

DEPARTMENT OF THE INTERIOR  
BUREAU OF EDUCATION

BULLETIN, 1918, No. 10

PUBLIC SCHOOL CLASSES FOR  
CRIPPLED CHILDREN

BY

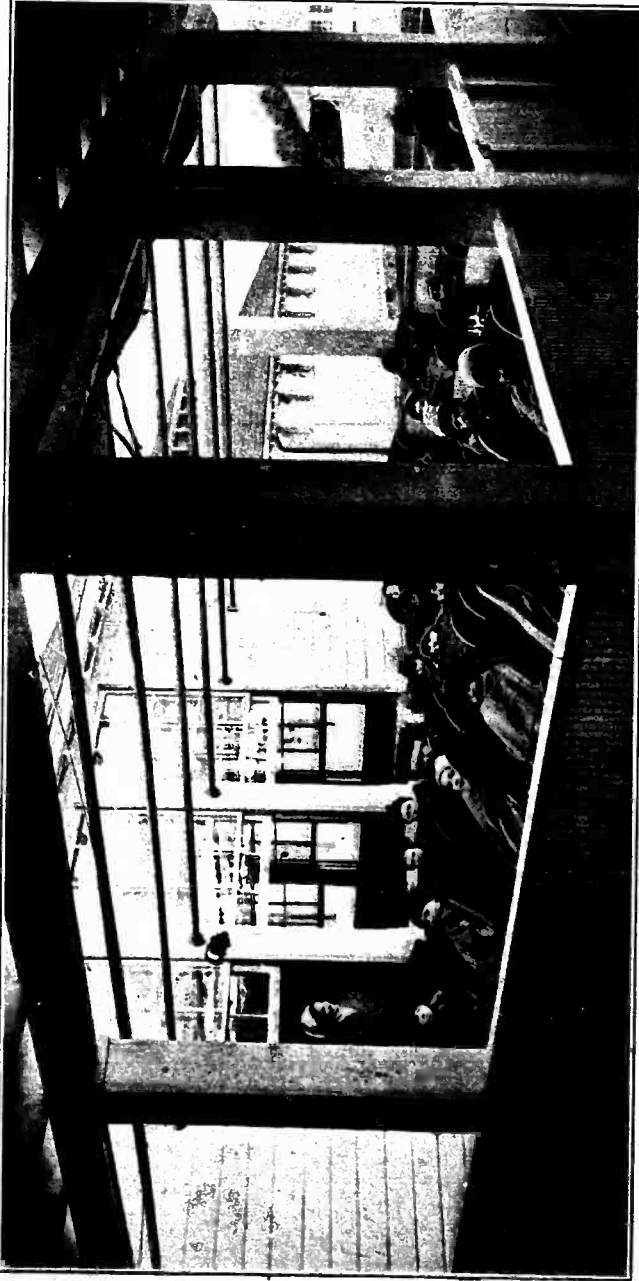
EDITH REEVES SOLENBERGER



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BUREAU OF EDUCATION



MASSACHUSETTS HOSPITAL SCHOOL, CANTON, MASS.  
Outdoor Class.

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## LETTER OF TRANSMITTAL

DEPARTMENT OF THE INTERIOR,  
BUREAU OF EDUCATION,  
Washington, December 26, 1917.

Sir: Although there are in the United States many thousands of crippled children, probably as many as there are of deaf and blind, little attention has been given them as a class. They are not even enumerated in the decennial Federal census. While special provision for the deaf and blind children is made in all States and for feeble-minded and incorrigible children in most of the States, few States make any special provision for the care and education of crippled children, and in only half a dozen cities are there separate schools or classes for them, and in the schools of most cities, towns, and rural districts not even suitable seats and desks are provided for them. It is therefore all the more important that what has been done by the public schools of the few cities that have given most attention to this matter be known.

The manuscript transmitted herewith on public school classes for crippled children is the result of a study made at my request by Edith Reeves Solenbeger. I recommend that it be published as a bulletin of the Bureau of Education.

Respectfully submitted:

P. P. CLAXTON,  
*Commissioner.*

The SECRETARY OF THE INTERIOR.

## PUBLIC SCHOOL CLASSES FOR CRIPPLED CHILDREN.

### INTRODUCTION.

Every child wants to be like other children. The habit of children over 6 years of age is to go to school. Any child who is unable to do so because he is physically crippled misses a great deal more than instruction. Many crippled children have grown up to be "queer" in an unnecessary degree because they have mingled so little with children of their own age. They have been treated in special fashion by their parents, sometimes harshly in ignorant homes, but more often with a mistaken kindness which saved the "poor cripple" of the family all exertion and robbed him of the ambition to develop such powers of mind and body as he possessed. For such children there is no other tonic like the give-and-take of life in the schoolroom and on the playground.

*Cripples in regular classes.*—A great many children with slight deformities have always attended school in regular classes with children not so handicapped. People who have worked for years with crippled children say that a crippled child able to do so profits by attending school with children not crippled. For that reason the superintendents of institutions for crippled children sometimes send the stronger ones out to attend public school classes, even though the institution has a good school.

*Separate public school classes for cripples.*—But the educational needs of many crippled children can not be met in classes attended by children who are physically sound. Cripples who are not able to go to regular classes can attend separate classes for cripples, where provision is made for their transportation and for their comfort and safety while in school. In addition to special care for the health of the children, these classes for cripples offer school opportunities to some deformed children who are very sensitive about their appearance and incapacity. They feel at ease where they find other children who have the same difficulties.

Special classes for crippled children have been opened in public and private day schools in six of the large cities of the United States, namely, New York, Chicago, Philadelphia, Baltimore, Cleveland, and Detroit. This pamphlet will treat in detail the work of these day

\* For example, the Industrial Home for Crippled Children in Pittsburgh.

schools, but brief mention should be made of the large amount of educational work done in residential institutions, some of them private, others maintained by the States in which they are located.<sup>1</sup>

*Instruction in hospitals.*—School work is undertaken in some hospitals where orthopedic operations are performed and children are kept for brief periods of recuperation. The instruction in hospitals, however, is always incidental to the physical cure of the children. It is often undertaken because a small amount of study amuses the children and is thought by the doctors to facilitate their cure, rather than because much educational advance is expected.

In addition there are a considerable number of convalescent hospitals for crippled children, usually located in the country, where large numbers of crippled children live for long periods while still undergoing treatment. The State hospital schools for cripples in Massachusetts, New York, Nebraska, and Minnesota have large graded schools comparable at all points with the best public schools in their vicinity. There are half a dozen private residential institutions in various States with excellent graded schools. The most conspicuous of these is the Widener Memorial School in Philadelphia, a magnificently endowed institution, where the school, like all its other departments, has the best possible equipment and the highest standard of instruction.

