, they are likely to commit all kinds of crimes and misdemeanors. The Colorado imbecile who made a good wage in the beet fields, failed to keep himself out of jail. We can no longer state that feeble-minded persons cannot be self supporting without guidance, we have discovered that under many existing conditions they may be, but we do state that this fact does not constitute them of a calibre fitted for a life unprotected in the community, witness the Colorado boy above cited. Institution life of some description is the real solution of the problem, and the systems of outside supervision already discussed are but inadequate temporary measures designed to meet the present almost unmanageable situation.

Their inadequacy is no argument against registration and supervision, which are both quite essential under present conditions. But we must not in accomplishing these, lose sight of the more adequate provision to which these are but the stepping stones. This is, we believe, segregation of the feeble-minded in suitable institutions, in which their limited abilities may be exercised and in which full opportunity to live a happy and varied life will be provided, in which in short, they can be happy and useful among their peers, rather than idle and discontented among their superiors. Our institutions have not yet worked out how to do this to the best advantage. In the section of this report dealing with industrial work in the public school classes for defectives we have sketched a procedure which we consider possible to develop through a well planned public school policy for the instruction of the feeble-minded. One institution under the Metropolitan Asylum's Board, London, England, has taken a great stride in advance. Its organization is that of an industrial plant, and every child in it is a worker. Those who are of too low a mental grade to be trained to any form of industry are cared for in a custodial institution. A receiving institution cares for the little feeble-minded children and passes them on later to the sort of institution best fitted to the needs.

Apparatus for Clinic Equipment

- | | |
|---|---|
| <ul style="list-style-type: none"> *Scale. Stadiometer. Head Calipers—Porteus. Calipers—Vernier. *Anthropometric tape metal. Smedley dynamometer. | <ul style="list-style-type: none"> Spirometer—wet. 500 wooden mouth pieces for spirometer. *Stop watch. Time clock—Whipple. |
|---|---|

For Vision

- | | |
|--|---|
| <ul style="list-style-type: none"> *Snellen letter chart. *Snellen E. chart. McCallie test cards—illiterate. *Trial frame. | <ul style="list-style-type: none"> *Blank trial lens. *Maddox rod. *Holmgren color blind test. |
|--|---|

For Hearing

- | | |
|---|--|
| <ul style="list-style-type: none"> Tuning fork. *Two telegraph snappers. McCallie audiometer. *Steadiness tester (s). *Tracing board (s). *Tapping board (s). 1 Base board and 100 target blanks (s). Scott's dexterity apparatus (s). *Large size peg board and colored pegs. *Colored cubes. Form boards, A, B and C (s). *Seguin form board. Instruction box (s). Porteus maze tests (s). Pintner Patterson performance tests (s). Healy picture completion No. 2 (s). Mirror with support and 100 stars (s). *Healy-Fernald A (s). *Healy-Fernald B (s). *Binet cubes (s). *Suggestion weights (s). *1 Binet object card (s). *Envelope of Binet material (s). | <ul style="list-style-type: none"> *1 Aussage test (s). 1 Bogardus factory test (s). 1 Construction ability test—Kelly (s). *1 Portable tachistoscope (s). *6 Dry cells. 1 Controlled association (s). 1 Genus-species (s). 1 Opposites (s). 100 Controlled association (s). 1 Analogy (s). 1 Immediate memory test A and B (s). 1 Sentence memory test (s). 1 Picture memory test (s). 1 Fable chart (s). 100 Substitution blanks (s). 1 Heilbronner test (s). 100 Trabue completion test (s). 1 Kraeplin test and key (s). 1 Constant increment test (s). 100 Thurstone reasoning tests (s). 100 Linguistic invention (s). 100 Directions test (s). 100 Motor co-ordination (s). 1 Verbal directions test A and B (s). 1 Comparison of line test (s). |
|---|--|

Note. The items starred are those which we consider absolutely essential. The others have proved useful. Those marked (s) are procurable at C. H. Stoeling & Co.'s, Chicago, Illinois. The McCallie audiometer is sold by Mr. McCallie, Trenton, New Jersey. The other items may be procured from various firms.

GUIDE FOR EXAMINER.

HISTORY

(a) General

Name.	Date of Birth.
Address.	Place of Birth.
Name of Parent or Guardian.	Date of Birth.
Address of Parent or Guardian.	Place of Birth.
Occupation of Parents.	
Order of Birth and Number of Sibs.	

(b) Developmental

Prenatal Factors:

Health	Occupation
Mental Depression	Any unfavorable condition
Habits	

Natal Factors:

Instruments and Anæsthetics	Full Term
Birth Injuries	Other Factors
Asphyxia	

Postnatal Factors:

Physical Conditions at Birth.	Specific Disease
Height.	Vitality
Weight.	Deformities
Difficult Breathing or Nursing	

Infancy or Childhood:

Diseases and Disorders:

Malnutrition	Tuberculosis
Rickets	Rheumatism
Meningitis	Chorea
Convulsions	Thyroid Defects
Scarlet Fever	Hypertrophied Tonsils or Adenoids (note whether disease left child with any defects)
Diphtheria	Teething troubles
Measles	Scurvy
Whooping Cough	
Typhoid	

Defects:

Physical and
Mental

Growth:

Age of walking, talking, teething
and puberty

Peculiarities:

Of Speech
Of Movement
Of Appetite

Manifested at Puberty and During
Menstruation

Habits:

Alcohol
Tobacco
Tea
Coffee
Drugs

Sex
Sleep, hours of, night terrors
enuresis
Other habits

Behavior :

Cruel
Destructive
Sullen
Obstinate
Seclusive
Listless
Moody
Sneaky
Dishonest

Egotistic
Emotional
Quarrelsome
Gregarious
Obedient
Timid
Excitable
Generous
Selfish

Attitude Toward :

Praise
Blame

Commands
Punishment

Delinquencies :

Associates :

Age
Character

Other Factors :

(c) Pedagogical

Schools Attended, with dates.

Repetition of Grade or Grades.

Present Grade and Class Standing.

Special Abilities and Disabilities.

Behavior :

Cruel
Destructive
Sullen
Obstinate
Seclusive
Listless

Egotistic
Emotional
Sociable
Timid
Obedient
Quarrelsome

Excitable
Moody
Sneaky
Dishonest

Attitude Toward :

Praise
Blame
Commands

Punishment
School companions and their attitude toward him.

Truancy or Delinquency.

Juvenile Court Record.

(d) Environmental

Condition of Home :

Neighborhood
Income
Rent
Food budget
Number of rooms
Bathroom and inside toilet
Cleanliness, ventilation and lighting
Clothing
Kind and preparation of food
Regularity of meals
Noon meal—character of and time allowed for.

Number of persons in family (itemized)
Number of other persons in home.
Moral condition of
Parents separated
Peaceful or otherwise
Amusements furnished for children
Intellectual influence
Religious influence
Industrial influence

Outside amusements and companions.
Where does child spend evenings and spare time?
Outside employment and money earned.
Appreciation of money earned.
Church habits.

Guide for Physical Examination

Skeletal development.
Muscular development.
Skin and appendages.
Glands.

Respiratory system: Upper respiratory tract.
Rate of respiration.

Chest: Inspection

Palpation

Percussion

Auscultation

Von Pirquet when indicated.

Circulatory system:

Pulse rate—standing and sitting

Regularity of beat

Quality of beat

Arteries

Veins

Heart

Blood

Genito-urinary:

Examination of urine—sugar, albumin, indican, acetone.

Sexual abnormalities

Nervous system:

Sense organs

Deep sensibility: nerve trunks, muscles, sense of position and passive movements, tension.

Co-ordination:

Tremors, tics, automatisms, chorea, convulsions.

Reflexes: superficial, deep.

Vision:

Right eye

Left eye

Audition:

Right ear

Left ear

PUBLIC SCHOOLS OF.....

PSYCHOLOGICAL CLINIC

History

Name.....Examiner.....Date.....

PUBLIC SCHOOLS OF.....

PSYCHOLOGICAL CLINIC

Physical Examination

Name.....Examiner.....Date.....

PUBLIC SCHOOLS OF.....

PSYCHOLOGICAL CLINIC

Physical Examination—Anthropometric

Name.....Examiner.....Date.....

Name

Height standing

Height

Index of stature

Sitting height to shoulders

Index of shoulders height—height

Span

Span—height index

Chest circumference

Vital index

Width of chest

Depth of chest

Index

Weight

Height—Weight index

Head—maximal length

Head—maximal width

Cephalic index

Circumference

PUBLIC SCHOOLS OF.....

PSYCHOLOGICAL CLINIC

Binet Scale—1911 Revision

Name Birth date..... Age.....

Examiner Date Mental Age.....

I-II

1. Eye follows light.....
2. Block is grasped and handled.....
3. Suspended cylinder is grasped.....
4. Candy is chosen instead of block.....
5. Paper is removed from candy.....
6. Obeys commands; imitates movements.

III

7. Touches eyes, nose, mouth; objects from pictures
8. Repeats sentence of six syllables.....
9. Repeats two numerals.....
10. Names familiar objects in picture.....
11. Gives family name.....

IV

12. Knows own sex.....
13. Recognizes key, penny and knife.....
14. Repeats three numerals.....
15. Tells which is longer of two lines.....

V

16. Weights. 3 and 12 grams; 6 and 15 grams
17. Copies Square.....
18. Repeats sentences of ten syllables.....
19. Counts four pennies.....
20. Rearranges cards.....

VI

21. Time, forenoon or afternoon.....
22. Defines (use) fork, table, chair, horse, mama
23. Copies diamond.....
24. Counts thirteen pennies.....
25. Distinguishes pretty from ugly faces...

VII

26. Points to right hand and to left ear....
27. Describes pictures.....
28. Performs three simultaneous commissions
29. Gives value of stamps.....
30. Names red, green, blue and yellow.....

VIII

31. Differences. Paper and pasteboard. Wood and glass. Fly and butterfly...
32. Counts backwards, 20 to 0, in...seconds
33. Points out omission in pictures.....
34. Gives day and date.....
35. Repeats five numerals.....

IX

36. Makes changes.....
37. Definition in terms superior to use.....
38. Names different coins in forty seconds..
39. Names months in order in fifteen seconds
40. Comprehends. Missed train. Broken object. Struck by playmate.....

X

41. Arranges weights.....
42. Draws design from memory.....
43. Detects incongruities.....
44. Comprehends. Late for school. Important undertaking. Judge by deeds. Impulsive and deliberate wrong acts. Opinion of stranger.....
45. Uses three given words in one or two sentences

XII

46. Resists suggestion.....
47. Uses three given words in one sentence
48. Utters sixty words in three minutes....
49. Defines charity, justice and kindness....
50. Rearranges shuffled words of sentences.

XV

51. Repeats seven numerals.....
52. Words that rhyme with "money." (Three in minute)
53. Repeats sentence of twenty-six syllables.
54. Interprets pictures.....
55. Infers facts from given circumstances...

ADULT

56. Images and draws result of cutting folded paper.....
57. Images and draws new form composed from two pieces of card.....
58. Discriminates between similar and abstract terms.....
59. Difference between president and a king.
60. Gives sense of selection once read to him

PUBLIC SCHOOLS OF.....

PSYCHOLOGICAL CLINIC

Name Birth date..... Age.....

Examiner Date Mental Age.....

III

1. Points to eyes, nose, mouth, hair.....
 2. Names key, penny, knife, watch.....
 3. Names familiar objects in picture.....
 4. Knows own sex.....
 5. Gives family name.....
 6. Repeats sentence of six syllables.....
- Alt. Repeats 6-4-1, 3-5-2, 8-3-7.....

IV

1. Points to longer of two lines.....
 2. Discriminates forms.....
 3. Counts four pennies.....
 4. Copies square (pencil).....
 5. Tells what to do when sleepy, hungry, cold.....
 6. Repeats 4-7-3-9, 2-8-5-4, 7-2-6-1.....
- Alt. Repeats sentence of twelve syllables..

V

1. Tells which is heavier of two weights 3 and 15 grams.....
 2. Names red, yellow, blue and green....
 3. Distinguishes pretty from ugly faces...
 4. Defines (use) chair, fork, doll, pencil, table
 5. Rearranges cards.....
 6. Performs three simultaneous commissions
- Alt. Knows own age.....

VI

1. Shows right hand, left ear, right eye...
 2. Indicates omission in pictures.....
 3. Counts thirteen pennies.....
 4. Answers questions—rain, fire, train....
 5. Names nickel, penny, quarter, dime....
 6. Repeats sentence of eighteen syllables..
- Alt. Morning or afternoon.

VII

1. Tells number of fingers.....
 2. Describes picture.....
 3. Repeats 3-1-7-5-9, 4-2-3-8-5, 9-8-1-7-6....
 4. Ties a bow-knot.....
 5. Differences—Fly-butterfly, stone-egg, wood-glass
 6. Copies diamond (pen).....
- Alt. Names days of week in order.....
- Alt. Repeats reversed 2-8-3, 4-2-7, 5-9-6....

VIII

1. Ball and field (inferior plan).....
2. Counts backward 20—1 in.....seconds....

3. Answers questions—Broken something. Tardy, Unintentional injury.....
 4. Similarities—Wood-coal, apple-peach, iron-silver, ship-automobile
 5. Defines balloon, tiger, football, soldier (above use).....
 6. Defines twenty words in list.....
- Alt. Names dollar, half-dollar, quarter, dime, nickel, penny.....
- Alt. Writes from dictation—See the little boy

IX

1. Gives date.....
 2. Arranges weights in order.....
 3. Makes change without coins 10-4, 15-12 and 25-4
 4. Repeats reversed 6-5-2-8, 4-9-3-7, 3-6-2-9
 5. Sentence made from three given words (oral)
 6. Gives three rhymes for day, mill, spring
- Alt. Names months of year in order—seconds
- Alt. Gives value of stamps.....

X

1. Defines thirty words in list.....
 2. Detects absurdities—Road to city. Engineer, Girl killed. Accident. Bicycle
 3. Draws designs from memory.....
 4. Repeats paragraph—fire.....
 5. Answers questions—Important acts. Judge by acts. Opinion of stranger..
 6. Name 60 words in 3 minutes.....
- Alt. Repeats 3-7-4-8-5-9, 5-2-1-7-4-6.....
- Alt. Repeat sentence of twenty-two syllables
- Alt. Healy—Fernald puzzle-A.....

XII

1. Defines forty words of list.....
2. Defines pity, revenge, charity, envy, justice
3. Ball and Field (superior).....
4. Rearranges shuffled words of sentences.
5. Interprets fables (score four).....
6. Repeats reversed 3-1-8-7-9, 6-9-4-8-2, 5-2-9-6-1
7. Interprets pictures.....
8. Similarities—snake, cow, sparrow. Book, teacher, newspaper. Wool, cotton, leather. Knife-blade, penny, wire. Rose, potato, tree.....

XIV

1. Defines fifty words of list.....
2. Induction test. Rule at sixth sheet.....
3. Three differences between president and king.....
4. Infers facts from circumstances:
Hanging; visitors; Indian.....
5. Problems: savings; pencils; cloth.....
6. Reversing hands of clock: 6:22; 8:10; 2:46.....
- Alt. Repeats: 2-1-8-3-4-3-9; 9-7-2-8-4-7-5.....

AVERAGE ADULT

1. Defines sixty-five words of list.....
2. Interprets fables. (Score eight).....
3. Differences: laziness—idleness;
evolution—revolution; poverty—misery;
character—reputation
4. Problem—enclosed boxes.....
5. Repeats reversed: 4-7-1-9-5-2;
5-8-3-2-9-4; 7-5-2-6-3-8
6. Code: come quickly.....
- Alt. Repeats sentence of twenty-eight syllables.....
- Alt. Problems: cannon ball; fish; target shooting.....

SUPERIOR ADULT

1. Defines seventy-five words of list.....
2. Paper cutting test.....
3. Repeats: 7-2-5-3-4-8-9-6; 4-9-8-5-3-7-6-2;
8-3-7-9-5-4-8-2
4. Repeats thought of passage heard: tests; life
5. Repeats reversed: 4-1-6-2-5-9-3;
3-8-2-6-4-7-5; 9-4-5-2-8-3-7
6. Problems—water jars.....

PUBLIC SCHOOLS OF.....

PSYCHOLOGICAL CLINIC

Binet Scale Report

Name.....Examiner.....Date.....

PUBLIC SCHOOLS OF.....

PSYCHOLOGICAL CLINIC

Mental Examination

Name.....Examiner.....Date.....

PUBLIC SCHOOLS OF.....

PSYCHOLOGICAL CLINIC

Summary and Recommendations

Name.....Examiner.....Date.....

SECTION TWO

School Organization

The first problem involved in the establishment of school work for the mentally defective children, who have been selected by one of the methods already described, is one of organization. Four methods have been more or less frequently employed.

1. The defective children of one regular school, old and young, boys and girls, feeble-minded and children with special mental defects, are collected in one room and placed in charge of one teacher. This teacher is expected to give to each child of the group the type of work best suited to his needs, a task from which the best trained teacher might well shrink. Some such groups number as many as thirty children, a number large enough for a homogenous group of normal children. The failure of such a class is predetermined by the conditions. Reducing the number of children to fifteen improves the situation, but even with such a limited number the heterogeneity of the group is a serious handicap.

2. A second method, and a far better one, is the formation of centers of at least three rooms in the regular schools, the children being drawn if necessary from several schools. Such an organization gives the opportunity to separate the boys from the girls, and to separate the older, definitely feeble-minded children from the younger, more hopeful cases. In a word, it makes classification possible and with it appropriate training. A certain amount of departmental training is then possible, one of three teachers might handle all the speech training, another all the woodwork and weaving, another the housekeeping, etc.

3. A third method is the establishment of special school buildings accommodating five, eight or more groups, the children to be drawn from a large district. In such units a finer classification is possible—the boys and girls may be separated, the feeble-minded may be separated from the children with special mental defects, and departmental work may be more effectively developed. In some cities such units are a part of a large special school plant which houses also units for the blind, the deaf and cripples. In London, England, this type of organization is much favored, the first floors being reserved for the cripples and the blind, and the second and third floors for the deaf and the mentally defective. Each unit is a distinct organization under its own director.

4. A fourth method of dealing with defective children leaves them in the regular grades and employs a visiting teacher who devotes certain periods each day to their special training. Speech defect cases are quite generally reached in this manner.

Some school systems employ all four varieties of organization. The forms adopted in each instance are usually determined by the rooms or buildings which are available. School systems of the larger cities, being pressed for room, have too often used small, badly ventilated rooms, which have been abandoned for regular school work. Into these rooms they have crowded twenty-five or thirty children of various ages and types, failed to provide special equipment, and placed the group in charge of a teacher without special training. The principal prides himself upon introducing special education for defectives, when in truth all he has done is gather together a large group of difficult children and delegate a teacher to undertake their training under conditions which would not be tolerated for a similar group of normal children. The regular classes have been relieved of their dullards at the expense of these dullards, while it is inferred that the latter are receiving special attention. It is very wise to relieve the regular classes of their dullards, but why at the expense of the mentally defective, when a different procedure would result in the benefit of both? When a particularly difficult group of children is to be handled it is

certainly not wise to add to the inherent difficulties of the task by discarding the physical aids to school routine which are considered indispensable for regular class work. If fresh air and sunshine, room to move about freely, to play and to dance, are essential for groups of average children, how much more essential are they for those who must make an extra effort to accomplish the least result. It should be understood that both plant and equipment must be such as to lend aid and inspiration to both teacher and pupils.

If a single group for defectives is organized in a school, the room assigned it must be large and airy and bright, because it must house many sorts of activities. There must be good, well lighted blackboards. The tables and seats must be movable that the room may be cleared for physical exercises. If the class is for boys there should be space for several work benches, and perhaps a loom or two. If the class is for girls it must have a long table for sewing and cutting out garments, a sewing machine, a loom, a cook stove, a kitchen table, cupboard, sink, washtubs, dining table, etc. If the group is to be composed of young children it is important to have plenty of space for games and dances, and also to make it possible to shift the position of the seats and separate the children one from another. The work being necessarily largely individual and thus distracting, better work can be done under these conditions. On no account should large girls and boys be placed in the same group, both on account of disciplinary problems involved, and the fact that it is not practical to use the same industries for the two sexes. Boys and girls may be capable of doing the same things, but woodwork is of little use to the adult girl, and housekeeping is likewise unimportant for the man. If the group is designed to accommodate various ages it is well to supply chairs and tables of five heights, three of each. The chairs should be twelve, thirteen and one-half, fifteen, sixteen and one-half, and eighteen inches high, respectively, and the tables twenty-two, twenty-four, twenty-six, twenty-eight and thirty inches, respectively. It is a good plan to have tops of tables of such size that they may be nested when not in use and thus leave more free floor space. If the tops for the five heights of tables given be made twenty-six by eighteen, thirty by twenty, thirty-four by twenty-two, thirty-eight by twenty-four, and forty-two by twenty-six, respectively, the tables may be put away in three nests.

In larger school units a better arrangement can, of course, be made. One room may be equipped for woodwork, brush making, chair caning and similar industries, another for loom weaving of various kinds, basketry, lace making, bookbinding and leather work, another for sewing and dressmaking, another for cooking and laundering, another for games and exercises, and still others with the materials necessary for sense training, drawing, reading, number work, elementary manual training and motor training necessary for the little children.

Many persons consider that all work with the mentally defective should be carried on in the open air, or at least in open-window schools. There can be little doubt that better results will be attained if such class rooms can be provided. We strongly recommend them.

Dwelling houses are sometimes utilized for special schools for the mentally defective, but this experiment can hardly be pronounced a success. Large, cheery, airy rooms, with plenty of floor space are indispensable. These are necessary for the looms, the woodwork benches, the housekeeping and the sewing equipments. Desks or tables should be movable, the set aspect of a schoolroom giving way to a more flexible, homelike arrangement. All this is possible only in very large rooms. To secure these conditions in a dwelling house is practically impossible without radical remodeling, and usually impossible even then. In dwelling houses the rooms are much too small for the equipment; in one such school a valuable equipment lay idle on this account. The large rooms of a regular school building are much better adapted to the work.

Sometimes a small annex to a regular school can be admirably adapted to the purpose. The best plant of all is, of course, one especially built for the purpose, but unfortunately this is rarely possible to secure.

From the point of view of classification and also from that of departmental training the special building is undoubtedly the best form of organization. Three objections are raised to it:

1. The line drawn between the defective and the normal children is more in evidence. This is painful to the parents and frequently leads to their opposition to the proper placing of their children.

2. It separates the defective children entirely from the normal children, and this is considered detrimental to their mental development.

3. There is great difficulty in transporting the children from a distance, as many of them have not sufficient intelligence to care for themselves en route.

In answer to the first objection we would say that the line drawn between the defective children and the average children, though perhaps more evident to the parents when these children are grouped in special school buildings, is less evident to the children themselves. The line drawn between the mentally defective children and the normal children is not an arbitrary line. Unfortunately, it is a fact inherent in the situation that the defective children draw attention to their differences whether they are in regular classes, special classes, or special schools. They are more conspicuously unlike others and are made to feel the difference more keenly, the more normal are the children who surround them. It is recognized by all who know them that mentally defective children are happier when among children who are doing things which they themselves can do; they then develop an interest in work and a belief in their own abilities. The objection to complete segregation may be withdrawn even by the parents when they visit the schools and observe the advantages of classification and equipment offered by the larger centers, and the consequent superior training which their children enjoy.

A method of combatting the aversion of parents to placing their children in special classes or schools for defectives is to avoid calling either schools or classes "special," "Binet," "orthogenic," or other significant name. It is better to keep the names of such units neutral, meaningless, just as are the names of regular schools—Bellevue, Lincoln, Logan, etc. The teachers and those concerned alone should hold the key to the character of these classes and schools. If it is deemed better to make the character of the classes known in order to educate the public to the recognition of the necessity of adapting the subject-matter and the methods of education to the abilities of the children to be educated, the word "orthogenic," used in Philadelphia and Kansas City, is perhaps the best of all names for these classes. This because the word orthogenic expresses the aim of the training—right development—and not the defect of the child.

The second objection to complete segregation is that it is a disadvantage educationally to be deprived of intercourse with normal children. It is held that because many of these children are destined to pass their lives among normal persons, it is well to make the adjustment as early as possible. If such adjustments could be made through mingling with normal children this objection would be shared by all who are interested in the defective children, but experience teaches us that no such adjustments are made. The defective children conform no more successfully in the playground than they do in the schoolroom. They are ignored and neglected by the average children and are practically deprived of all social intercourse and companionship because they are surrounded by persons occupied in pastimes which they cannot share. On the contrary, when they become one of a mentally defective group they for the

first time are given the opportunity to develop the ability for social intercourse which they possess, for the first time they play with other children on an equal footing, and they develop a self-respect and a self-reliance which is impossible under other conditions. Even with this training to build upon when they go out into the world they rapidly drift toward those of their own mental level, failing entirely to hold their place among the intelligent, even as they had already failed to do in school. In this they are entirely human; do we not all drift toward our peers and live our lives at the level of our capacities?

The third objection that concerned with transportation deals with a real difficulty. The low mental level of many of the children makes it entirely unsafe for them to travel alone on the street cars. In cities it is easy to supply the money for carfare, but much more difficult to supply the caretaker. In some cities the situation is met by supplying school buses, which pick up the children at their homes or some nearby point. In others it is met by detailing employees to gather certain groups of children and accompany them on the street cars. In some cities both methods are used. Individual cases may be dealt with in special ways. Often a member of the family is able to accompany the child, especially if the carfare for both is paid. It is generally recognized that when a child is placed in a school distant from its home, the responsibility for and the expense of bringing the child to and from school must be borne by the school. Methods must be worked out by each school to suit the local situation. The difficulty of the school bus system lies in the great distances between the homes of children all due at school at the same hour. It is also a very expensive proposition. For the cripples the school bus is the only possible method of transportation, but it often proves more convenient to arrange other methods for the mentally defective.

All the objections to the separate school building for the mentally defective are, we think, outweighed by the superior opportunities it affords for a fine classification, for complete equipment, and for departmental teaching. In cities where other systems of organization are already well established the initial expense might be prohibitive, but cities beginning the work will find that the expense is no greater, as much duplication of equipment is avoided, and the time of special teachers (speech and physical training) is not lost in traveling from school to school.

Finally, whether the organization be a separate building or a unit in a regular school, there must be adequate room to install industrial equipment, there must be separate class rooms for the large boys and the large girls, and there must be separate class rooms for the younger children suffering from defects which are possibly remediable. No group of children should exceed fifteen in number.

These are the minimal requirements for successful work.

School Training

The nature of the school work will necessarily vary with the type of children composing the group. In planning courses two conditions should be borne in mind—the abilities and potential abilities of the children, and ways in which these limited abilities may be trained to serve a useful purpose. The abilities and potentialities of each child should be discovered as fully as possible by the psychologist and discussed thoroughly with the teacher. On this basis they together should work out an adequate course of training for the child. It is frequently possible to discover at once that a child has not the intelligence to learn to read and to write, and it is then possible to save the teacher and the child months or years of painful and useless effort. It is now established that children of the imbecile group (Binet classification) cannot learn to read and write, and that children of the Moron group (Binet classification), though they

succeed, after years of effort, rarely develop sufficient intelligence to actually use these accomplishments to communicate ideas.

Training of the Feeble-minded

Potentialities for Training.—We have now gained sufficient knowledge of the abilities of the feeble-minded group to plan for them a practical training. We have discovered the impossibility of developing in them the power of intellectual abstraction, the power of planning and initiative and the power of adapting themselves to new and complex conditions. We have discovered, on the other hand, that they are supremely suggestible, that, therefore, it is essential to keep them occupied, for being without resource, they will follow the most evident lead, be it bad or good, that they are easy to interest in manual tasks which do not entail much effort, that they are creatures of habit, capable of learning quite complex and intricate manual operations and repeating them without boredom for an indefinite length of time. This last trait is important, for it makes a usefully industrious life possible. The feeble-minded are fitted by this incapacity for being bored for tasks which are deadening to an active mind. The matron in a custodial home for the feeble-minded in London informed us that twelve high-grade feeble-minded girls delegated to her as helpers from the industrial institution for the feeble-minded, and placed to work with twelve hired helpers in laundry and linen room, accomplished as much work as twenty-four hired helpers would accomplish in the same positions. That is, twelve hired helpers and twelve high-grade feeble-minded girls, working together, accomplished as much as thirty-six hired helpers would have accomplished. She attributed this astounding result to the fact that their minds being sluggish, the feeble-minded girls did not stop to chatter and to so relieve the tedium.

Academic Training.—The first characteristics (deficiencies), cited above, indicate what to leave out of a training plan. The last group of characteristics (assets) indicate what to include in it. As it is impossible to train to abstract thinking, it is useless to attempt to teach reading, writing and arithmetic. This is now recognized in most schools to the extent of limiting the time devoted to academic work to one-third or one-half of the school day. We recommend a drastic reduction in the time spent on reading and writing and number work. It is well to familiarize the morons with a few words that are necessary for safety in cities, such as, "stop, look and listen," "danger," "keep out," and the like, and with simple number combinations and making change. We would stress oral language work to a much greater extent than is now done, both in respect to the understanding and employment of words and sentences, and to their pronunciation and articulation. There should be much drill in simple activities with accompanying verbal descriptions, there should be much directed conversation, recital of incidents, description of pictures, always with stress on the formation of the sentences and on the pronunciation. Much of the information, which it is essential that the children acquire, and which other children glean from books should be given them in these conversations, information concerning health care, hygiene, foods, trees, flowers, people and places, conduct, etc.

Articulation.—The training in articulation should be in charge of a specially trained teacher. If there is no such teacher available, the teacher of the group should endeavor in every way to fit herself for this important part of her work. She will find much help in the books cited on this subject in our list of references given below. It may perhaps be useful to state here that in order to secure correct articulation it is necessary to lead the children to assume the correct position of the lips, tongue, and jaws, and that this is best secured through imitation; verbal instruction is of little avail. A good plan is to use a looking glass and have the child observe in it the teacher's mouth and his own at the

same time and endeavor to make them look alike. It is also useful to pronounce the words thus learned without sound and have the child guess what is said. This compels the child to notice the position and movement of the lips; it may be made into a game, and the child be given a turn at pronouncing the word while the class guesses what he says. Breath control and the placing of the voice should be worked out through such exercises as those given in Blanton's Speech Training. Singing should be taught both with object of voice placing and as training in sight singing. Contrary to the opinion of some educators, we find this quite possible. A class of feeble-minded boys at the school at Asniers, near Paris, sing the most difficult intervals at sight and still better, sing a four-part harmony at sight. These boys were taught by a system of "phonomimie," which employs a certain hand position to represent each tone, using these as additional signs while employing also the regular written staff. A similar method is used in teaching spelling at this and many of the French schools for mental defectives; a certain position of the hand and fingers represents each letter sound, and this position is shown whenever a letter is pointed to or spoken. The idea is to train the children to use this manual alphabet in addition to the other alphabet signs, thus utilizing the kinæsthetic sensations and adding another avenue of association. Many school teachers claim the method has proved very successful, though of course there is a divergence of opinion among them. Sight singing doubtless is a valuable discipline for developing the attention.