The grading in schools maintained by convalescent hospitals for children is sometimes less exact than in day schools because some of the children are more badly crippled. They have to drop out of school occasionally for operations and sometimes attend irregularly while taking special treatments. On the other hand, children who need special surgical treatments are often better able to keep up with their school work if they live at one of the institutions than they would be if they lived at home and made frequent trips to a dispensary. The institution schools include, perhaps, a larger number of crippled children who have never attended school before and are far behind the usual grade for their age than the day school classes for cripples.

*Teachers sent to institutions for cripples.*—In three cities the boards of education have sent public-school teachers to private institutions to organize classes among the crippled patients. Most of the children attending these classes are able to come to a room set aside for school work, but individual children confined to their beds often receive instruction from the teachers. This cooperation between the public schools and the institutions for cripples has been developed most strikingly in Baltimore, where there is a class for cripples with a

<sup>1</sup> Residential institutions for crippled children in the United States were visited by the writer in the course of a study made for the Russell Sage Foundation of New York. A detailed description of the work of 38 hospitals, convalescent hospitals, and asylum homes will be found in the Foundation's volume, "Care and Education of Crippled Children," by Edith Reeves.

public-school teacher in each of the three institutions for crippled children, the Kernan Hospital and Industrial School for Crippled Children, the Children's Hospital School, and the Johns Hopkins Hospital School and Convalescent Home for Crippled Children (colored). In Philadelphia one public-school teacher is assigned to the Orthopedic Hospital. In Chicago one public-school teacher is assigned to the Home for Destitute Crippled Children, which is located near the Spalding School for Cripples. Most of the 25 pupils at the institution are bed cases and the teacher's work is individual instruction.

#### HISTORY OF DAY-SCHOOL CLASSES.<sup>1</sup>

The history of day-school classes for cripples in America shows in several cities a gradual transition from private to public responsibility. Any city board of education may usually be persuaded to provide a teacher for crippled children on the ground that if they were not crippled they would certainly have a right to instruction in the public schools and teachers would have to be furnished for them. The provision of special seats and other accommodations which make crippled children more comfortable is usually the next step, since it is simply an extension of the school's usual custom in providing equipment for classrooms. The two special items of expense which a city usually undertakes last are the transportation of cripples in busses, and the provision of free lunches.

The best illustration of this development is the work in Cleveland, Ohio. The assistant superintendent, Mr. Henry C. Buckley, writes:

Our school for cripples is the culmination of a process of evolution. It began with an organization of women known as the Sunbeam Circle, who gathered together a few crippled children in a school and furnished for them a teacher. The next step in the evolution was that the board of education furnished the teacher. Then the board of education built a suitable building to accommodate these children. Meanwhile, the Sunbeam Circle transported them from their homes to the school and back again. This function is now performed by the board of education. The Sunbeam Circle still continued to furnish lunches for the children; now the board of education furnishes everything, the children's lunches, transportation, general equipment, etc. In other words, the school for cripples is a part of our organization.

Chicago, Detroit, and Baltimore, like Cleveland, provide without cost everything needed by the crippled children, including lunches and transportation. In Philadelphia all expenses are borne by the city except the lunches, which are still supplied by private charity.

In New York the city first provided instruction and equipment for cripples in separate classes and their transportation was privately furnished. Then the city contracted for a gradually increasing number of busses, and the remaining busses were supplied by the Asso-

<sup>1</sup> The first public-school classes for cripples in the United States were opened in Chicago in 1899. Similar classes were opened in New York in 1902; in Detroit in 1910; in Cleveland in 1910; in Philadelphia and Baltimore in 1912.



ciation for the Aid of Crippled Children for many years. At present that association maintains only two busses, while the city furnishes 40. Lunches are sold to crippled children in New York for very small sums, and charitable associations contribute toward the cost of the food in some cases.

One city, Grand Rapids, Mich., has begun its work for crippled children in an unusual way. Crippled children are transported to and from school in busses maintained by the city, but separate classes for crippled children have not yet been organized.

#### ADMISSION TO SPECIAL CLASSES.

The admission of children into separate classes for cripples in the public schools is determined by different tests in the various cities. The assistant superintendent of schools in Cleveland says of their special school:

Not all crippled children are admitted, of course. In our definition, a crippled child is a child that can not help himself to school. Many children are cripples who go to regular school.

This test is a practicable one so long as exceptions are made in particular cases. The vast majority of children in each class for cripples must be transported to school. There are sometimes, however, a very small number of children living close to the school for cripples and able to walk, and possibly a few able to use the street cars, who are, nevertheless, better able to attend a class specially equipped for cripples than they are to go to a regular classroom. Children unable to walk at all are seldom admitted to public-school classes because they require more help than teachers or matrons have time to give. Final decision as to whether or not a crippled child needs the facilities of a special class is usually left to the orthopedic surgeon who diagnoses the child's physical difficulty and is best able to judge his capacity. - The very complete record cards used in New York schools<sup>1</sup> require the surgeon to state whether or not the child is able to attend school and also whether or not he should be in a separate class for crippled children.

The actual procedure by which a child is admitted to a special class for cripples is fundamentally the same in the different cities. It is given as follows for the Cleveland School for Cripples:

Pupils are admitted to this school upon recommendation of the Department of Medical Supervision. The initial step, however, is usually taken by the parents of the children themselves, who, knowing that there is a school of this kind to which children are sent, are glad to have their crippled children avail themselves of this privilege. They usually notify the school directly and the principal informs the medical department of the fact that the child is asking admission. An investigation is made and the admission of the child is recommended to the assistant superintendent having that school in charge; he approves and the transfer is made.

<sup>1</sup>See Appendix p. 48.

## WHY THE CHILDREN ARE CRIPPLED.

It is important that every teacher of crippled children should have an elementary knowledge of the different physical difficulties which have caused them to become crippled. In a limited space it is impossible to enumerate all the different causes which give children handicaps, but mention will be made of some of the frequent types of cases.

*Infantile paralysis* has been within recent years the best-known cause of crippling among children. The epidemic which included so many children during the summer of 1916 will probably increase the proportion of paralysis cases among crippled children in public schools. When these children come to school they have no active disease whatsoever, and their general health is often excellent, but they have little or no use of one or both hands, or one or both legs, or, very often, are unable to use one hand and one leg. The building up of their paralyzed muscles is an exceedingly slow process, but surprisingly good results have been obtained by many months or years of special gymnastics and massage. Operative measures are sometimes employed also. Most of the children whose legs have been affected by paralysis come to the public schools wearing braces; a few with limbs badly paralyzed are confined to wheel chairs. They are very hopeful objects of a teacher's attention, for they can safely be urged to study as earnestly as any other children. They often constitute the bulk of the enrollment in a class for crippled children, and they usually stay in the special classes for a good many years before they are able to go to regular classes. Many of them are never able to attend school except in special classes for cripples.