Habit Training.—As it is impossible to develop the power to plan and to initiate and the power to adapt to a new environment, it is useless to try to develop a self-sustained, self-reliant character which will withstand temptations through force of ideals. For this we must substitute the formation of useful habits, of habits that are essential to comfortable living, courteous intercourse, and the accepted conventions of society.

Manual and Industrial Training.—The facts of character noted above as positive assets—suggestibility, ready interest, ability to acquire manual habits, and a capacity for boredom, should be our guides in mapping out a course of manual and industrial work for feeble-minded boys and girls. The elementary manual training includes all sorts of training designed to produce manual dexterity—touch training, through the handling of various surfaces and solids, stringing of beads, straws, spools and rings, tracing on paper, paper folding and cutting, pasteboard work, weaving of papers, raffia, and of wool, drawing, coloring and play modeling, handling of simple tools and elementary woodwork.

This training prepares for toy making, cabinet making, brush making, chair caning, rug weaving, sewing, knitting, crocheting, pottery, bead chains and bag, raffia and reed work, bobbin lace making, housekeeping, gardening, etc. All these industries have been found practical in class work with the feeble-minded. It is well to have a variety of industries and not at all necessary that all the children in a class be trained in all the industries offered. The aim should rather be to train each child to the point of expertness in at least one money making industry. It is sometimes well that classes for older children specialize in some one industry. One school with which we are familiar gained a reputation for making very pretty woven rugs, another for making good brushes. A number of pupils from the latter school worked in brush making establishments on Saturdays and holidays.

Plan for an Industrial Plant.—It would be quite possible for a city school system so to specialize and perfect its industrial work with the feeble-minded that it could turn out, after a few years, boys and girls each capable of producing a salable article of some variety. It would be quite possible to solve the after-life problem of many of these children by providing industrial plants as continuation institutions into which the children could be graduated from the schools. The same industries would there be carried on, on a commercial basis,

and each would be directed and supervised by persons understanding the type of persons employed as workers. Regular wages should be paid. There should be associated with such a plant a residential home where those workers who had not desirable homes would live. Those who had responsible parents and good homes could be allowed to go to them at night when the day's work was over. Being regularly occupied during the day, all would be kept out of mischief, and busy at something with which they had been well habituated to doing, they would produce good work and be happy and proud in the knowledge that they earned their living in so doing. Such industrial plants may well turn out to be a practical method by which cities and counties may care for their higher grade feebleminded persons of more than school age.

London already has an industrial institution as an integral part of its group of institutions for the feebleminded. It is entirely successful, and is a proof of the practicality of such a scheme. This institution is not, however, affiliated in any way with the industrial departments of the public school work for defectives. Our idea is to make such a plant the crown of our public school industrial work, the institution into which the public schools for the feebleminded would graduate their capable workers. Such a plant might include all the industries cited above and more. It could provide for weaving of all sorts, hammock making, net making, chair caning and repairing, basketry, brush making, toy making, cabinet making, sewing, knitting (both hand and machine), crocheting, bread and pie making, cake making, candy making, fine laundering, etc. There might be opposition from trade unions, but as Dr. Goddard remarks in making a suggestion for the payment for work done in the schools for the feebleminded, "Any labor union that considers it necessary to be afraid of the competition of the feebleminded is deserving of the ridicule that it would surely receive."

Industrial shops for blind workers have long been established. Industrial plants for cripples have lately proved entirely successful. We describe elsewhere "Le Jouet de France" and the English work with diamond cutting, and we venture to predict that nothing but a well organized trial, following the above plan, is necessary to prove such plants a practical, humane, and economical method of caring for the high-grade feebleminded persons after they leave the public schools. As this high-grade type of feebleminded person (the moron) is the type most difficult to reach through institutions, and is in addition the type causing more trouble in the community than any other type of feebleminded person, such a method of keeping them happily and profitably employed while at the same time feeling independent and being constantly supervised should be given a thorough trial under the most favorable circumstances.

Physical Training.—Any plan for the training of the feebleminded must include provision for physical training. The coördination, posture, and walk of the feebleminded are notoriously bad. Shuffling gait, stooping backs, and awkward movements are quite general among them. All this makes much exercise and corrective drill, active games and dancing more necessary than with average children who organize sports on their own initiative during their play hours. A good Victrola is a great asset for this phase of the work. It allows the teacher freedom to guide the class and relieves her of the necessity of a knowledge of piano playing.

To summarize, the school day of the feebleminded should be devoted to drill in oral language (in the course of which all sorts of general information is imparted), articulation, singing, drawing, and manual work and physical exercise. The girls should all be trained to cook, to arrange the table, to wash clothes, to make beds, to sweep a room, to wash windows, in short, to do all manner of housework in the right way, and also to sew. All the other forms of industrial work mentioned except brush making, toy making and cabinet

making are suitable for both girls and boys. The boys should all be trained in elementary woodwork. Toy making, brush making and cabinet making are their special prerogatives as are housekeeping industries and sewing the girls'. In some schools the boys share the girls' industries and the girls the boys'. We do not consider this either desirable educationally or very practical in the school routine. It is much to be desired that boys and girls of low intelligence be trained separately after they reach the twelfth year, and the divergence in the industrial training makes this separation the most natural course to follow.

In classes for the younger children there should be much drill in sense training games and exercises, and those developing manual dexterity. Much time should be given to speech drill and drill in articulation and in singing. A great deal of the sense training as well as the physical training is best given informally as games, and many good suggestions are given in the books listed below. An ingenious teacher usually collects much original material. She should have the use of a mimeograph in its preparation. The periods of work with the little ones must be short, frequent periods of play, song or dance must be interspersed through the day to keep them bright and happy.

Children Under Five Years in Intelligence.—We have elsewhere stated that it is better for public schools to exclude children whose intelligence ranks below the five-year level, for the reason that they are incapable of profiting by school training of any sort. If, for any reason, a school finds itself obliged to admit children of such a low mental grade, nursery classes should be formed, in which the effort should be solely to train in habits of personal neatness and obedience, and to keep the children happily active. Such classes do not require the care of highly trained teachers, the demand is rather for women who love children and who at the same time have force of character enough to dominate the probably unruly group while they keep the children cheerful and happy and inculcate desirable living habits. Such children are in reality not a public school problem, they are institutional in type.

Class Routine.—In all types of class there should be daily drill in all the sorts of training offered. Constant repetition to form habits is the key to success with this training. To the manual work should be devoted at least two-thirds of each day. The program should be quite flexible. When fatigue is shown by inattention a short period of exercise in the open air or with all windows open is advisable. It is well for each child to have some form of handwork close by that he may resort to it without help from the teacher during those moments after one task is completed and the teacher is elsewhere occupied. As much of the work is individual, such periods are of frequent occurrence. One class of boys is so well supplied with individual pieces of work which hold their interest that one rarely sees a child looking around for some novel form of mischief. Instead, the unoccupied moment finds them hastening to a partly caned chair, a hammock hanging from its wall hook, or a bead chain in the process of making—all quiet processes which can be pursued without annoyance to anyone.

Equipment.—The equipment for these classes is largely dictated by the forms of industries chosen. We have already advised tables and chairs rather than desks. There must be cabinets for storing the supplies and also for keeping the finished articles. There should be a Victrola, a good one with the repeating device. For the boys there must be the work benches, tools and wood, for the girls the housekeeping and sewing equipment. For both there must be some simple gymnastic apparatus.

For the younger children there must be the usual sense training material—color devices of various sorts, whistles and bells, tuning forks and varieties of sounding objects, bottles containing odorous substances, rough and smooth surfaces, and objects variously shaped for training perception of touch and form.

Form boards, sliced pictures, games for improving manual dexterity, attention, alertness and concentration. Beads, blocks, peg boards (large size), plasticine, clay, crayolas, and materials for all the elementary manual work listed above.

In addition must be provided the equipment for all the industries introduced.

Training of Children Having Special Mental Defects

The education of those little children handicapped by mental defects though not permanently mentally defective calls for the most skillful sort of teaching. For each child the school program must be based upon his particular abilities and disabilities; it must be based upon the findings of the mental analysis made by the psychologist, the psychologist and the teacher conferring together and deciding upon the methods which best suit the special needs of the child. Under such a program the mentality of the child will reveal itself and its needs more and more fully, and the work will progress not along logical lines, following the subject matter of any prescribed course, but psychologically, following the child's developing needs.

Equipment.—The equipment for such a class consists of the sense training material, the form boards and the other didactic material used for the younger feebleminded group, and in addition later, word, sentence and number cards, and games for instruction in reading, writing and number work.

The oral language and articulation is very important for these classes. The work should be given in short periods, and should be intensive within these periods. There should be frequent periods of active play, song or dance to relieve the tension of the school day. Manual work of an elementary kind is valuable not only for training to manual dexterity, but also for training in attention and concentration.

The number of children in such a group should never exceed fifteen; twelve is a better number.

A highly trained teacher, one with a bright and cheery disposition, energy and initiative is absolutely necessary for any real accomplishment with such a group. A training in corrective speech work and primary methods is desirable, as well as a knowledge of child and abnormal psychology.

Qualifications for Teachers

Teachers of the mentally defective should have special preparatory training, in addition to the usual teacher's requirements. As the training of the mentally defective is based upon the mental peculiarities of the children rather than upon the subject matter taught, the foundation of the teacher's special training should be a rather comprehensive course in child psychology and the psychology of abnormal conditions, supplemented by observation and practice work in the teaching of mental defectives. It is essential that there be a thorough course in primary methods, training in speech correction, sight singing, physical training, dancing, athletic games, in many sorts of manual work and in a great variety of industries.

If a teacher is to handle alone a heterogeneous group of mental defectives training along all these lines is desirable. If the work is conducted in centers of three or more groups, it is not necessary that all the teachers have such a comprehensive training; their training may be more narrowly and intensively specialized. One teacher may handle the speech work only, or possibly speech work in connection with singing, another may be delegated to various sorts of industrial work, and another to physical training.

For the younger feebleminded children and for the children with special mental defects the training in primary methods is important, and for all the teachers the training in child and abnormal psychology is indispensable.

Specialists in industrial arts and in speech training who have not worked

with the mentally defective often make good teachers in the departmental type of school, and when it is necessary to draw teachers from the regular school force in which there are none who have been trained for this type of work, it is well to draw them from these two types of specialists and from the most efficient and resourceful of the primary teachers. The primary teachers would of course be delegated to a group of younger children, and the industrial arts teachers to the industrial training of the larger feeble-minded children.

If teachers without special training are used it is wise to arrange in some way for supplementary training which will help them to understand the special problems of the type of children they are teaching. Lectures on the psychology of the abnormal mental conditions and the teaching of mental defectives might be offered on Saturday mornings.

At present there is a great shortage of teachers for special teaching. There are certain universities, normal schools and institutions for the feeble-minded which offer special courses preparatory for the teaching of mental defectives, but they do not as yet turn out enough graduates for their local communities. Some public school systems wisely send to these training schools, bearing all expenses so incurred, teachers whom they deem fitted temperamentally and intellectually for the work. Such foresight and expenditure is amply justified in the superior results obtained by these teachers in their subsequent work.

In another place we present a list of schools where preparatory courses for teachers are offered.

In some states the statutes, in others the regulations of the departments of education require special training for teachers of classes for mentally defective children. Some boards of education define just what such special training shall be. Some states which allow an annual sum toward the maintenance of each class for defectives allow it only on condition that a specially trained teacher be employed. Such action on the part of states not only encourages the formation of classes for the defectives, but also encourages a finer grade of teaching in those classes. It is much to be commended and desired. It should do much to counteract the unfortunately too general tendency to use for this type of teaching inferior teachers who cannot be utilized elsewhere in the system.

Teachers' Salaries.—To interest teachers in this type of teaching, the usual plan is to offer a slightly higher salary—one, two, or three hundred dollars more per year—than is paid to the regular primary teacher. One system increases the bonus yearly by one hundred dollars until it reaches five hundred dollars. The state grants for this work make the bonus system easy to carry out, and at the present stage of the work it seems impossible to secure teachers in sufficient number without this financial inducement.

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RECOMMENDATIONS CONCERNING THE EDUCATION OF THE BLIND IN THE PUBLIC SCHOOLS

Education of the Blind in Public Day Schools

The education of the blind in the United States has until very lately been entirely conducted in special residential schools, owing perhaps to the very obvious difficulties involved in sending blind children to and from school and in handling them in conjunction with large classes of seeing children. The opinion has grown more and more pronounced among leaders in the educational work for the blind that a school life spent among blind persons exclusively does not tend to develop the self assurance and the self reliance necessary for a later life of companionship and competition with the seeing.

From time to time the experiment has been made of sending pupils who have spent several years at a residential school and finished successfully the elementary training there given, to high school or to college. At the residential school these pupils have acquired a certain amount of confidence in finding their way alone and have developed facility in the use of embossed print. They are able to take notes by using the type slate and to prepare their assignments on the typewriter. It is necessary to employ a person to read to them in preparation for class requirements, both because the necessary books are not always obtainable in Braille and also because the reading of embossed print is a comparatively slow process. New York State appropriates \$300 per year for each blind person attending a higher institution of learning, for the purpose of supplying the necessary reader. The Pennsylvania Legislature of 1921 made an appropriation to cover the expenses of blind students attending colleges and universities. For the higher education of the blind this method seems more satisfactory than the establishment of special schools.

From these experiments in higher education has developed a somewhat similar method of educating blind children in the elementary grades of the public schools. The supplementary assistance for blind children in the elementary grades must of course be much more extensive than that given to high school students. It must include instruction in reading and writing embossed print, in the use of the type slate, the Braille writer, the typewriter and also other forms of training essential for blind children.

The method now favored by the public schools is to maintain in a regular school a special class room in charge of a specially trained teacher for not more than ten blind children. These children take the regular grade work in mathematics, history, geography, English, etc., in the regular class rooms with the sighted children. The written instruction for this work is transcribed into Braille by the special teacher, and the assignment is prepared in the special room with her assistance. In this special room the blind children spend the periods devoted by their grades to drawing, penmanship, and other hand work, learning to read the embossed print, to use the type slate, the Braille writer and the typewriter. They are also, during these periods, led to develop ideas of form through drawing with tacks on pillows, through modeling with clay, and through the study of relief maps. Without this special training progress with the regular grades would obviously be impossible. Manual work and physical training are also largely handled in the special room.

The duties of a teacher of such a special class are necessarily very heavy as they include transcribing into script for the regular class teacher the mathematical calculations and the embossed recitations and tests of the blind children, and the transcription into Braille for the blind children, of the class written instructions and also of much book material. This last because the text books used by the regular classes are frequently changed and it is not possible to have them all

printed in embossed type. For these reasons it is essential to limit the number of pupils assigned to one teacher to ten; seven or eight being even more desirable.