*Other causes.*—For purposes of instruction we may class with the children who have had infantile paralysis those whose limbs have become twisted through rickets or certain inflammatory diseases, those who have lost one or more limbs as a result of accidents, and the small number of children born deformed. All of these children may be perfectly sound as to their general health and able to do excellent work in school, although they can not walk well nor, in some cases, use their hands efficiently.

*Bone tuberculosis.*—Special consideration in some ways must be given by the teacher to those children who have or have had bone tuberculosis, usually of the spine or of the hip joint. Some of these children come to school wearing braces, but many of them have the diseased joint or spine held firm by a jacket of plaster of Paris. In regard to children with bone tuberculosis, there is sharp difference of opinion among surgeons as to whether they should attend public schools. Some orthopedic surgeons believe that all children with active bone tuberculosis should be in country convalescent hospital schools, where their physical condition may be under constant medical supervision.

Others believe that some such children can safely live at home and attend special classes for cripples in the public schools if their parents and the visiting nurses from the hospitals see to it that they report frequently at the hospital dispensaries for treatment. When these children do come to the public schools they must be surrounded by the best of conditions for their general health. They have special need of fresh air and nourishing food. They must be carefully watched, while exercising, to prevent overexertion.

Many children who have had bone tuberculosis have entirely recovered from the disease, although they are deformed. They may, therefore, be classed as pupils with the children who are paralyzed, congenitally deformed, etc., rather than with those who have active tuberculosis, with this important difference: Any child who has ever had bone tuberculosis should be surrounded by the very best conditions for his general health in order to prevent the return of the disease or the beginning of lung tuberculosis in later years.

*Classification of defects.*—The proportion of children with each type of physical defect varies from school to school. Of the children attending the Spalding School in Chicago in 1915-16, 50 per cent were partially paralyzed, the majority as a result of infantile paralysis; 25 per cent were classified as bone tuberculosis cases; the other 25 per cent included those crippled by inflammatory diseases and by accident, and those congenitally deformed. In New York City about one-third of all the cripples in attendance in the special classes for cripples are classified as having active bone tuberculosis.<sup>1</sup>

In New York City, crippled children with bone tuberculosis have been segregated into separate classes in six different public schools where there are several classes for cripples in the building. We shall discuss further the special needs of crippled pupils who have bone tuberculosis later in this bulletin when taking up the subject of supervision of the health of the children in classes for cripples.<sup>2</sup>

#### SPECIAL BUILDINGS FOR CRIPPLES.

Most of the classes for cripples are very likely to include children of all the foregoing physical types. The provisions for their comfort and safety in the public schools are, therefore, in most of the school buildings, such as to accommodate as well as possible all the different classes of cripples. There are four day school buildings in the United States which were especially designed and built for the exclusive use of crippled children. Any board of education which plans the erection of a school for cripples will find it profitable to send a representative to visit some of these buildings, or to procure copies of the architects' plans from which they were constructed.

<sup>1</sup> See Rep. Supt. Schools, New York, 1914-15, pp. 110-112.

<sup>2</sup> See pp. 15 and 22.

*Chicago.*—The Spalding School in Chicago is the only permanent school building in the United States erected and maintained entirely by a city board of education for the exclusive use of crippled children.<sup>1</sup> It is a one-story and attic building, only slightly elevated above the street. On the ground floor there are five classrooms, an assembly hall, a kitchen, dining room, nurse's room, bathroom, and rest room. The attic, which is reached by an incline from the first floor, contains the industrial classrooms. The children in the attic rooms are protected against accident in case of fire by specially designed fire escapes recently completed. An incline 100 feet long leads from each end of the attic directly to the ground. An addition to this building has been authorized by the board of education, to cost \$82,000. It will contain four additional classrooms, three large industrial rooms, masseur's room, receiving room, bathroom, and a large sun room with glass roof.

*Cleveland.*—The only other public school for cripples which is housed in a building erected at city expense for the exclusive use of crippled children is the school in Cleveland. This is a one-story wooden building, located in a large yard at the rear of the Wilson School, one of the large public schools of the city. The building for cripples has classrooms, dining room, kitchen, and surgical dressing room. While the Spalding School in Chicago is an excellent model for cripples' schools built of stone or other permanent material, this smaller wooden building in Cleveland shows how well a building erected at much less cost can serve the needs of crippled children.

*Boston.*—The Industrial School for Crippled and Deformed Children in Boston is a purely private day school for cripples. Its large building, with classrooms for 100 grade pupils and several large industrial workrooms, was designed especially for the use of cripples, and is well worth the attention of public school officials who plan the erection of similar buildings.

*New York.*—The building occupied by the Crippled Children's East Side Free School in New York is privately owned, although the City of New York now finances the grade classes for cripples which are conducted there. This is the largest day school for cripples in America. The classrooms accommodate 200 children, and there are also large workrooms and a roof playground. This building and the Boston school have classrooms on several floors; both buildings have elevators of unusual size which take the children from floor to floor in perfect safety. The stairways have broad treads at easy distances.

*Special rooms for crippled children.*—By far the greater number of crippled children attending special public-school classes for cripples

<sup>1</sup> Plans have been drawn for a permanent building in Detroit.

are taught in rooms set aside for them in large school buildings where there are also many classes for children who are not crippled. This is true of all the classes in public-school buildings in Philadelphia, Baltimore, and Detroit, one of the two public schools for cripples in Chicago, and all the classes in New York except those in the Crippled Children's East Side Free School. In all these cities the crippled children are always given the best rooms in each building, located on the first floor, so that the children will not need to climb stairs. Wherever possible, the crippled children have been assigned to rooms with a sunny exposure, because it is recognized that cheerful surroundings affect the spirits of the children, as well as because sunny rooms are more healthful. Basement rooms are not used, although they could sometimes be reached without the use of steps and would in that respect be superior to first-floor rooms. It has been found better to have the children helped up the steps to the first floor by the attendant or driver of the stage which brings them to school than to give them basement rooms, because the latter usually have poorer light and air and are more likely to be damp, cold, and noisy.

*Architectural features.*—The rooms for crippled children are so located that as many easy exits as possible are available for use in case of fire. Thresholds are usually absent altogether, because they would cause a child with crutches or a brace to stumble. It is important also to have wide aisles in schoolrooms for crippled children. If the aisles are narrow the crippled child who walks along them is likely to stumble over the extended feet of seated children who are wearing braces. Where the school can afford such provision, strips of rubber or cork are laid on hall floors and stairs, and similar material is sometimes used for covering entire floors of gymnasiums and playrooms. In a few buildings, one of them the school in Cleveland, there are handrails along the walls at low levels by which paralyzed children or others who can not walk well help themselves along. Toilets and lavatories are conveniently located. The toilet seats are either of varying heights or all so low as to be convenient for the smaller children and those who are most crippled.

#### EQUIPMENT.

*Adjustable seats and desks.*—In the schoolrooms adjustable seats and desks are usually provided. Sometimes the seats are so constructed that one or both sides can be dropped in case the child using the seat has one or both legs held straight by brace or plaster; while the backs can be adjusted at any angle and the seat raised or lowered at will. The desks which go with these elaborate seats are also adjustable as to height, and the top of the desk can be moved backward and forward. This special equipment is somewhat expensive. One set costs usually from \$17 to \$19. Other schools use desks and

seats which can be adjusted as to height, and seats with one central support instead of two side supports, so that there may be more room for a child whose legs are encumbered by apparatus. Many teachers believe that these partially adjustable desks and seats are entirely satisfactory for the greater number of crippled children, and a half dozen of the more costly drop seats is a sufficient number in the average schoolroom. At the Massachusetts Hospital school the desks and seats are not fastened to the floor, because it has been found that a child is sometimes able to take a more comfortable position through a slight change in the position of the desk or seat.

There are even a few teachers who are entirely satisfied with ordinary nonadjustable desks and seats like those used in some public schoolrooms. They say that the children take positions which they find comfortable, and that the ordinary equipment is quite satisfactory when seats and desks of varying heights are provided, so that each child may have the size to which he can best adapt himself. It is the writer's conclusion after visiting practically all the schools for cripples in America, both day schools and those in institutions, that the semiadjustable desks and seats are distinctly better for all crippled children than those which can not be adjusted at all, and that at least half a dozen of the specially adjustable seats should be furnished in each classroom for cripples if the necessary expense can be met.

*Special equipment.*—Special seats and desks are the chief items of expense in equipping a schoolroom for use by crippled children. Some schools have in addition a small number of wheel chairs for use by paralyzed children who can not sit comfortably in any other kind of seat. In most schools a few couches or sanitary cots are provided upon which the children may lie down for rest periods.

Special equipment is particularly necessary for a class composed entirely of crippled children who have active tuberculosis. The equipment ordered for such a class in Public School 69 in New York is recommended for similar classes:

1. Adjustable seats and desks, also air cushions, to make more comfortable seating for some children.
2. Sanitary iron couches with washable canvas stretchers and air pillows, for use during rest periods.
3. New model folding chair planned by the New York department of physical training for tubercular hip cases, or for other children who can not lie upon the couches comfortably.
4. Blankets and sweaters for use during rest periods in cold weather.

*Handwork equipment.*—Finally, a school for cripples must have more than the ordinary amount of equipment and supplies for handwork. Many of the classrooms have small looms for making rugs; all of them have liberal provision for work with paper, yarn, raffia, and reed, and cloth for sewing classes. Any school which undertakes

special trade classes for older children requires, of course, a much greater expenditure for tools and machinery and for working materials.

#### TRANSPORTATION.

Aside from these details of architecture and equipment, two other special provisions, always necessary in connection with day schools for crippled children, are among the largest items of expense in such schools; namely, the busses which bring the children to school in the morning and take them home at night, usually accompanied by a nurse or a second man attendant in addition to the driver, and, secondly, the food served free or for very small payments at most of the day schools.

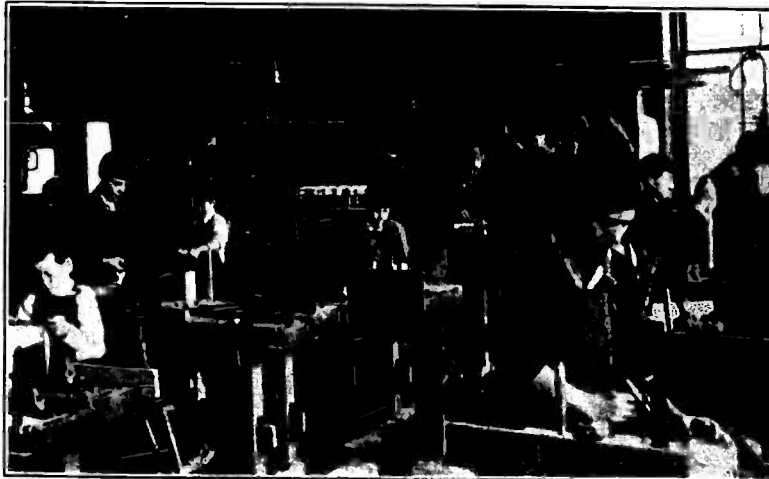
The crippled children are transported to and from their homes and the schools by omnibuses which travel along carefully planned routes so laid out that each bus gathers children from its section of the city with as little waste travel as possible. Horse-drawn omnibuses were first employed to transfer crippled children in most of the cities, and are still used in Philadelphia, in Cleveland, and to some extent in New York. In some cases the work was begun with ordinary carriages. But motor omnibuses are gradually replacing the horse vehicles. Motor busses are preferred because they make much faster time. For that reason they can cover a wider area and bring children from greater distances. Each bus can usually make several trips before and after school, and the children taken on each trip reach their destination much more quickly than they did in the horse-drawn busses. The children enjoy their rides to and from school, but it is not desirable that the journey should be more than three-quarters of an hour in length if that can be avoided, since some of the children become too weary if they sit long at a time. The motor busses are more easily warmed, also, and therefore better in cold weather than horse busses.

In several cities the busses are provided by private owners who are paid by the city under contract. In Chicago, Detroit, and Baltimore the children are transported in police-patrol automobiles. In Baltimore the patrols used for the crippled children are marked "School Ambulance." The report of the New York superintendent of schools for 1915-16 (pp. 95-96) recommends that the city should purchase outright several motor busses with removable seats and cushions. These busses could be used not only for the transportation of crippled children to and from school but for their transportation to hospitals for treatment. On Saturdays and during vacation periods the seats and cushions could be removed and the busses could be used for ordinary transportation of supplies.