There is another method of organizing the instruction of the blind children which does away with much of this transcription. This method creates totally segregated units of blind children and places them entirely in charge of special teachers. The necessity for using exactly the same texts as are used by the seeing children under these conditions no longer exists, and it is possible to choose texts which are available in Braille. Another point in favor of this type of class is that it is quite possible to place a blind teacher in charge. This is obviously impossible with the first type of organization described. The children, however, lose the constant drill in companionship and competition with seeing people, and thus the method defeats the main purpose for the organization of the work in the public schools. In London this method is used. The children are gathered together in special centres, accommodating several classes and the work is in charge of a group of teachers all but one of whom may be blind. Sir Arthur Pearson who did such splendid educational work for the blinded soldiers during the late war, believed that the blind derive special inspiration, hope and confidence from a blind teacher. The pupils feel that such a teacher must realize their difficulties and will not expect of them the impossible, and they feel that her success makes theirs possible.

With the partially segregated system such as we are developing in American cities, if we organize centres comprising several groups of children brought from extended districts, blind teachers may be used for teaching manual work and music. Cleveland at the present time employs a blind teacher as a piano instructor. The only way of combining the desired contacts with seeing children with the inspiration derived from witnessing the efficiency of a blind teacher seems to be by organizing the public school work in centres made up of several groups, to place these centres in the regular schools, to use the nonsegregated mode of instruction in the regular classes, combined with special assistance and instruction by seeing teachers trained for this work, and instruction in manual work and music by blind teachers.

Our report shows that twenty-two cities now have public school classes for the blind. The number is steadily increasing and they seem to be filling a need. Thirteen States make statutory provision for public school instruction of the blind, and six States contribute toward the support of such classes.

The wisdom of sending blind children to day schools for their early education is doubted by some educators, who hold the opinion that it is better to give this training in a residential school, to train the child there how best to care for and manage itself in the home and on the street, and only later to send it to the public school. The blind are apt to develop awkward habits and mannerisms which seriously handicap them in their social contacts. The training to prevent these should begin very early, the Cleveland educators consider that the eighth year is almost hopelessly lost. If children are not sent to a residential school it is well to have a home-visiting teacher who will help them before they reach school age. Such teachers also render valuable aid by leading the family of the child to wiser methods of dealing with it. In districts where there is a good residential school it is, therefore, sometimes thought best to leave to it the elementary teaching of the blind, and to confine the public school work to children with partial vision. In districts where there is no residential school there is of course great need for the public school classes for the totally blind. The tendency to carry on the education of the blind in day schools is undoubtedly in line with the current tendency to try to keep all children in their home environment rather than in institutions and therefore it seems destined to become more and more firmly established.

The transportation to and from the schools has always been considered a difficulty, though it is not such a problem as that which confronts us in transporting the crippled children. It is considered better, when conditions permit, to use street cars than special omnibuses, in order to establish confidence. Often arrangements can be made with seeing children to act as companions and guides. Sometimes a member of the family is glad to act in this capacity. By paying the fare of both pupil and guide it is frequently possible to make satisfactory arrangements. For some children it may be found necessary to use the school omnibuses as in the case of cripples and imbeciles. The question of transportation is, for the blind, an individual problem which must be settled for each child.

School Subjects

In determining the special work best suited to the abilities of the blind and thus best suited to prepare them for life in the community one naturally turns to the highly developed work of the residential schools for information and advice. We find that they accentuate four lines of work—academic, physical, manual and musical, particularly emphasizing the musical.

Academic Education.—The academic work differs from that offered to seeing children in its special technique for reading and writing. The public schools must of course adopt this in its entirety. The child must learn to read Braille, to use a type slate and a Braille writer and also a typewriter that he may write for seeing persons to read. The typewriters used are of the regular makes, a raised spacing scale being substituted for the usual one and an extra guide for keeping the paper straight being added. A Braille shorthand has been developed and it is therefore possible to train some blind persons as secretaries. Sir Arthur Pearson secured good results in this type of work with the blinded soldiers, and it seems a useful and practical subject to include in the courses of study for the higher grades. The Chicago schools include dictaphone operating in their course for the blind and have successfully placed several girl graduates. Telephone operating is also a useful industry for the blind. The flash light switch board system is of course impossible but the drop shutter system, now often used, is admirably adapted to their use. This also may be included in a higher grade course.

Chemistry and physics of a laboratory kind must obviously be omitted from the curriculum. Relief maps are used for teaching geography and a sense of form must be consciously developed by handling solids, drawing with tacks on cushions, modeling in clay, etc.

The pupils must be much read to if they are to progress as rapidly as the seeing children with whom they are working in competition.

Physical Education.—As blindness is apt to cause timidity and through this timidity bodily indolence, blind children are apt to be anaemic and under-developed physically, and to acquire nervous motor habits. To counteract these tendencies schools for the blind must stress organized physical exercise and active play of all sorts. The school must initiate all that activity which is instinctive in a seeing child. In no other way will good carriage and good poise be attained and physiological functions be adequately stimulated. Much of the exercise will have to be given to segregated groups of blind children. At the general recess it is well to place each blind child in the care of a seeing child who will assist him to participate in the general games. It is also considered wise to arrange for a period of physical exercise after the close of the regular school session. This work might well be in charge of the school's physical training teacher, or, if the centre for the blind is large, in charge of a special assistant for the physical training of the blind.

Manual Education.—Mr. Burritt, the Superintendent of the Overbrook

School for the Blind, reports that about seven of each ten of his pupils do equally well in manual and in intellectual work. He considers the training of the hand fundamental to the education and the intellectual growth of the blind.

Much of the regular kindergarten work is adaptable for work with the little blind children. Paper cutting and folding, weaving with slats, with heavy cord and with paper; stringing beads, berries and seeds; sewing with shoe lacers through holes in shoe leather and through roughened holes in cardboard; winding of raffia on cardboard to form napkin rings and frames; clay modeling; drawing with upholsterers' tacks on cushions filled with excelsior and covered with denim are all valuable for training the hands of the little children and should occupy one-third of the school day.

After the hands have become capable through the elementary training, the manual work takes the form of useful industries. For the girls, cooking, house-keeping, plain and fancy sewing, crocheting and knitting; for the boys, woodworking, chair caning, broom making, mattress making, shoemaking and repairing; for both girls and boys, loom weaving, rug making, basketry, hammock making, bookbinding, massage, poultry raising and gardening. Massage was particularly successful in Sir Arthur Pearson's work with the soldiers, as was also poultry raising. No center would introduce all these industries, but they are listed as industries which have been successfully taught in blind schools and which are therefore practical for use with the blind. All of them are money-making industries, though broom making is no longer very remunerative and is not highly recommended.

After the elementary manual training the time devoted to manual occupations varies with the individual pupil. Rather less time is apt to be devoted to it in the intermediate grades, and more, even as much as one-half time, after the pupil has reached the higher grades and is interested in perfecting himself in a money-making industry.

Musical Education.—The residential schools have particularly emphasized the musical education. Music occupies an important place in the curriculum; not only is instruction in piano, organ, violin and voice offered, but the children live in a musical atmosphere, they are constantly hearing fine music, and learn to understand and to love it. This is not because the blind are especially gifted musically, but because music is an art which is available to them. The inspiration of beauty can reach them through two channels only—music and poetry; these two arts must make up to them for the loss of the glories of sky, trees and flowers, pictures, statues and cathedrals. In an effort to bring to their darkened lives as much of beauty as is possible, music has been rightly accentuated.

This musical atmosphere is not provided by the regular public school. It is necessary to make special provision for the musical instruction of the blind if the public school hopes to offer as full a training as does the residential school. Visiting teachers in instrumental and vocal music are therefore employed, who instruct at the school during the regular school session, in a room set apart for that purpose. These teachers are often chosen from the blind. An effort is made to supply the children who study piano with an instrument, or at least to secure for them the opportunity to practice on a neighbor's piano. The musical taste may be cultivated through the use of a good victrola and records of the best compositions produced by noted performers.

Cleveland Schools.—In Cleveland, where the public school work with the blind is established under especially good conditions, under the able superintendence of Mr. R. M. Irwin, who himself is blind, the school day is increased from five to six hours in order to accomplish the extra work necessary to make progress with the sighted children possible. In addition, the chorus work, manual training and gymnastics are conducted largely outside of school hours. This appears to be a

very heavy program, but when one realizes that much of this extra work is of a nature which sighted persons would naturally consider recreation—choruses and gymnastics—it is perhaps not harmful so to extend the school day.

The Cleveland schools support a visiting music teacher, a blind one, to instruct in piano playing; they also conduct a class in piano tuning.

The teachers of the blind groups in the Cleveland schools regularly visit the homes of their pupils, and in addition a special home visitor is employed who acts as counselor to the family and starts the training of the blind children of pre-school age. There is also on the staff a vocational guidance worker, who studies the abilities of the blind pupils who are approaching the age when they must leave the school, and also the industrial opportunities of the district, seeking to make suitable adjustments and to secure positions for the children when they leave the school.

Much effort is made in Cleveland to cultivate social capacity, to adapt the child to actual life and to make for it real contacts. The seeing children are advised as to the attitude they should take toward the blind children, the advice being given that they treat them to as great an extent as is possible exactly as they treat each other. The blind children mingle with the seeing children in play, one seeing child accompanying each blind child in the capacity of unobtrusive guide, who helps only when necessary. Many friendships are thus formed, and not only the blind profit, for the seeing children increase in gentleness and in thoughtfulness for others. The play is made as free as possible, supervision being ready when needed, but held off until the need is urgent. Boys are told about the Scout organization, and if the desire to join awakens they are placed in the regular troop of their neighborhood. They are encouraged to try for clubs whose membership is based upon scholarship. In short, every effort is made to develop strength of character, poise, independence and sociability.

Classification

The desirability of a careful classification based upon a study of mental ability exists as with seeing children. It is necessary to adapt the methods of testing used with seeing children to the testing of the blind. Professor Samuel Hayes, of Mount Holyoke, has developed an adaptation of the Binet intelligence tests and of certain other psychological tests, which are now being used at the Overbrook School for the Blind. There are among the blind, as among the sighted, a certain number of feeble-minded children whom it is most important to find before they are subjected to the intensive educational methods used with the normal blind children. There seems to be little in favor of placing the mentally defective blind children in a special class for the blind. The methods employed in the special instruction of the blind are not adapted to the needs of a feeble intellect; neither the residential schools nor the special classes for blind in the day schools are prepared to handle the feeble-minded blind children. The educational methods employed in these schools are all adapted for use with children of a mental endowment far above that possessed by a mentally defective child of whatever grade. These doubly defective children—both blind and mentally defective—must be placed with the mentally defective group. Such children are best cared for in an institution, and when they find their way to a public school center, either for the blind or the mentally defective, every effort should be made to secure for them institutional care, unless the parents are themselves capable of handling the problem of their care. We consider it most essential that all blind children should on application for admission to a public school class be subjected to a thorough psychological examination, a thorough clinical examination such as that described in the first section of this report.

Teachers' Requirements

Just as it is necessary to turn to the residential schools for suggestions for the curriculum and methods of teaching, so is it necessary to turn to them for

teachers. It is necessary to secure teachers especially trained in teaching the blind and the residential school is the place to find them. Lecture courses concerning the blind are now being offered at Harvard, Columbia and the University of Pennsylvania. These aim to give a good general knowledge of the blind, their abilities and their disabilities, and the work that is being done for them now and that has been done in the past.

The salaries paid to teachers of the blind are usually higher than those paid to other teachers. Philadelphia adds three hundred dollars to the regular salary of an elementary teacher. In six states the payment of higher salaries is made easy by state contributions toward the support of all special classes.

Equipment

The school equipment must include embossed print text books, type slates for each child, Braille writers, typewriters and special paper for embossed writing. The equipment for manual work will depend upon the age of the children taught and the industries chosen. Much of the equipment of the regular manual departments may be utilized. For geography relief maps are required. There should be a Victrola and many fine records, also a piano. If a well-trained teacher be secured she should be given the opportunity to choose the equipment suited to her special charges. For the little children much of the kindergarten equipment may be utilized. Sand tables and modeling clay are useful, also the brass-headed upholsterer's tacks for pillow drawing. Wooden blocks of various shapes and sizes are useful, also hand looms for weaving. Books and music scores in embossed print may be obtained from the libraries for the blind, which mail books on request, the United States government having made this possible by carrying all reading matter for the blind through the mails free of charge. The best known libraries are the Philadelphia Free Library, the California State Library, the New York State Library, the Library of Congress, the National Library in Washington, D. C., the Carnegie Library in Pittsburg, the Cincinnati Public Library, the Chicago Public Library, the Detroit Public Library, the Cleveland Public Library, the Enoch Pratt Library in Baltimore, and the Library of the Perkins Institution in Boston. There is also a monthly magazine in embossed print which is sent to any blind person on request.

Public School Classes for the Partially Blind

The public school work for the totally blind has led to the establishment of classes for the partially blind, generally known as "sight conservation" or "sight saving" classes. The children eligible to these classes have too much vision to profit by using the Braille system and too little to succeed in the regular classes without strain on their eyes and injury to their eyesight. Some cities, Philadelphia among them, have found it necessary to establish such classes, though classes for the totally blind have not been organized. The totally blind children of Philadelphia are offered so many advantages at the Overbrook residential school that it has not been deemed wise to introduce classes for their training into the public schools. The partially sighted are clearly not a type who profit by the methods of the residential schools; they persist in using their eyes to read the Braille, and this is perhaps even a greater strain than would be their use for reading ink print. Their education seems to be a proper function of the public schools.

Equipment.—The equipment for these classes consists of especially printed, very large type books and charts. Penmanship must be on a very large scale also, and typewriting should be used instead of long hand whenever possible. Each room should be well equipped with typewriters. When the child must write script, he must do so with his eyes focused straight ahead and head upright. This is accomplished by having desks with tops which can be adjusted to a vertical position or to an angle of forty-five degrees, and placed on a level with the eyes.

The head should never find it convenient to droop in the characteristic pose of myope. In the London classes much of the writing is done standing before the blackboard in order to assure the correct head position. In the London sight saving classes the curriculum is arranged with a view to discouraging the love of reading. The myope naturally tends to become a reader because he sees but little of the world that is not directly before his eyes and is therefore not distracted by and attracted to other things. As the love of reading tempts him to read small print and so injures his vision, he is purposely led away from his interest in books to an interest in manual activities. He is diverted from books by interesting occupational work. In our schools, on the contrary, the effort to compete with the seeing children encourages the desire to read and for this we must compensate by much reading aloud on the teacher's part. The necessity to remember what has been heard for recitations and tests in the regular grades stimulates the attention and concentration, which often becomes trained far beyond the usual attainments of seeing children.

For text books 36-point type is recommended and for writing non-glazed paper and very soft pencils. After the fifth grade the typewriter should certainly be used. A series of specially printed elementary texts is now available, for which the schools are indebted to Mr. Irwin, superintendent of the Cleveland public school work for the blind.

Manual Work.—The manual work must be carefully chosen, with a view to saving eye strain. Some forms of hand work adapted for the uses of the totally blind are harmful for the partially blind, who will strain their eyes in an effort to see. Sewing is not a wise choice. Knitting and crocheting with yarns are good occupations. Reed and willow basketry are also good as are some forms of rug weaving and hammock making. There is too much eye strain involved in wood work, but the painting and enameling of toys made by other classes is possible.

Organization.—The organization of the sight saving classes is usually similar to the organization of the classes for the totally blind. The regular work is carried on with the normal children and special assistance is given to the small segregated group by a teacher assigned to them alone. Much more of the manual work and of the gymnastic work may be done with the sighted children. The special room must be very well lighted, the window space should be at least 20% of the floor space. The necessity for careful saving of eye strain throughout the day's work inclines some persons to the opinion that it is better to conduct the entire school work of the partially blind in a room apart where conditions of light and of size of print may be kept constantly correct. If the London idea that it is wise to discourage the love of books in the partially blind is sound, the position of these educators is considerably strengthened.