*Drivers and attendants.*—Each stage has a driver and an attendant able to lift the more helpless children. These attendants are some-



A. NEW ENGLAND PEABODY HOME FOR CRIPPLED CHILDREN, HYDE PARK, MASS.

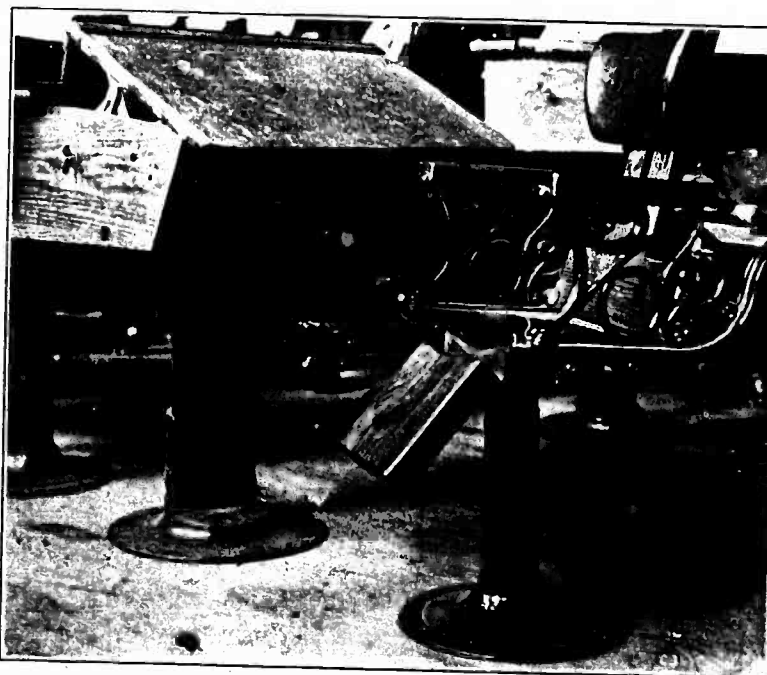


B. INDUSTRIAL SCHOOL FOR CRIPPLED AND DEFORMED CHILDREN, BOSTON, MASS.





A. OMNIBUS USED FOR TRANSPORTING CRIPPLED CHILDREN, NEW YORK.



B. ADJUSTABLE SEAT AND DESK USED IN SPECIAL CLASSES FOR CRIPPLES IN PUBLIC SCHOOLS OF NEW YORK.

times women but more often men. In several cases police officers have been employed. When the attendant is a woman the driver is expected to help to carry the larger children. In New York City the 28 stages furnished by the city have men attendants. The stages provided by the Association for the Aid of Crippled Children are accompanied by women nurses. The special teacher in charge of physically handicapped children urges the superiority of women attendants. She says:

The contract (to supply stage service paid for by the city) should also require the presence of a woman attendant in the stage instead of men or boys. In stages having women attendants results have been very satisfactory in the improved conduct of the children during transportation, in securing home care for the children, and in improved attendance. It would be a valuable addition to the home inspection if nurses from the board of health could be assigned to this work.

The use of men as attendants has thus far been in most cases a matter of convenience. Patrolmen have been assigned to this work in cities where children are transported in police-patrol wagons because this could be done without the expense of extra employees.

#### FOOD.

The second large item of expense in separate classes for cripples is the food served free or for very small payments. Hot lunches are usually given to the children at noon, consisting of a hot soup or stew, bread, cocoa, or milk, and a simple pudding. One or more vegetables are sometimes added. In many classes milk or milk and crackers are served when the children reach school or in the middle of the morning. In Chicago, Cleveland, Detroit, and Baltimore the food is furnished entirely free by the city. In New York and Philadelphia the bulk of the expense is met by private contributions, and the children make small payments if they are able to do so. For example, in Public School 107, in New York, soup was served for 3 cents, and sandwiches, cookies, cocoa, milk, etc., for 1 cent each. The children there are required to take the soup before they are allowed to have sweets. In some schools, where cripples buy food in the regular school-lunch rooms used by all children in the building, the crippled children are served first.

A special study of the school-lunch menu for crippled children in the public schools in New York was made in 1915-16. It was found that the children ate too much white bread, white crackers, and macaroni, and too many sweets. A change in the menu was urged, in order to include more food containing the mineral elements which are needed by all children, but especially by those cripples who have bone tuberculosis.

Nourishing food is part of a public school's provision of conditions which foster the physical well-being of children in the cripples' classes.

## FRESH AIR.

Fresh air is another element which is desirable for all children, but of especial importance for children who have been ill and who need to gain as much strength as they can from every source. Any visitor to classrooms for crippled children will note that the air is purer than in most public-school rooms for normal children. This is especially true in schools which are supervised or visited by physicians, because they generally order open windows. The air in a number of classrooms visited seemed as pure as that out of doors, even during cold weather. This result was attributed to open windows rather than to a system of indirect ventilation. During the winter a plentiful supply of steam is furnished in most of the schools where the windows are kept open, and the children are expected to wear their outdoor wraps on the coldest days.

*Outdoor classrooms.*—None of the public day schools for cripples have special rooms or buildings designed for the use of outdoor classes. Several of the residential institutions conduct outdoor classes in special rooms whose arrangement may be mentioned here as of possible suggestive value for public schools. At the Massachusetts Hospital school outdoor classes are held on open platforms adjoining the school building, which forms the only solid wall. On the other three sides there is a tight board railing about 3 feet in height, with pillars at intervals which are connected overhead to the main building by rods, over which an awning can be drawn. The children sit in collapsible boxlike chairs with very high backs extending to the floor behind their feet, and with winged pieces of board at each side to break the wind. Very warm clothing, knit caps, and heavy blankets are provided.

The first specially designed building for outdoor school-work for crippled children was completed about 1914 at the Industrial School for Crippled and Deformed Children in Boston. This building, erected at a cost of \$15,000, has a substantial roof and one brick wall; the other three sides have steel pillars covered with concrete, between which there are sliding glass partitions. In order to obtain ventilation without a draft through the room, the roof is built in monitor form with movable windows in two sections. The seats used are similar in general design to those at the Massachusetts Hospital school. There are also half a dozen canvas cots which stand along the sunny southern side of the building and are used during rest periods.

A simpler outdoor school building was built at about the same time at the Sewickley Fresh-Air Home, near Pittsburgh. This building is roofed, but has no walls; glass partitions are used in winter.

These are the only institutions where school classes can be held out of doors throughout the year, but mention should be made of the

excellent arrangement at Sea Breeze Hospital at Coney Island, N. Y., for outdoor teaching during about half the year. From early spring until late in the fall the school classes there are held in a tent with wooden floor and board walls about 3 feet high. The walls are completed above that height by screens and canvas which may be dropped in case of rain.

*Outdoor classes v. open windows.*—The importance of fresh air for crippled children, especially for those with bone tuberculosis, can not be overemphasized. But there are differences of opinion as to the best methods for obtaining the fresh air. At the meeting of the Federation of Associations for Cripples in New York City in April, 1913, there was a discussion of outdoor schoolrooms and schoolrooms where windows are kept open in winter, which brought out sharp differences of opinion as to whether or not cold temperatures have a bad effect upon the children's physical condition. Many of the physicians seemed to agree that cold in itself was never harmful if the children were warmly dressed and had plenty of good food. But many physicians advise a reasonable degree of warmth in schoolrooms, especially those used by crippled children who have bone tuberculosis, and advocate schoolrooms with plenty of window space rather than outdoor rooms where little or no heat is provided. Better progress is usually made educationally when the children are warm enough to avoid the need of heavy wraps and are able to use their hands for writing.

It must not be forgotten that the effect upon the children's health can not be foretold from a knowledge of the mere facilities for securing fresh air unless one knows also how those facilities are used. An apparently old-fashioned building may be well ventilated if the individual teachers see to it that windows are lowered from the top and raised from the bottom in sufficient measure to obtain a good supply of fresh air. On the other hand, a room with the most approved movable walls will not have good air if these be not removed during the school sessions. The Crippled Children's East Side Free School of New York is noteworthy among day schools because its windows are actually kept open throughout the year. The fresh air and the nourishing food which are desirable for all children have been discussed here because they are specially needed by crippled children. These children need also much special attention for their health which is not necessary for other children.

#### SURGICAL AND MEDICAL SUPERVISION.

Most of the crippled children attending public school classes for cripples are or should be under the supervision of an orthopedic surgeon; they should report frequently at the hospital dispensary, where their surgeon can examine them. The relation of the school

to the surgical and medical treatment of the crippled children varies widely in the different cities.

At one extreme, the Crippled Children's East Side Free School in New York, at the expense of a private organization, offers to the children taught by public-school teachers in that building practically all phases of surgical and medical care for their orthopedic difficulties except operations requiring an anesthetic. A visiting orthopedic surgeon holds weekly clinics at the school building, where an assistant surgeon and a trained nurse assist him in the adjustment of braces, application of plaster dressings, and other treatments. Under the supervision of a staff of nurse maids, all the children have baths at the school twice each week. There were 9,703 baths recorded for one school year, and 450 visits were paid to the homes of the children.

*Philadelphia.*—At the other extreme, the public school classes in Philadelphia have no orthopedic surgeons of their own and no nurses with special orthopedic training. This does not mean that the children in the Philadelphia classes are less well looked after from a medical point of view than those in other public schools. The difference is simply one of organization. Philadelphia is noted for its many fine hospitals, and the schools cooperate with the social service departments in the various hospitals. The school nurse has general supervision of the cripples, as of other children, and a matron is provided in each school where there are cripples to superintend the serving of their lunches and to act as attendant for children who can not go from one room to another without some help.

In all the six cities with public school classes for cripples, the children are either inspected by an orthopedic surgeon at the school or urged to attend the hospital dispensaries. A nurse or matron is sometimes present in the classroom all the time that the children are there; in other schools a trained nurse with special knowledge of orthopedics gives part of her time to work at the school and part of her time to visiting the children in their homes. Special gymnastic exercises adapted to crippled children are given in most of the classes, sometimes by the class teachers and sometimes by special teachers of gymnastics. There are so many differences between the detailed methods used in different cities that we shall state here briefly the system of medical supervision in each city.

*New York.*—The City of New York has had since 1907 a special supervising teacher assigned to the classes for cripples by the director of physical training for the public schools of the city. Under her supervision the grade teachers have learned to watch carefully the health of their pupils. The physical activities of every child in the special classes for cripples are limited carefully in accordance with the recommendations of special hospital record cards kept at the

school.<sup>1</sup> These cards were originated by the department of physical training of the public schools of New York in order that each child's orthopedic surgeon himself might state the disease, treatment, and physical care he desired for the child. The cards show the exact nature of the child's disease or deformity and indicate which physical exercises are regarded by the surgeon as desirable, and just what kinds of exercise the child in question must not undertake. The card index also shows whether or not the child should be allowed to climb stairs. These cards are renewed once each year for all pupils who are under hospital supervision and once each term for all cases of bone tuberculosis. They are also renewed after any long absence from school, after any change in a child's brace or cast, and after any surgical operation. Every effort is made to keep the child's record on these hospital cards up to date.

Except at the Crippled Children's East Side Free School, where, as stated before, orthopedic supervision is provided by a private organization, the New York schools do not attempt surgical or medical measures at the schools. It is the endeavor of the schools to cooperate as intelligently as possible with the large orthopedic hospitals in the city whose dispensaries provide adequate supervision for all crippled children. Visiting nurses from these hospitals are largely responsible for seeing to it that the children actually come to the dispensaries when ordered by their surgeons and that directions are carried out by the parents at home. The teachers in the schools have given valuable cooperation in securing the interest of the children and their parents in the child's treatment at the hospital. The Association for the Aid of Crippled Children, a private society, has for many years initiated movements in behalf of crippled children in New York, and has aided great numbers of individuals.

The New York teachers have not only cooperated with the surgeons in charge of children who were already under treatment when they entered the public schools, but they have also persuaded the parents of many children not under treatment to take them to orthopedic dispensaries. The report of the New York schools for 1915-16 states (p. 114) that in some classes for cripples only 10 to 20 per cent of the children were under treatment when the classes were organized. In the same classes there are now 90 to 95 per cent of the children under orthopedic treatment regularly at various clinics. When one class for cripples was organized in Brooklyn, only 15 per cent of the children were receiving medical attention. The superintendent reports (1914-15) that every child in the class is under medical supervision. This cooperation on the part of the teachers should receive special commendation when we remember that it has meant

<sup>1</sup>See appendix, p. 40.

frequent visits on their part to the homes of the children and sometimes to the hospitals in order to arrange for the child's visits to the dispensary.

Within the last two years New York has undertaken the segregation of crippled children with bone tuberculosis into separate classes in all of the school buildings where there are several classes for cripples. Such classes have been organized thus far in six different public schools: These classes are located in large rooms with southern exposure and open window ventilation, with a temperature in winter kept between 50 and 60 degrees. In addition to hot lunches at noon, the children have special feeding, both in the morning and just before starting for their homes in the busses at the close of the school day. The formation of these classes has been followed by very beneficial results. A teacher in one of the classes kept careful records of the children's physical improvement. One month after the formation of the class every child except one had gained in weight. At the end of seven months all had gained in weight except two children who needed hospital care.

Children are not admitted to the special classes for cripples in New York unless they can walk well enough to look after themselves. It is recognized that there are in a large city like New York many crippled children living at home who are not able to walk but who are mentally bright and would profit by instruction. The superintendent's report for 1915-16 recommends the appointment of special visiting teachers who will be assigned to the instruction of crippled children in their own homes. While awaiting the city's action, the Association of Public School Teachers for Cripples in New York is trying to meet the need by providing volunteer teachers and by appealing for contributions which will enable one or two teachers to give their entire time to the work.