In considering the work that has been done for the blind, it occurs to us that amazingly little use has been made of the phonograph. Why not substitute phonographs for the now indispensable and expensive human reader? Why not substitute phonographic records for the cumbersome volumes of the embossed print classics? David Copperfield, for instance, in Moon type, fills 23 volumes, why not read it once for all into a phonograph and later give it out in records to thousands of listeners? School texts could be made available in this way, just as are the texts of the Cortina foreign language series.

We are told that this idea has been discussed by educators of the blind but that it was abandoned on account of the expense involved. When we think of those elderly people who become blind too late to learn to read the embossed type, and of their many desperately lonely hours we feel that the largest investment in book records would be none too large for the return it would bring in happy hours to thousands of lonely suffering people. Surely there is among our wealthy,

public spirited countrymen some one who would gladly start such a project by an adequate endowment.

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RECOMMENDATIONS CONCERNING THE EDUCATION OF THE DEAF IN THE PUBLIC DAY SCHOOLS.

The education of the deaf, like that of the mentally defective, of the blind, and of the crippled, had its beginnings and its substantial development in residential schools.

Since the founding of the first permanent residential school for the education of the deaf in 1817, at Hartford, Conn., the movement has grown until now there are sixty-four public residential schools, with an enrollment of 11,232 pupils; nineteen private and denominational schools, with an enrollment of 715 pupils, and a National Residential College at Washington, D. C., at which 113 students are now registered.

The first public day school was organized in Boston in 1869. Today there are public day schools in seventy-eight cities (twenty states), and eleven states make statutory provision for such classes. (Such provision is made for the blind in nine states, for the mentally defective in ten states, and for the crippled in five states.

Public Day School Versus Residential School

The public day school for the deaf is thus shown to be rapidly growing in favor. The consensus of opinion at present seems to be that all mentally normal children are better off in their own homes than in an institution if it is at all possible to keep them there, and at the same time to assure to them adequate care and attention. This opinion applies to the blind, the crippled and the deaf just as it does to other children. Perhaps it applies even more especially to the deaf, because if the deaf are to learn to use spoken language they need the constant demand for spoken language supplied by family life, in order to counteract the tendency of their kind to mingle exclusively with one another and to use the sign language when so doing.

If the deaf are to be trained for later life in hearing communities, so urgent is the necessity for constant contacts with hearing people that some educators of the deaf hold that even a large day school restricted exclusively to the deaf is undesirable and that the special classes for the deaf should be scattered throughout a city in the regular schools, and the children encouraged to mingle with the hearing children. In some public schools, after the deaf children have become fair lip readers, they are sent to the regular classes for the grade work, returning to the special room for supplementary training and language work.

On the other hand, the extreme difficulty of educating the deaf, the necessarily long and tedious process of building up language concepts and an adequate vocabulary makes it impossible to give the deaf child in a five-hour school day the amount of language and of industrial and physical training provided for them in the best residential schools. These schools allow twelve years for primary education and to prepare a child for entrance to a regular high school. To accomplish this they find that four or five hours per day of academic work is required. In these schools industrial and physical training is given in addition to this five hours of academic training. Such an arrangement of time is possible in a residential school. Can it be achieved in a day school?

It is not impossible to lengthen the day for the public school classes for the deaf. In Cleveland the classes for the blind are given a six-hour day, and chorus work, manual training and gymnastics are conducted after this six-hour school day is accomplished. Such a programme may seem heavy, but physical training at least is legitimate as a pastime at any hour of the day, and manual training is so utterly different from language drill that it would not probably be found too taxing.

The public schools must expect special education to exact radical changes from the regular school procedure, and if such changes include the lengthening

of the school day as well as the provision of a special equipment and the adoption of special methods of teaching, the schools must be ready to adapt themselves to the situation and arrange for the altered school day.

So far the majority of the public day schools have met the problem by giving a minimum amount of manual and industrial work. As the deaf are particularly in need of this sort of training, not being able to pick up information as are hearing children, this practice is to be deplored.

Many educators of the deaf believe firmly that the public school is attempting a task which can be better done by the residential schools. They feel that all the advantages derived from home life and from home and school intercourse with the hearing, are overshadowed by the benefits of the constant intelligent supervision and training possible in the residential schools.

Without doubt it is true that a school has a better opportunity to mould a child if such child is not played upon by outside influences; especially is this true when the effort is being made to build up new and difficult habits of speech, but we doubt that such moulding to pattern is of such paramount importance as to make worth while the loss of the humanizing influence of the home.

The relative merits of the residential and the day schools can be tested in two ways. One way is by a study of the subsequent careers of the graduates of both types of school. As far as is known, such studies support the contentions of the advocates of the residential schools.

However, excepting in Boston, the day schools are young. New York's was founded in 1908, Chicago's in 1905, Los Angeles' in 1899, while Philadelphia's are less than two years old. It may well be that when methods of work in these schools have become better developed the pragmatic test will, after all, be in their favor.

The second way of putting the matter to the test is by actually testing the mental capacity and educational equipment of the pupils in both the residential and the day schools. This has been done by Dr. Janette Reamer, who examined the children of fifteen state schools and of eleven public day schools, 2,172 children in all.

She used mass tests, one set comprised of non-language mental tests, and a second set comprised of educational tests involving a knowledge of written language. The results obtained show that the day school children pronouncedly surpassed the residential school children in the mental tests, and outdistanced them so enormously in the educational tests that the superiority of mental capacity indicated by the mental test results can by no means account for it. As far as their evidence can be depended upon these results leave no doubt that the day schools included in this study are accomplishing more for the children than are the residential schools included in the study.

It is scarcely fair, however, to attribute the difference in results achieved by residential and day schools entirely to their character as residential and day schools. It may be due largely to differences in methods used in these two types of school. The method used in the majority of public residential schools, forty-nine of the sixty-four listed in the *Annals of the Deaf*, is a combination of the manual and oral methods, while all the day schools, with the exception of three, use the oral method exclusively. Dr. Reamer does not tell us in which schools her tests were made, and it is quite possible that the results may measure the relative merits of methods of instruction as well as the relative merits of residential and day schools.

Methods of Instruction

There are two methods of conversation used by the deaf, and on them are based the two methods of instruction. One, called the manual method, uses signs and a finger alphabet; the other, called the oral method, uses oral speech and lip read-

ing. A variation of the manual method, called the "alphabetic," discards the sign language but retains the finger alphabet. A variation of the oral method, the "auricular," makes an effort to preserve and develop residual hearing through practice. All methods make extensive use of reading and writing.

In the schools in the United States there has been a gradual movement away from the manual method, through a combination of the manual and oral methods, toward the purely oral method. There are only two residential schools listed as using the manual method exclusively. Forty-nine of the public residential schools, six of the private or denominational residential schools, and three of the public day schools use a combination of the manual and oral methods, while twelve of the public residential schools and twelve of the private residential and seventy-five of the day schools use the oral method alone. The combined method is still the most in favor with the residential schools, but the day schools almost unanimously favor the oral method.

The Pennsylvania Institution for the Deaf and Dumb at Mount Airy has lived through the complete evolution of method during the administration of its present superintendent, Dr. Crouter. Starting as a manual school, it has passed through its combined period and now stands as an oral school. Dr. Crouter has thus had an unusual opportunity to observe all methods and to judge of their results. He is of the opinion that the oral method cannot be used to its greatest advantage in a school using manual methods also. The full success of the oral method, he believes, depends largely upon daily intercourse with those who use speech only.

The oralists hold that deaf children should be trained to mingle with hearing people and to speak their language. They are convinced that this can be accomplished if the manual language is never resorted to. The drill necessary to learn to talk is very great, habits must be slowly built up, and there must be no lapsing into the sign language if the training is to be successful. That it is possible to develop speech in the deaf to the point of practical usefulness is proven by the achievements of the oral schools, and by the subsequent careers of those of their graduates who later attend high schools, and even colleges, for the hearing.

The "combined schools" very generally depend upon the manual alphabet for the more advanced instruction. They teach the little children to speak and to read the lips, but they fail to practically use these developed abilities of the children in the higher-grade courses. The principal of one school considers it impossible to develop oral speech and lip reading to the point of application to advanced school work. It seems to us scarcely consistent to teach with great labor deaf children to speak and to read the lips, and then to make no use of the results of the labor. Many educators of the deaf claim that the great majority of the deaf can never learn to speak with sufficient clearness, nor to read the lips with sufficient accuracy to enable them to communicate successfully with hearing people. They insist that the oral method is successful only in rare instances—with individuals who have lost their hearing after the age of five or six years, with individuals who are only partially deaf, and with individuals having an exceptionally fine mentality. These educators claim that the manual language is an easier means of communication between the deaf, and the written language is a more satisfactory means of communication between the deaf and the hearing than is oral speech.

This controversy, like that concerning the relative merits of residential and day schools, can only be settled by a study of the results achieved by the two methods. These results may be tested in two ways: by a study of the subsequent careers of the students, and by a study of the actual mental and educational status of the pupils.

The first test method was applied by Binet in Paris and reported in an article entitled "Can Speech Be Taught to Deaf-Mutes?" He found in Paris thirty-three

graduates of the National Institute for Deaf-Mutes, Paris, and seven graduates of the Departmental Institute at Asnières, who were reported as being congenitally deaf, and normal mentally, as well as having profited by the oral instruction of the schools. These forty persons were interviewed, and it was found that not one of them made practical use of oral speech; even in the homes oral speech was supplemented by gesture and writing. To judge of the value of these findings it is necessary to know something of the methods used in the French schools. We have seen that the best results with the oral method were not attained in this country until certain schools confined themselves strictly to oral work. We have no assurance that the French schools were oral schools in our understanding of the term. The writer visited the institution at Asnières in 1921 and found a system of phonetic finger alphabet in use as an aid in teaching both oral and written language. This system "phonimie" has been used in France since 1866 and is even applied to the instruction of the mentally defective, on the principle that it adds one more sensory (kinæsthetic) approach to language concepts. It may be that such a combined system makes easier the development of oral speech; on the other hand, it may complicate the process by distracting the attention from the vocal organs. It is certainly questionable whether Binet's findings have any application to conditions in this country.

Dr. Crouter sent a questionnaire to the past pupils of the Pennsylvania Institution, two questions of which refer to oral speech. Two hundred and twenty-two of two hundred and fifty-eight persons reported that speech and lip reading had helped them in their work, and 198 of 258 reported that they were able to talk to strangers by means of speech and lip reading. Dr. Crouter states that he has been impressed in several instances by the great improvement in oral speech of pupils who had left the school and entered business life.

Miss Adams, principal of the Horace Mann School, a day school in Boston, states emphatically that past pupils do make use of oral speech. She states that some among them learn the sign language in order to be sociable with the deaf, but that they use speech when they converse with hearing persons.

The second method, the testing of the mental capacity and the educational equipment of the pupils taught by the manual and by the oral methods, has been used by Dr. Reamer in the study already quoted. Dr. Reamer presents the comparative scores attained by the orally trained and by the manually trained groups and shows that the average orally trained child is superior in all the tests to the average manually trained child. Dr. Reamer attributes this superiority of the orally trained child to the fact that the brighter children are selected for oral training. This, of course, could only be true in combined schools. It is to be regretted that Dr. Reamer did not present another grouping of the orally taught in combined schools compared with the orally taught in pure oral schools.

The success of the oral schools in the United States seems to justify the use of exclusively oral methods with children of average mentality. It is not so clear, however, that the oral method should be used with children of lower grade mentality than average; with them the finger alphabet may be more effective in developing the intelligence. With feeble-minded deaf children it is futile to attempt oral instruction, as oral work exacts at least normal mentality. It follows that a thorough examination of each deaf child entering school must be made before any educational regime is adopted. Binet's study led him to this same conclusion; not only does he advise an initial examination but subsequent periodic ones.

Classification and Organization

As mental analysis and classification of children is so essential as a basis for pedagogical work with the deaf, it is fortunate that several psychologists have been devoting their attention to the problems concerning them. Dr. Pintner and Mr. Paterson and Dr. Reamer have all published results of experimental studies.

They have adapted numbers of mental and educational tests to use with deaf children, and have thus pointed the way for further work. Pintner and Paterson have contributed a series of very valuable, individual, non-language tests. Dr. Reamer's tests are all mass tests, and her educational series requires a knowledge of writing. The examination of a young and untrained deaf child is an exceedingly difficult procedure, and it must always be supplemented by prolonged observation in the class room.

We consider it most essential that every deaf child who applies for admission to a public school be subjected to a thorough psychological examination, to a thorough clinical examination, such as that described in the first section of this report (that concerning the mentally defective). This examination should be followed by a conference between the examiner and the future teacher in order that she may know as much as possible concerning the child's mental endowment. With this knowledge she will be able to adapt her teaching to the capacity of the child, and will be saved the wasting of hours and of strength in trying to teach a child that which he has not the capacity to learn.

The process of developing a knowledge of language in a deaf child is very intensive; normal intelligence in the child is a pre-requisite of success. If the clinical examination reveals the child as defective mentally he should be eliminated from the regular classes for the deaf and placed with a mentally defective group.

As the manual methods have proved useful in training the dull deaf children, it would seem wise to create small centers for the mentally defective deaf where the sign language may be used as the means of communication. Such centres might be organized in the State Schools for the Feeble-minded. At the present time there seems to be no place for the feeble-minded deaf child, he is out of place in the schools for the deaf, and he is miserable in the schools for the feeble-minded because no one in these schools is familiar with the sign language. We do not advise that the public schools undertake the problem of teaching these doubly handicapped children, but we do advise that a fine classification eliminates them from the public school classes and that the schools recommend the consideration of their problem to the state authorities.

The public school classes are kept small, eight to ten children is considered a desirable number. In only two of the seventy-eight cities schools do the classes number more than twelve children each.

Single classes or groups of two or three classes in regular schools is the rule. There are, however, several large centres. New York City has gathered its 366 deaf children into one building, Chicago has 119 children in one school and 140 in another, Detroit has a school numbering 168 pupils, Cleveland one of 157 and Milwaukee one of 102. These are the only schools in which 100 or more deaf children are gathered together.

The large centre makes possible a finer classification of pupils, a greater specialization of the teaching force, and a more extensive industrial equipment, all of which are distinctly advantageous. The large centre, however, segregates the deaf children from the hearing children and this is a serious handicap in the development of oral speech and lip reading. The small group in the regular school is most practical in small cities. In the larger cities there is opportunity to try out both organizations. With the small group in the regular schools it has been found possible after the children have learned to read the lips, to send them to the regular classes for the grade work, and to use the special class periods for language instruction and supplementary work.

Kindergarten

New York and Los Angeles have established kindergartens for the deaf. This is wise as the training in speech should be begun at as early an age as will

permit of insistence on careful articulation. This entails concentration of rather a high order, and it is probably a mistake to expect such concentration before the fifth or sixth year. There are residential schools which begin speech training at three or even at two years of age, but the results obtained seem to be open to question, and are by many teachers severely criticized.

Equipment

The school room should be furnished with movable tables and chairs. These should either be adjustable or of several sizes. The question of the selection of desks and chairs for small special classes is discussed in the section dealing with the mentally defective, and we refer the reader to that section. There must be a special equipment for teaching language. Each child must be provided with a hand mirror for use in learning the positions which his lips, tongue and jaws must assume for the production of various words. There must also be a standing or wall mirror, about one yard square, in which the child may view the teacher's mouth and his own at the same time. Wooden tongue depressors are necessary for the articulation work.