*Chicago.*—The schools for cripples in Chicago have always emphasized strongly the physical care of the children. This is especially true of the larger of the two schools, the Spalding School. The principal of this school states in her report for 1915-16:

The policy of the school is to take in all crippled children who apply, even though the deformity may be very slight, so that advice and assistance may be given parents in obtaining proper treatment. The first aim of the school is to improve the physical condition of the children. The actual school work gives place always to this.

The teachers in the school are required by the board of education to take a special course of study concerning the diseases, treatment, and care of crippled children, and a course in industrial work suited to cripples. They are able to cooperate intelligently with the special teachers who give curative gymnastics to the children.

For many years the children attended daily clinics at the adjoining Home for Destitute Crippled Children, an orthopedic hospital.

An important change has been made during the past year. The entire care of the physical condition of the children has been taken over by the new Municipal Tuberculosis Sanitarium of Chicago, which has enlarged its field in order to care for all the crippled children whether or not the cause of their condition is bone tuberculosis.

The sanitarium furnishes to the school a nurse and medical supplies, arranges for operations and treatment, and takes the children to clinics. Complete files are kept, in which there is a social and physical history of each child. At the Spalding School itself, the children have thorough physical examinations frequently, daily dressing of sinuses, massage and curative gymnastics, and baths for medical purposes. The board of education has recently installed dental equipment at a cost of \$500 and the board of health gives the services of a dentist. An oculist from the board of health also visits the school.

*Cleveland.*—The children who attend the school for cripples in Cleveland were very carefully supervised until a year and a half ago by a visiting nurse with special orthopedic training who was furnished jointly by Lakeside Hospital and Rainbow Cottage, a country convalescent children's hospital. At present, the school children are examined only by the regular school nurse, but the former system had some merits so striking that we mention it here, although it is not now in force. The orthopedic nurse represented three links in a chain which offered all kinds of service for crippled children except asylum care. The employment by the three organizations, the hospital, the convalescent hospital, and the public school, of the same nurse or nurses had the very great advantage of permitting the nurse to follow individual children through every period of their care. She usually met a child first at the hospital dispensary. She visited his home and urged the mother to follow out the doctor's orders and to revisit the dispensary at the time set by the doctor. Later, she watched the child's progress at hospital or convalescent hospital. After he was able to leave the institution she visited him at home and at school. She renewed dressings and adjusted braces at the school itself and kept so closely in touch with the child's condition that she was always ready to suggest further hospital treatment if that seemed necessary.

A teacher of physical culture, employed by the board of education, comes to the school three times a week. She gives massage to the paralysis cases and teaches the waitresses to assist her in this work; she also superintends special gymnastic exercises which are conducted by the teachers on days when she is not there.

*Detroit.*—In Detroit an orthopedic surgeon, appointed by the board of health, examines all children applying for admission to the classes for cripples, and visits the school at intervals to examine the



pupils and perform small operations. The special school nurse is on duty for five hours every school day; she gives massage and electric treatments. The Detroit Association for the Aid of Sick and Crippled Children supplies crutches and braces to all pupils in need of such help.

*Baltimore.*—The children in special classes for cripples held in public school buildings in Baltimore attend dispensaries connected with the city's hospitals, and visiting nurses from the hospitals keep constant watch over their physical condition. The teachers and the visiting nurses work together to secure the conditions which are best for the improvement of the children's health.

It will be noted that there is a great difference between the different cities in regard to how much of the physical supervision of the children is done by the school and how much is done by visiting nurses from hospitals or from other outside agencies. In any city where special classes for crippled children are being organized for the first time, the board of education will find it an advantage for the health of the children, as well as a saving financially, to make use of all the agencies which already exist for the care of crippled children. If there is a good hospital with an out-patient department and visiting nurses, the school will probably have no need of a specially trained orthopedic nurse. On the other hand, if the city has no hospital with an orthopedic department, a nurse who is a graduate of a training school connected with an orthopedic hospital would be of the highest service if she were engaged by the board of education to look after the children at the school, under the direction of their doctors, and to visit their homes. Where children who are almost helpless are admitted to the public schools, a matron or attendant is necessary. If such children are not admitted, they must stay at home and a visiting teacher is a God-send in the midst of their monotonous lives.

#### HOURS OF SESSIONS.

The hours of the sessions are shorter for the 'ripples' classes than for other school classes in practically all the public schools. In Detroit the hours are identical with those in other public-school classes in the spring and fall, but from November until April the classes for cripples begin an hour later in the morning, so that the children need not leave their homes so early in cold weather. The sessions are from 9.30 to 3 in Cleveland. In other cities the classes for cripples are in session from 9 until 2 throughout the school year, with an intermission for lunch which is often extended beyond the hour given to children who are not crippled.

*Rest periods.*—There is considerably more variety and elasticity of schedule in special classes for crippled children than in regular public-school classes. The children are permitted to leave their work and lie down for short periods when they are tired, sometimes in a separate

rest room provided for the purpose, sometimes on a couch in the corner of the schoolroom. In some classes, notably the newly organized special classes for children with bone tuberculosis in New York, all children in the class are required to lie down for rest after their noon meal. Individual children whose strength is limited are sometimes required to rest at regular intervals, as ordered by a surgeon, the nurse, or the teacher.

#### MENTAL PROGRESS.

The average observer would expect to find the educational progress of crippled children much slower than that of other children because of the short sessions and liberal rest periods, as well as on account of the weakened vitality of some of the children. It is true that the majority of children in classes for cripples are behind other children of their age, but this is very often due to the fact that they did not enter school until they were considerably past the regular age, rather than because their progress has been slow since they began work in the special classes for cripples. The difficulties under which some of the crippled children labor, especially those who still have active bone tuberculosis, must not be minimized. Yet the average observer will be amazed to find when visiting special classes for cripples how large a proportion of the children are able to do genuinely good work and to move from grade to grade as rapidly as other children. This fact is attributed by the teachers to two causes.

*Classes are small.*—In the first place, each child in a special class for cripples receives considerably more individual attention than it is possible for one child to receive in an ordinary grade classroom in the public schools of a city, because the classes for cripples are very much smaller, often not more than half as large as other classes in the same building. The average number of children in special classes for cripples for the six cities is about 20. In New York City 20 is the maximum number allowed, although that number is slightly exceeded at times when the pressure for admission of two or three more children is very great. Twelve is the minimum number with which a class may be organized in New York. The average number per teacher in Chicago is somewhat under 25. At the Spalding School there are 11 teachers for regular class work with 200 children. The average number in each classroom in the Cleveland school for cripples is about 22. In Detroit the number of pupils per teacher at any one time is not often greater than 23. In Philadelphia from 20 to 25 children are usually enrolled with each teacher, and an average attendance of about 18 per teacher is maintained. In Baltimore the two classes for cripples held in public-school buildings had an average membership for 1915-16 of 15 and 16 children, respectively, and an average attendance for each class of 14. Classes

for children who are not crippled in all these cities are often very much larger than they should be for the best interests of the children, because the boards of education find it impossible to finance the schools upon the basis of small classes. It is much to the credit of the educational authorities that they have seen the necessity of a smaller number of pupils per teacher in the cripples' classes. Each crippled child can be carefully studied as an individual by the teacher and given special instruction in branches which the child finds most difficult.