Each class should be provided with a set of articulation charts; those published by the Clark School at Northampton, Massachusetts, are very fine and are quite generally used. The same school publishes story charts and a manual which are very useful.

Each Teacher Should Be Provided With:

The Formation and Development of Elementary English Sounds—Caroline A. Yale, Principal of Clark School.

The Barry System—Gowdy Printing and Engraving Co., Colorado.

Language Stories and Drills, Manuals 1 and 2—G. Croker, M. James, M. Pratt, Vermont Printing Co., Brattleboro.

First Lessons in English for the Deaf, 1, 2, 3, 4—Caroline Sweet, American Society for the Deaf, Hartford, Conn. Each child should be provided with a copy of "Language Stories and Drills," the manuals for which are noted above.

There must also be numerous objects and pictures for use in teaching nouns, materials for sense training, etc.

A grand or an old fashioned square piano should be provided. The piano has been found of great use in developing the sense of rhythm and in placing the voice. The children lean on the piano and feel the vibrations. The classes in Kansas City, Missouri, use the piano with great effect. Any method which will aid even a little in placing the voice of deaf children should be used.

The equipment for the manual training, the industrial training, and the physical training differs not at all in kind from that used for the same purposes with hearing children.

Teachers

Fortunately for the cause of the education of the deaf, it is so evident that the teachers must be specially trained that rarely is the attempt made to place untrained women in charge of a group of deaf children, as is done too often with groups of mentally defective children. The special training includes courses in the history of the education of the deaf, courses in special methods of teaching the deaf, a course in the psychology of the deaf, courses in the physiology of hearing, the mechanism of speech, and methods of teaching articulation and lip reading. This special training should, of course, supplement the usual normal training course.

The special training may be obtained at the Clark School, Northampton, Massachusetts; at the Pennsylvania Institution for Deaf and Dumb at Mount

Airy; at the Pennsylvania State Oral School for the Deaf, at Scranton, Pennsylvania; at the Institution for the Improved Instruction of Deaf Mutes, at 904-922 Lexington avenue, New York City; at Ballaudet College, Washington, and at several other residential schools.

Now that the teaching of the deaf is becoming more and more largely a function of the public school it would seem incumbent upon the normal and teachers' training school to offer special courses in preparation for this teaching. Doubtless they will soon be forced to such action by the scarcity of teachers. The time seems ripe for one or two of the colleges of education in the larger universities to specialize in such training courses.

Mental Capacity of the Deaf

In planning a course of study for the deaf it is very necessary to base it upon their peculiar mental abilities and disabilities. The deprivation of the sense which is most intimately of any sense involved in the development of language, and therefore in the development of ideas, has its effect upon the mentality, and this must be taken into account when planning a course of training.

Psychologists have not yet built up an extensive literature concerning the mental traits of the deaf. Dr. Jeanette Reamer, as an introduction to a report of her own experimental investigations, gives a resumé of the most important psychological contributions to the subject. She notes that Dr. MacMillan, of the Chicago schools, used a series of visual and motor tests to determine the normality of deaf children. He found the deaf inferior to hearing children of the same age, and described the inferiority as immaturity, not as a permanent inferiority. Taylor compared the spelling ability of deaf and hearing children and found that the deaf were the better spellers, and Mott compared deaf and hearing by means of memory and observation tests, finding no difference in ability. Pintner and Paterson have made the most extensive and with the exception of Dr. Reamer's, the most recent contribution. They found a general mental inferiority in the deaf as a group, and startling deficiencies in their ability to comprehend and use printed and written language. These findings were the same in groups taught orally and groups taught manually. Their results indicate that the average deaf child, irrespective of age, length of period of instruction, or method of instruction, possesses a language ability equal to that of a hearing child of seven, eight or nine years of age. These results demonstrate the enormous handicap a deaf child carries in his efforts to acquire language. These authors find that the average deaf child of sixteen, after ten years of training, reads and comprehends the matter read as would a nine-year-old hearing child after three years of training. Fortunately for all performances not involving audition and speech, they found the handicap much less great. It is for the deaf child of sixteen a matter of from two to three years.

Mr. Paterson considers these results as indicating lack of potentiality for progress along language lines and thinks that they would justify a radical change in the curricula of the schools for the deaf. He thinks that the greater part of the time now devoted to language training should be devoted to industrial training, and that academic training should be subordinated to the work of developing the deaf child's chief asset, his motor ability. He holds that all academic instruction should be related directly to his industrial problems, and that English instruction should be stressed only so far as it will equip the average deaf child for simple social and business intercourse.

Dr. Reamer in comparing her results obtained from deaf children with standards for hearing children, found the average deaf child to be three years retarded mentally and five years retarded educationally. These results might be construed to indicate that the mental endowment of the deaf children would permit of higher educational development than has been achieved for them by

the schools. However, as Dr. Reamer's tests were all mass tests, we must be slow in drawing far-reaching conclusions from them. Mass tests are very useful for rough classification, but as a basis for a serious judgment on the mentality of an individual or a group they are hardly trustworthy.

There seems to be a general agreement among all educators of the deaf that the deaf are retarded perhaps two, perhaps three, perhaps four years. The residential schools by their use of twelve years for primary training, graduate their pupils with an educational retardation of about four years. That some of these graduates are capable of further progress in high schools, and even in colleges, is demonstrated by actual successes. Miss Adams, at the Horace Mann School, reports that about fifteen of their past pupils have graduated from high or other secondary schools; that three totally deaf pupils later graduated from Harvard, and that two pupils, also totally deaf, later graduated from Gallaudet. One member of the faculty at the Wisconsin School for the Deaf, at Delavan, a graduate first of that school and later of Gallaudet, has been very successful as a teacher, and also as a business man, *without ever learning to speak or to read the lips*. These are merely examples of many similar successes, and they entirely negative the idea that deafness in and of itself prevents a mental development compatible with the higher education.

Curriculum

If the public schools are to provide for the deaf a training equal to that offered by the best residential schools, they must offer a full primary education, fitting for a subsequent high school course for the hearing. More years than the usual eight must be allowed for this elementary training, for in addition to the courses required of the hearing children, speech and language concepts must be developed and lip reading learned. The experience of the residential schools is that twelve years are required for the elementary school course. As in the past the great majority of deaf children have terminated their school careers with the completion of the primary course, only the exceptional pupils having passed on to high school and college, it seems quite unwise to limit the courses offered the deaf to those leading to high school work.

The public school should base each deaf child's instruction upon his individual capacity as revealed by a thorough clinical examination and extended observation. Many deaf children are doubtless better fitted for industrial work than for the intensive concentration necessary for preparation for high school. The curriculum should be flexible enough to allow for variation to suit the abilities of these pupils.

This necessity for a varied course makes it necessary that the industrial department shall be highly developed. There should be manual and pre-vocational work of many kinds, and this may well be followed during the last three years of the school course by truly vocational work. If a twelve-year course is offered the finishing age will be about eighteen; many pupils cannot afford to spend more time in preparation for life, and it will be of great advantage to them to leave school efficient in some trade or industry.

The public schools have not generally developed the manual and industrial phases of education for the deaf. They have found the short school day only long enough for the necessary speech and academic drill. The solution seems to be a longer school day. This is perhaps justified by the fact that much of the school time of the deaf must be devoted to learning things which the hearing child gains from his playfellows during recreation hours. As the residential schools insist, the deaf do require a longer supervised day. Cannot the public schools so adjust their courses for the deaf that they may have the benefit of this longer supervision and at the same time of their family life?

The industrial work in the residential schools is very broad in scope; some eighty-six occupations are listed in the "Annals of the Deaf" for January, 1922,

as being taught in the various schools. These include all sorts of carpentry, wood-work and building trades, printing, engraving and linotyping, bookbinding, farming, horticulture, floriculture, dairying, poultry raising, metal and machine work, auto repairing, weaving of all sorts, sewing and embroidery, knitting and crocheting, millinery and lace making, domestic arts of all sorts, bookkeeping, library work, photography, and many more. As the deaf child is, according to the tests of Pintner and Paterson, only about two years behind the hearing child in manual ability, the choice of industrial and manual occupations is almost limitless.

The physical training of the deaf is important. There is a natural slouchiness of carriage and walk which is very noticeable with the deaf and which must be overcome by much formal drill. In addition, the very intensive oral work for the deaf should be frequently interrupted by a vigorous physical exercise in the open air. Much more is accomplished by such a method than by long uninterrupted periods of work which should be intensive to accomplish results and which cannot be continuously intensive during long periods of time. There is no reason why the physical training should differ in kind from that given the hearing children.

The kindergarten course is growing in favor, but the children should be at least five or six years of age before beginning.

The language work includes oral speech, lip reading, reading, writing and composition. The methods used in the best oral residential schools should be employed. For this work the articulation charts and manuals published by the Clark School, and the "Barry System" of composition are indispensable. Under "equipment" we have noted the supplies necessary for this work.

Voice placing is an important element in oral speech training, and much may be accomplished by the aid of a piano on which the children rest their arms while the teacher leads them to follow with their voices variations in pitch, which they sense through vibrations.

A great opportunity is now open to the educators of the deaf in the "visual education" methods which are being used to such great advantage in the schools for the hearing. The schools for the deaf have apparently not realized as yet how tremendously the visual education films simplify educational problems. We strongly recommend their adoption by the public schools. Not only would they be of service in teaching history, science, and industries, but they could also be adapted to the teaching of lip reading and oral speech.

In addition to their work with deaf children, some public schools are holding lip reading classes for adults who have lost their hearing late in life. In the William Penn High School, Philadelphia, evening classes for the adult deaf are held, which are well attended and which are accomplishing a very useful piece of work in restoring to their pupils the power of conversation with hearing persons.

In conclusion, we are inclined to the opinion that many of the differences of opinion concerning the educational problems of the deaf will resolve themselves when it becomes the practice to base the pedagogical procedure upon the mental abilities and needs of the children as revealed by thorough individual psychological examination. Each method will then probably find its sphere of usefulness, and industrial work gain a more prominent place in the curriculum.

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RECOMMENDATIONS CONCERNING THE EDUCATION OF THE CRIPPLES IN THE PUBLIC SCHOOLS.

Education of Crippled Children in the Public Schools

From the standpoint of education the crippled children differ less from the normal children than any group discussed in this report. The handicap being physical and not involving a sense organ the mentality is not necessarily affected thereby, and the children are intellectually capable of following the prescribed academic work for the regular grades.

There are several reasons, however, why it has been found wise for the public schools to segregate the cripples and to educate them as a group apart. First:—Although the deformities and disabilities of the crippled children do not necessarily involve the mentality they are very apt to lead to conditions which warp the emotional nature. In the home a crippled child is usually treated with marked attention and care, he is a being set apart about whom the household revolves, he becomes imperious, self centred, accustomed to have others wait upon him and to pity him. If he later attends a regular school he is again a being set apart, but now instead of being the centre of his little world he is stared at, neglected on the playground, and made in every way to feel his disabilities. The result is often a morose super-sensitiveness which makes of the child, temperamentally a person with whom it is quite difficult to deal. On the contrary when a child finds himself with many children, handicapped perhaps more severely than himself, the unfortunate home experience is counteracted and he gradually ceases to expect the special consideration he has received and to make more effort to help himself. When he hears all sorts of deformities talked about quite freely, and plans made for their alleviation or correction, he begins to lose his peculiar sensitiveness. When he observes other children patiently learning to use all sorts of appliances to help them overcome their handicaps, he gains courage to attempt that which the teacher assures him he can learn to do. Second:—It is a matter of general observation that when crippled children attend the regular classes, the physical strain of the school regime is more than they can bear. In addition to his special disability, the crippled child suffers from lowered vitality, a lack of endurance, which necessitates frequent rest periods. These rests cannot be taken in a regular class without interrupting class activities, and this discourages the child and complicates the teacher's task. When crippled children are gathered together in small groups, the work is made largely individual and it is possible to arrange rest periods conveniently. As the majority of the children making up such a group require this same care, discouragement and self consciousness are avoided. Third:—To make crippled children comfortable and so better able to stand the strain of school work, a special equipment of desks and seats and physical training apparatus is necessary, and specially constructed buildings are desirable. Many children wear braces on one or both legs and are therefore very uncomfortable when sitting on ordinary chairs. There are chairs constructed the forwards part of the seats of which are made in two sections and hinged so that either side of the seat may be lowered independently of the other side, to allow room for the stiff leg. The backs of these chairs are also adjustable and the heights may be varied. There are desks which are not only adjustable as to height but which have tops which slide forward and back. Writing tables which fit over wheel chairs are provided for the use of children who cannot leave their chairs. The equipment must include apparatus for corrective gymnastics of all sorts. This is most essential as it is frequently possible through its expert use to develop the power to walk or to use the arms and hands of children who have never hoped for such abilities. Gymnastics are also essential to the physical well being of cripples who miss most of the exercise which comes to the normal child in

free play. Equipment for kitchen and dining room is also required. As difficulties of transportation make it necessary to keep the children at school during the noon recess, it has been found necessary to provide a hot meal at this time. Crippled children are below the average in physical endurance, and they should not be required to apply themselves to school work in the afternoons, unless they have had a hot noon meal. In some schools a lunch of hot cocoa or milk, and eggs is given on arrival in the morning, and in one school this is also given in the afternoon when they have finished the day's work. Cots or lounges for the rest periods of the weaker children are also required. The type of building used is most important. The rooms should all be on the ground floor, unless elevators or inclined planes are provided. With the latter facilities a two story building is by some preferred to avoid the too great distances of a one floor building. There should be no door sills and the floors should not be slippery. To prevent slipperiness floors are sometimes covered with cork or rubber carpet, or strips of this material are placed where the children walk. A low hand rail following the walls is useful for the partially paralyzed children. Rooms must be large to allow for the free movement of wheel chairs and the children who use crutches. The school should provide class rooms, industrial rooms, a gymnasium, a play room, a rest room (this should be open air if possible), a surgeon's examination room, a dining room, a kitchen, and toilets conveniently placed and constructed. Special care must be given to fire escapes. In the Spaulding School, Chicago, which was especially constructed for a school for cripples, inclined planes lead from each end of the second floor to the ground. It is essential to have particularly good ventilation. This is usually attained by using open window rooms. Some schools for cripples provide open air rooms for children suffering from tubercular joint disease.

These many special requirements for the physical and mental well being of crippled children mark them off as a class for whom special educational provision is desirable. Partial segregation such as is recommended for the blind is not successful with cripples, because while constant contact with sighted persons adds to the confidence and emotional well being of the blind person, constant contact with the sound in body drains the courage of the crippled child and leaves him embittered.

School Plant

Complete segregation decided upon, the next question to be discussed is that of location of classes. A specially constructed building will doubtless meet best all the desirable features listed above. It will be safer and better adapted to the needs of the children. To erect such a building is often out of the question and it is quite possible to adapt rooms on the ground floor of a regular school building to the purpose. This is the manner in which most school systems begin the work. In London, as we have mentioned elsewhere, large three story buildings are constructed for purposes of special education, the first floors are devoted to cripples and the other floors to other types of defectives, each floor being a distinct entity, under separate directorship.

Chicago, in the Spaulding School, demonstrates what may be done in a well appointed day school for the care and education of cripples. The building is a two-story structure, on the first floor are eight class rooms, three industrial rooms, a kitchen and a dining room, a play room, a nurses' room, a rest room with beds, a bath room, a doctor's examining room, a dental office, an assembly room, a gymnasium and the office. An incline leads to the second floor, and two inclines one hundred feet long lead from each end of the second floor to the ground. The school is purposely placed near the Home and Hospital for Crippled Children that co-operative work may be carried on. Children living in the Home who are able to attend the school do so, and those who are confined to bed are taught by

a teacher delegated from the school force for the purpose. On the other hand there is daily service at the Hospital by surgeons, free to all pupils of the school. The children are accompanied to the hospital by the physical training teacher who has charge of their corrective work. There are five physical trainers employed and all the corrective work is given under the direction of an orthopedic surgeon. Children with tubercular sinuses are taken to the Municipal Tuberculous Sanitarium for treatment and the Sanitarium provides nursing service. The Visiting Nurse Association also co-operates with the school. In fact it may be said that all social agencies which can in any way contribute to help the children are always ready to do so. The parents have largely overcome their fear of surgical care in witnessing the great relief which has been given to so many children, and at the present time so much confidence is felt that nearly all the pupils are receiving expert surgical care. From a private fund parents are assisted in buying the necessary appliances which are obtained for them at minimum rates. Wheel chairs are furnished by the school.

Muscular re-education work is emphasized not only in the gymnastics but also in the industrial department. One boy of fifteen who had failed to learn to walk without crutches did so through operating a scroll saw which was run like a bicycle. Long unused muscles were brought into play and that was accomplished which had been thought impossible. The chief aim of the industrial department is just such muscular re-education. It is not vocational.

Many wheel chair cases are taught to walk with crutches and crutch cases to walk without them. This work is of course absolutely individual, each child requiring treatment based on the special complications from which he suffers. A kiddie car induced one little fellow to make his first attempt to use his partially paralyzed legs. One girl, who at nineteen had not learn to walk, learned first to use crutches, and finally to walk without support. The experience of seeing others abandon chair or crutches has itself a great effect. A boy in a Philadelphia class, a victim of the infantile paralysis epidemic of 1916, who had failed to learn to use crutches and who had to be carried from the bus to the school room, gained confidence to try the crutches after three days' watching of other boys similarly afflicted. A few weeks later this boy was attempting to mount stairs by their aid.

At the Spaulding School, for amputation cases treatment is given for the preservation of the stumps, and much help by physical trainers in the formation of habits of usefully manipulating the artificial limbs. Spastic paralysis cases, of which there are many, are treated by massage, physical exercises and various sorts of industrial work.

The witnessing of all this effort, punctuated by many slips, but finally bringing improvement and the hearing of the frank discussions regarding all manner of deformities, creates in the children a wholesome point of view toward their afflictions, and develops self-reliance and courage.

This sketch of the Spaulding School is given to emphasize the need for including in any plan for starting classes for crippled children, rooms and equipment for surgical work and physical training. Second only to these requirements are the need for plenty of food, relaxation, and fresh air. Dining room, kitchen and rest room must not be omitted nor the open windows neglected.

Where it is necessary to adapt existing conditions to the special needs of cripples it is possible to secure results by all sorts of combination of functions—one room may be used for gymnasium and dining hall, halls may be utilized for physical training, couches may be placed in the gymnasium, in the dining hall, or even in the school room. The important thing is that whether the school be an entire building or a portion of a ground floor, it must provide for all the special physical needs of crippled children—surgical care, exercise, food, rest and fresh

air. At the Widener Memorial School for Crippled Children at Philadelphia, one is told that a child rarely loses a school day on account of illness, and this is attributed to the fact that the children have plenty of good food, fresh air, exercise and sleep.

This program may seem to some school administrators who are planning to begin the work for cripples like a very large and expensive undertaking. They are entirely right, it is. However, it is usually possible to secure the necessary surgical aid at public clinics, the nursing help through school or district nursing organizations, and much of the special apparatus, equipment and food from public spirited citizens or associations devoted to social work.

Size of Centre. Whether the school plant be a special building, or improvised quarters on some ground floor, it is better to organize six or eight classes in one centre, than to form several smaller centres. The chief argument for small centres in many schools is the greater convenience in reaching them. As it has been found necessary to transport the cripples in school buses even from homes quite near the schools, the distance of school from home, in these days of automobiles, is not such an important factor after all. A large centre makes possible departmental teaching, it is possible to provide specialists in corrective gymnastics, in speech correction, and in industries, for the centre alone. When small groups are placed in various parts of a city, it is necessary to send such specialists from school to school and much time is lost. A large centre also makes possible a much more intensive development of the surgical and physical training department. When one equipment instead of several is bought it can be made much more complete and therefore much more valuable for the same outlay of funds per pupil. Better supervision is possible with large centres, it is easier to train new teachers for the work, and the classes are not left so badly handicapped by one teacher's absence. From the point of view of classification the large centre is undoubtedly the better plan. To sum up, the large centre is superior both from the educational and the economic points of view.

Classification. The chance for better classification is more important than it at first appears. There are among the crippled children as well as among the physically sound a certain number of feeble-minded children. These children are as a rule very badly crippled and it is necessary to place them in some centre for cripples, because there only can they have the requisite surgical and physical care and transportation. They should not, however, be added to the groups of cripples who are normal mentally and capable of average progress under favorable conditions. These small special groups of cripples should not be made to suffer a handicap which has proved too heavy for a normal group of physically sound children. If these children are cared for by the public schools, there can be no doubt that they should be segregated in special classes for "mentally defective crippled children," and that these special classes should be placed in the centres for crippled children, where they can be given the physical care and assistance **which they require.** In the Spaulding School, in Chicago, this practice is followed: the school reports that ten per cent. of its children are classified as mentally defective and cared for in special classes. At the present time, owing to poor classification and lack of definite school policy, many classes for cripples are made up largely of mentally defective children. One class in New York City reports as many subnormal as normal children, while Dr. Cornall, of Philadelphia, classifies twenty-three of one hundred and forty-three children in orthopedic classes of that city as mentally defective. This is not as it should be. It is a condition rather worse than the old one of leaving the mentally defective children in the regular grades, as it is fastening doubly handicapped children on an already handicapped group.

Some educators are of the opinion that all crippled mentally defective children

should be cared for at residential institutions. This opinion we consider sound, but to accomplish this end we feel that classes for the mentally defective cripples should first be formed in the public school special centres for cripples, and then the effort be made to accomplish their transfer to more suitable schools.

The proportion of mentally defective children among cripples is variously estimated. There is no exact information on the subject, in fact there is no exact information on the proportion of cripples in the community. A California survey of 2,000 crippled children only found twenty-three of the number or slightly more than one per cent. mentally defective, while a psychological examination made at the Phalin Park Hospital by Miss Maude Merrill discovered ten mentally defective in a group of eighty crippled children, or twelve and one-half per cent. Twenty per cent. of this group were especially well endowed.

Transportation. Transportation is an important item in arranging for the education of cripples. Auto-buses are now universally used for the purpose. It is necessary to employ an attendant for each bus and a man to lift the children. The buses must be well heated and well ventilated, for in most places the distances are great and some of the children must necessarily be called for early and remain in the bus while the others are collected. The expense is great, in Chicago each bus costs \$32.50 per day. It has been suggested that this expense be reduced by fitting the buses with removable seats, and using them for trucks during the hours of the school session. Seven buses are used for the Spaulding School alone, the enrollment is between three hundred and three hundred and fifty children. In Baltimore, Maryland, and in Cedar Rapids, Michigan, an arrangement was made with the police department by which the schools were allowed the use of the police ambulances. In Baltimore the department was even kind enough to cover the sign "ambulance" with one reading "School Bus" during the hours when the conveyance was serving the children. The children were so grateful to the officers, who accompanied them on their rides, that they made them little gifts, and finally the officers invited the children down the river for a holiday. Such co-operation as this with all sorts of agencies marks the public school work with cripples, and it has made much splendid work possible.

Classes. The classes are usually limited to twenty on account of the necessity for much individual attention for adjustment and also because the children vary greatly in age and in grade and therefore in pedagogical needs. This latter condition is greatly relieved when large centres are formed composed of several hundred children, but when one or two small groups make up the centres it is inevitable. The school day is in some places shortened by one hour. This is done because as stated above, cripples are as a rule lacking in physical vigor and endurance. Deprived of many of the usual means of employing themselves, however, they are apt to become much absorbed by their school work, and frequently accomplish as much in this shortened day as regular pupils do in their longer one.

Teacher's Salaries. In some cities the salary paid to the teachers of the classes for cripples is one, two or three hundred dollars per year higher than the regular salary for teachers of elementary grades.

Equipment. In choosing school furniture it is well to remember that the types of cripples to be provided for will vary considerably. Infantile paralysis cases are numerous; in the Chicago classes it is estimated that they amount to about fifty per cent. of the cripples. Tubercular cases there number twenty per cent., and the remaining thirty per cent. is made up of congenital conditions and injuries. The furniture which suits one child will be impossible for another to use. Many can not leave their wheel chairs, and writing boards made to fit these chairs should be provided. The regular orthopedic chairs with adjustable backs and drop section seats described earlier in the report, are excellent for children who wear leg braces, but they are needlessly complicated and needlessly

expensive for other children. It is well to have a few chairs of this variety, but the greater number of the seats may well be of a simpler design. They should be of size and shape to assist correct posture, and preferably movable. It is well to provide three sizes, small, large and medium. The adjustable desks with sliding tops are very good. It is essential that the sliding top be properly adjusted; in some schools this is supervised by the physician to insure good results. There should be a special study of each child in reference to seat and desk, and if it is found that a child is unable to secure comfort in the type provided by the school, it should be possible to provide especially for its needs.

For academic work the equipment should be exactly like that for the regular schools. The course of study varies not at all in academic subjects. It should, however, provide for special speech corrective work, as speech defects are frequent and severe in connection with the paralyses. The schools for cripples usually provide for the eight elementary school years. In some cities the pupils are allowed to remain longer and special arrangements are made for more advanced work. This additional work is usually industrial.

There seems to be no fundamental reason, resident in the crippled condition itself, for terminating the academic work with that of the elementary grades. Cripples are, as a rule, good students, largely because they are cut off from so many of life's distractions. It would seem reasonable to take advantage of this and to train them for intellectual work whenever possible, especially as it is desirable to save them from forms of work which entail bodily strain and fatigue.

The equipment for the gymnasium should include all regular apparatus excepting the giant stride, and it should be possible to buy special pieces for corrective work when indicated for any child.

The equipment for the industrial work must be largely determined by the personnel of the classes. It is in these classes that the handicap most interferes, and the teacher must adjust the craft to the child and also the child to the craft. It is thought well to provide a wood-work equipment for the boys, a house keeping equipment for the girls and materials for reed and raffia work and weaving for both boys and girls. Book binding, leather work and brass work are much used. In many of the day schools the industries are taught mainly for the purpose of training in co-ordination and for strengthening the muscles. Weaving strengthens arms and legs, toy making develops co-ordination in hand movements, cobbling is useful for the same purpose. Toy making is, however, valuable as a trade also, and the same may be said for weaving, but not for cobbling. A certain amount of vocational work is attempted in the schools for cripples. The Spaulding School offers a course in printing.

Industrial work for cripples has necessarily received much attention in the last few years because the war left so many men maimed and unable to follow their former line of work. Volumes have been written concerning the industrial reconstruction work with cripples, simultaneously in progress in all the countries which took part in the World War. Whereas the aim of the industrial work in the schools for cripples has been chiefly educational, the work with the soldiers has been altogether practical and vocational. The war workers have collected through experience and research much knowledge which should be of untold value to those guiding the industrial training of the young cripples in the public schools. Even though these schools do not pretend to be trade schools, it is wise to have the industrial work pre-vocational in character, it is well to have it develop abilities which can later be applied in practical work. Many of the private day schools for cripples offer training in trades and continued training in the trades after the finishing of the academic work. The Industrial School for Crippled and Deformed Children in Boston keeps some children on a salary in the trade shops which fill private orders. Printing, sewing, chair caning and

basketry are conducted on a commercial basis. The sewing shop specializes in cross stitch embroidery and children's dresses and rompers. The Country Home for Convalescent and Crippled Children at Wheaton, Illinois, a private institution, specializes in toy making of a high grade type, and sells its products which net the home a considerable sum each year. The Davis Free Industrial School for crippled children, in New York, allows its pupils to remain in the sewing and wood carving classes after they finish the eighth grade. Simple garments, fancy articles, and elaborate wood and leather articles are sold at fairs. In the Rhinelander Industrial School for Crippled Children, New York, trade classes are held for children over fourteen, for girls—sewing, dress making and embroidery, for boys—jewelry making. Orders are taken for articles and sales held at intervals. The Crippled Children's East Side Free School, New York, runs a very successful sewing school and shop. About twenty-five girls are permanently employed. The money received pays for salaries and materials, but not for the salary of the sewing teacher. Very exquisite hand work is done as well as machine work. In addition to these five private schools which are academic as well as industrial, there is in New York a Trade School of the Hospital of Hope for the Injured and Crippled. It is directed by Dr. Jaeger, an orthopedic surgeon, who is also interested in artistic hand work. Men between sixteen and thirty-five are admitted and the choice of several industries are offered—jewelry making, mechanical drawing and sign writing, engraving on metal and wood, cabinet making, and mosaic art glass work. Fifty pupils are accommodated.

There seems to be no good reason why the pre-vocational work in sewing, wood-work, leather work, weaving and basket making and cooking, all of which is considered educational, should not lead to toy making, cabinet making, rug making and cooking. There is no good reason why it should not lead to the organization of shops through arousing public interest in well trained groups of students, shops in which these students could work together at the industries in which they had been trained. Special lines of work could be developed in certain schools to such a point of perfection as to create a special demand. Candy and cake and pastry making are adapted to such development as well as fancy rug weaving, basketry and sewing.

The American Journal of Care for Cripples, published during the war, is made up chiefly of articles concerning the re-education of cripples—detailed articles written for the purpose of helping others who were striving with the same problems. Two plans were developed in this rehabilitation work with the crippled soldiers—one the establishment of industrial plants in which cripples only were employed, and the other the placing of the men in industrial concerns where they could learn some phase of the work in spite of their handicap. In some instances these industrial concerns themselves trained the men, in others it was necessary to hold trade schools to train for the industries. The placing of the men in industries with the physically sound, necessitated the canvassing of certain districts to discover what industries were open to various kinds of cripples, to ascertain what work the cripples would be able to do, and also what industries would be willing to employ them if they were able. In some instances tabulated reports were prepared listing occupational opportunities for men maimed in various ways—for instance, men with one arm, men with one leg, men with no arms, and so on through long lists of mutilated conditions. To establish trade schools for cripples which will fit them for entering established concerns either in times of peace or war, it is essential to choose trades in which positions will be available in the district of the school. The extensive war data will be very helpful in making such decisions.

Always keeping local conditions, their possibilities and limitations in mind, outdoor occupations are of greater therapeutic value and therefore always to be preferred, especially for those cripples suffering from tubercular diseases. Among such industries we find the following listed as practical—dairy farming, poultry

raising, fruit growing, market gardening, vegetable forcing, floriculture, and bee keeping.

Work that can be done while sitting suits many cripples. Among industries of this sort are—clock and watch making, jewelry and silversmithing. The large jewelry manufacturers in the East are willing to accept cripples as workmen. The Widener Memorial School teaches clock making and also orthopedic shoe making and brace making. One of the wartime trade schools for cripples states that the making of artificial limbs and orthopedic apparatus should be the nucleus of every trade school for cripples. It combines leather, wood and iron work and can be led up to gradually through the elementary work in the school industrial classes.

Wireless telegraphy, bookkeeping, stenography, typing, photography, proof reading and literary work are all taught in schools for cripples.

The plan of establishing industrial plants for cripples is in some respects wiser than the plan of placing them in competition with sound workmen. As a rule the cripple is not strong, and this combined with his special disability is sure to make his output of work less than that of the average workman. In quantity of production he can not compete with the regular worker, in quality he is not at so great a disadvantage. When working with cripples the lack of speed is not so discouraging, as it is not made evident by constant contrasts. In fact the arguments favoring separate classes in schools for the crippled children are quite as appropriate when applied to separate industrial plants.

A good example of such a plant for cripples is "Le Jouet de France," a toy making establishment built on the Island of Puteau, in the Seine between Puteau and the Bois de Bologne. This was founded by François Cornot, in 1915, for the purpose of furnishing employment to crippled soldiers. Twenty per cent. of those employed had suffered an arm or a hand amputation, and twenty per cent. had suffered injuries still more grave. The enterprise has been a great success, and the men do everything from sawing the logs to packing and shipping the finished article. Another example is the diamond cutting and polishing plant established in England by Bernard Oppenheim, a diamond merchant who was also a soldier. This work is hygienic, remunerative and has proved a great success. Two thousand men were there employed in 1919.

There seems no reason why we could not develop in any of our large cities an "American Toy House" where American crippled boys trained in toy making at the public schools could earn their livings by making as beautiful toys as those made by the French at "Le Jouet de France." Indeed at Apway Fields, near Pittsfield, Massachusetts, a toy shop has already been established by the Berkshire School for Crippled Children.

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APPENDICES

STATE LAWS CONCERNING CLASSES FOR DEFECTIVES IN PUBLIC DAY SCHOOLS—STATE AID GIVEN TO SUCH CLASSES

States Having Statutes Concerning Classes for Mental Defectives in the Public Day Schools.
States Giving Aid to Special Classes for Mental Defectives, Blind, Deaf and Crippled Children held in the Public Schools.

Ohio.

The State contributes three hundred and twenty-five dollars for each blind child given instruction in a special class for the blind during nine months of the year and a proportionate amount for each child given such instruction during a shorter period, provided no more shall be drawn than is actually expended above the cost of teaching an equal number of pupils of normal condition in the same district and grade.

The State contributes one hundred and fifty dollars for each deaf and each crippled child instructed in a special class for their type during nine months of the year and a proportionate amount for a shorter period.

State supervisors are appointed for these classes.

Wisconsin.

The State contributes two hundred dollars for each blind child who is instructed in a public day school for the blind during at least nine months of the year and one hundred and fifty dollars for each deaf pupil or pupil with defective speech instructed in a special class for nine months of the year.

The State contributes one-third of the salary of each teacher of a special class for "exceptional" persons of school age provided this sum does not exceed three hundred dollars. "Exceptional" refers to mental defectives.

The State supports a psychologist who has general supervision of special classes and gives special attention to examining, testing and classifying the pupils applying for admission to these classes.

New York.

Statute adopted May 18, 1917, makes it mandatory for Boards of Education of each city and each Union Free District and upon the board of trustees of each school district to ascertain within one year the number of children three years or more retarded mentally, and to establish classes for the instruction of such children. Another statute makes similar ruling for blind, deaf and crippled children.

The number of children in the classes for mental defectives is limited to fifteen.

The State employs a "Physical and Mental Diagnostician," and a Supervisor of Special Classes.

New Jersey.

Statute adopted February 11, 1918, makes it mandatory upon Boards of Education to discover all children three or more years retarded in mental development, and all blind, deaf and crippled children incapable of education in the regular schools, and to establish special classes for the instruction of each type of child in all cases where ten or more of this type is discovered.

The number of children in these special classes is limited to fifteen.

Pennsylvania.

June 22, 1919, a statute was adopted making it the duty of superintendents to report to Medical Inspector all cases of blind, deaf or mentally defective children between the ages of eight and sixteen years, to establish special classes for the education of such children, such classes to be organized under the superintendence of the State Superintendent of Education.

The State contributes one-half of the total expense of such classes.

The State employs a psychologist.

Minnesota.

The Minnesota law of 1915 provides for the establishment of special classes for the mentally defective, for the deaf and the blind children and those children having speech defects.

It contributes one hundred dollars per year per child in schools holding session nine months of the school year.

It provides that the classes must not consist of less than five.

In the classes for instruction of those children with speech defects, if a child attends less than nine months the amount contributed by the State will be proportionate to the months of instruction.

The method used in teaching the deaf must be the combined system—oral, aural, manual and every method known to the profession.

The State employs a psychologist.

Michigan.

In 1917 a statute was adopted which provided for day schools for the deaf.

The State contributes total expense of teacher's salary and equipment of these day schools which are conducted for nine months of the school year, provided this sum does not exceed one hundred and fifty dollars per pupil instructed for full time of nine months.

A proportionate sum is contributed for pupils attending school for a shorter period.

The State aid is conditioned upon the fact that the teacher be a graduate of training school for the deaf by the oral method and that she have one year's experience as teacher in school for the deaf.

The State employs a psychologist.

Wyoming.

A statute was adopted making it the duty of the State Board of Education to provide for the education and training when necessary of all children under twenty years of age, who stutter, who stammer, who have defects of organs of speech, whose physical development is arrested or who have other physical defects, such as infantile paralysis, whose mental development is defective, in institutions or special day classes.

All necessary expense, for investigation, clothing, subsistence, transportation, keeping and maintaining shall be paid by funds hereby appropriated.

The appropriation of ten thousand dollars was made for the two years ending March, 1921. The statute was adopted March, 1919.

A bonus of twenty-five dollars for each month of service is paid to each teacher at the end of school year.

The State employs a psychologist.

Missouri.

A statute was adopted June 7, 1919, which made it mandatory in any school district in which were found ten or more children who are blind, deaf, or feeble-minded, and yet capable of instruction, to provide special classes for their instruction, and to provide transportation for such children as cannot otherwise attend.

It also made it mandatory to supply instruction adapted to the varying physical and mental handicaps of the children which shall be determined by the State Department of Education.

It makes it the duty of the Board of Education or Board of Directors in each district to ascertain annually who belong to any of the above types.

The State contributes seven hundred and fifty dollars per annum for each teacher employed wholly in the instruction of pupils of such classes, provided the teacher has been especially trained for such work and this training is in accordance with regulations established by State Superintendent of Schools.

West Virginia.

Statute went into effect July 1, 1919, which gives State Board of Education full authority to provide ways and means of educating children who are mentally or physically defective or disabled.

Massachusetts.

July 1, 1919. Statute was adopted which makes it mandatory that school committees form special classes for the instruction of children three or more years mentally retarded in all cities or towns containing ten or more such children.

VARIETIES OF INDUSTRIAL WORK LISTED AS USED FOR THE TRAINING OF THE MENTALLY DEFECTIVE

Wood Work	40	Garment Making.....	1
Repairing Furniture		Dress Making.....	1
Toy Furniture Making		Millinery	1
Jointed Animal Making		Lace Making.....	2
Toy Making		Crocheting	1
Trays		Knitting	2
Coping Saw Work		Knitting-Machine	1
Brush Making.....	8	Hammock Making Knotting.....	2
Chair Caning.....	15	Basketry	13
Cobbling	4	Cooking	9
Forge Work	1	Laundrying	3
Printing	1	Drawing	2
Book Binding.....	3	Stencil	1
Leather Work.....	1	Paper and Pasteboard.....	2
Pottery	3	Typewriting	2
Jewelry	1	Montesorri	1
Weaving	24	Music	1
Elementary		Sense Training.....	5
Rugs		Physical Training.....	2
Sewing	16	Games	5
Hand Sewing	9	Speech Correction.....	1
Machine Sewing.....	3	Individual Work Stressed.....	10
Machine Sewing Power Machine....	2		

Several cities note that fifty per cent. of time is devoted to industrial or manual work. One city notes that one-third of time is devoted to manual work, one-third to academic work and one-third to physical training.

Many cities state that they have full equipment for many varieties of hand work but do not go into detail.

PROFESSIONAL REQUIREMENTS FOR TEACHERS OF SPECIAL CLASSES FOR DEFECTIVE CHILDREN.

Minneapolis, Minnesota.

1. Two years' training in psychology.
2. Two years' training in method.
3. Two years' experience in teaching normal children.

St. Paul, Minnesota.

1. Normal graduate.
2. One or more summer sessions at Faribault or equivalent.
3. Two years' teaching experience.

Duluth, Minnesota.

1. Normal graduate.
2. Training in instruction of subnormal children: one year training for two-year certificate, and one summer training for each additional year.
3. Two years' teaching experience.

Louisville, Kentucky.

1. Ability to do the work.

Rockford, Illinois.

1. Requirements for grade teacher.
2. Special summer school work or course of training at Lincoln State School for Feeble-minded.

Muskegan, Illinois.

- Normal graduate.
- Special training for work.

Flint, Michigan.

1. Psychological training.

Buffalo, N. Y.

1. Regular State requirements.
2. One summer term of special training.

Wyoming.

1. State certificate obtained through regular channels.
2. Temporary Special Certificates granted for two years' successful experience in teaching normal children plus evidence of a peculiar aptitude for special class work.
3. Permanent Special Certificate granted to those who in addition to the above qualifications have one year's successful experience in teaching subnormal children and one year's special training in an accredited institution in the problems of the subnormal child or its equivalent in correspondence courses or in summer schools.
4. Temporary Speech Certificates for teaching speech improvement granted for two years' successful experience in teaching normal children plus two years' special training in corrective speech work.

Minnesota.

1. Special State Certificates issued by Superintendent of Education, which requires:
 1. Professional training required by teachers of elementary grades.
 2. Two years' successful experience in teaching normal children.
 3. One year's special training in the problems of the subnormal child, at an institution approved by the Superintendent of Education. In lieu of one year's continuous training summer school courses may be accepted for such part of the work as they represent.

New Jersey.

1. Special Certificate for Teacher of Defective Children, which requires:
 1. Permanent elementary or secondary certificate.
 2. Pass three examinations:

- a. Psychology with special reference to pupils mentally defective, including recognized tests applied to such pupils.
 - b. Elementary manual training for boys and girls.
 - c. Physical training with special reference to physical defects.
- Courses approved by State Board of Examiners will be accepted in lieu of these examinations, but no course will be so approved unless it is accompanied by practice work with classes of defective children.

Missouri.

1. Two years' standard college course or its equivalent.
 2. At least eight hours' credit in courses especially designed to prepare them for the particular kind of work they have been employed to do.
- Courses which will be found helpful:
- a. Introductory courses on feeble-minded and subnormal children.
 - b. Courses in manual and industrial training for defectives.
 - c. Observation of work in classes for defectives.
 - d. Practical intelligence and motor testing of defectives.
 - e. Psychology and pedagogy of mental defectives.
3. Teachers of these classes should be deeply in sympathy with the particular class of defectives they are teaching. They should be resourceful and adaptable and should be able to get away from the routine method of mass instruction.
- Young teachers who have been doing a strong grade of primary work are usually well adapted to this class of work.

Stamford, Conn.

1. Special Certificate:
 - a. Requirements for grade teacher.
 - b. Equivalent of sixty hours' work in the education of mental defectives, similar and equal in kind to that given at New York University and known as the Standard Course for Teachers of Mentally Defective Children.

New York.

1. Special Certificate.

UNIVERSITIES, COLLEGES, INSTITUTIONS AND SCHOOLS OFFERING COURSES PREPARATORY FOR TEACHING MENTALLY DEFECTIVE CHILDREN.

UNIVERSITIES AND COLLEGES OFFERING CLINICAL AID TO THE PUBLIC SCHOOLS

Universities and Colleges Offering Courses Preparatory to Teaching Mental Defectives

1. University of Montana.....Mental Measurements. Extra Summer Course.
2. University of Minnesota.....Special four-year course.
3. Harvard University.....Graduate Course with Clinical Work. Summer Course—Laboratory and Clinical, for teachers of special classes.
4. University of Michigan.....Course on Exceptional Child.
5. University of Oklahoma.....Teaching of Defective Children. Course also given in Extension Department and in Summer School.
6. Louisiana State University.....One Month in a Course in Educational Measurements.
7. University of Washington.....Psychology of Exceptional Children. Number of Courses in Clinical Methods and Mental Tests.
8. Leland Stanford University.....Abnormal Psychology.
9. University of Chicago.....Preliminary Training for Teachers of Mentally Defective offered in School of Education.
10. Columbia UniversityPsychological Examining. Methods of Teaching Teachers' College. in Special Classes. Supervision of Special Classes. Observation and Experimentation in connection with Special Classes.
11. Vassar College.....Three-Hour Course in Mental Tests. One-Hour Course in Abnormal Psychology.
12. University of North Dakota.....Mental Measurements.
13. Ohio State University.....The Defective Child. Mental Tests. Abnormal Psychology. Genetic Psychology. Treatment of Exceptional Children.
14. New York University.....Teacher's Course one year. Supervisor's Course Department for Training Teachers of two years. Also many Summer School Courses. Backward and Defective Children. *All of this work discontinued during the war and not yet resumed.*
15. George Washington University.....Mental Tests—Saturday Afternoons.
16. University of Arkansas.....Clinical Psychology. Courses in Summer School.
17. University of Denver.....Study of Defective Children. Study of Defective Children (Advanced Course).
18. Cornell University.....Mental Examination of Children.
19. University of Kansas.....Course preparing teachers to diagnose and advise concerning mentally defective children.
20. University of Pennsylvania.....Many Courses offered by Department of Psychology both in winter and summer.
21. University of Iowa.....Clinical Psychology.
22. Colorado State Teachers' College.....Clinical Psychology. Child Hygiene. Additional Summer Courses.
23. Lehigh University.....Special Summer Course with Demonstration Class.

Note that New York University and University of Minnesota offer Professional Courses leading to Special Certificates for the Teaching of Defectives.

Schools, Not Universities or Colleges, Offering Courses Preparatory for Teaching of Defectives

1. Vineland Training School.....Special Training and School Demonstration.
2. State School for Feeble-minded,
Fariibault, Minnesota.....Special Training and Class Room Demonstration.
3. State School for Feeble-minded,
Syracuse, N. Y.....Special Training and Class Room Demonstration.
4. State School for Feeble-minded,
Rome, N. Y.....Special Training and Class Room Demonstration.
5. Lincoln State School and Colony,
Lincoln, Ill.....Special Training and Class Room Demonstration.
6. Oswego Normal School, Oswego, N. Y.
7. Harris Teachers College, St. Louis, Mo.
8. Michigan State Normal College,
Ypsilanti, Mich.....Summer Course.
9. Philadelphia Normal School.....Six Weeks' Summer Session.
10. Cleveland School of Education.....Six Months' post graduate course.

Universities and Colleges Offering Clinical Assistance to the Public Schools

1. Teachers' College, New York.
2. Yale University.
3. University of Pennsylvania.
4. University of Iowa.
5. University of Kansas.
6. Northwestern University.
7. Princeton University.
8. University of Ohio.
9. University of North Dakota.
10. Vassar College.
11. University of Oklahoma.
12. University of Utah.
13. University of Washington.
14. University of Michigan.
15. Harvard University.
16. University of Minnesota.
17. University of Montana.
18. State Teachers' College, Greeley, Colorado.

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