It is interesting to note in this connection the number of pupils to each teacher in the schools for cripples in London. The following figures are quoted from an article by Douglas C. McMurtrie, reprinted from the New York Medical Journal, dated January 25, 1913:

*Schools for cripples in London.*

	1906	1907	1908	1909
Number of teachers.....	66	90	83	107
Number of pupils.....	1,547	2,045	2,392	2,544
Average number of pupils to each teacher.....	23.4	22.7	28.7	23.8

*Cripples often earnest students.*—The second reason for the excellent progress made by many crippled children is the character of the children themselves. Many of them are so limited in their interests by the fact that they can not walk well or play running games with other children that they concentrate their attention upon their school work with unusually keen interest. The hours spent in school are often the brightest in their restricted lives. They undertake each task earnestly and work with a thoughtfulness and perseverance which can not fail to bring rapid progress. Many children who have spent considerable time in a hospital or under treatment while at home undertake school work for the first time with a zest which is largely due to an unconscious rejoicing that they are for the first time like other children because they can go to school.

*Wide differences.*—The teacher of crippled children has to deal with a far more complicated situation than the teacher in an ordinary class. Each of her pupils is likely to vary greatly from time to time in energy and capacity, according to his physical health. Some of the children lose time for operations or during special treatments and are irregular in attendance. Furthermore, there is tremendously more variation between the different pupils than between a similar number of ordinary children. Some of the children in a special class for cripples are familiar with public-school routine and have much the same point of view as normal pupils. This is especially true of children who had infantile paralysis at the age of 8 or 10 or later, after several years of attendance at public schools in ordinary classes

when they were themselves entirely healthy and strong. On the other hand, a large number of the crippled children in these special classes have never been able to attend regular schools or to associate freely with other children. This is very often true of those who have bone tuberculosis and of children congenitally deformed or paralyzed when very young. The teacher must, therefore, be able to face the problems of children accustomed to school work and of other children to whom the atmosphere of the schoolroom is an entirely new thing.

It is not intended to suggest that crippled children can be divided accurately into the two groups mentioned. The crippled child may differ greatly or to only a slight extent from the normal sound child of his own age in general strength and in point of view. The gradations are many between, for example, a boy who was a vigorous urchin until he lost a leg in a trolley accident at 12 or 13 and, on the other hand, a child who has been paralyzed from the age of 3 or 4, or one who has been fighting to overcome bone tuberculosis since an early age.

#### DISCIPLINE.

This very great variation in the children's condition and previous experience affects not only their instruction in the subjects taught in school, but their discipline. Some crippled children are unduly petted and looked after at home and must receive their first lessons in independent effort after they come to school. From the teacher and from fellow pupils in the class they learn for the first time that a crippled child who tries to be like other children is happier and more successful than one who is too easily content to occupy a special and peculiar niche in the world. There are other crippled children of the timid, shrinking kind who have been in rare cases abusively treated at home or, more often, have been unduly teased and reminded of their deformities by thoughtless children on the street and elsewhere. The teacher's sympathy and inspiration will go far toward encouraging them and inducing pride in some line of achievement in which they may learn to excel and thus forget the handicaps for which they have been ridiculed.

#### CLASSES FOR MENTALLY DEFICIENT CRIPPLES.

A very special problem is presented by children who are both physically crippled and in some measure deficient mentally. Pronounced cases should, of course, be sent to institutions, but most of the cities which have public-school classes for cripples find some of the children retarded mentally.

*New York.*—In New York City an effort is being made to segregate such children into special classes of their own. During the year 1915-16 there were three such classes. The special supervisor of cripples' classes recommends that these segregated classes with doubly

handicapped children be retained in the public schools, but that those children who prove themselves unable to benefit at all by the educational facilities provided should after reasonable trial be sent to an institution under the supervision of the department of education.

*Philadelphia.*—In two of the schools which have classes for cripples in Philadelphia the children who are dull or subnormal are put into one class, usually with some bright children, since there are hardly enough retarded cases to constitute an entire class. It is worth noting that at the McCall School the teacher of the class which includes subnormal pupils has been specially trained for this purpose by a course at the institution in Vineland, N. J., and by long experience in charge of a private home school for feeble-minded children.

#### ORGANIZATION OF CLASSES.

There is an unexpected resemblance to the old-fashioned country district school on the part of many of the classes for crippled children, although these classes are all located in large cities. This is due to the fact that, wherever there is only one special class for cripples in a building, it must offer work in any or all of the eight grammar grades which the children admitted are ready to enter. In some of the classes visited the work was not carried beyond the sixth grade, because none of the children were able to do higher work.

Wherever there are several classrooms for crippled children in one building the work can be graded more accurately and each teacher given certain definite grades. This is true in both of the schools for cripples in Chicago, the school in Cleveland, and that in Detroit. In each of the three public schools in Philadelphia which have classes for cripples there are two or three classrooms set aside for them, and the grades are divided between these classrooms. In Baltimore there is but a single class in each school, and the work of many grades must be offered in one room. In New York City there are seven schools which have only one class for cripples in the building, together with many regular classes for children who are not crippled. Two, three, four, and five classes for cripples each occur in two schools. Finally, one school, the Crippled Children's East Side Free School, has 11 classes for cripples, the largest number taught in one building in any school in the United States. In this school each teacher has the work of a single grade, as she would have in any city class for children not crippled. This is true also of the Spalding School in Chicago, and of the private day school in Boston, the Industrial School for Crippled and Deformed Children.

Where it is possible to include at least two or three classes for cripples in a single building the work of each teacher is very much easier, and the children make more rapid progress in their studies. It is, of course, only in a very large city, like New York, Chicago, or

Boston, that a school for cripples will have pupils enough to require a teacher for each grade. But in smaller cities when classes for cripples are organized it is well to put at least two classes in one building if possible and use motor busses in order to bring this larger number of children from greater distances.

*Flexibility in grading.*—The special classes for cripples, whether there are several grades in a given school building or only one, usually show somewhat greater flexibility in the grading of the pupils and in their promotion than do other public school classes. The most extreme case of this flexible grading is found not in any public school, but in the Massachusetts Hospital school for cripples at Canton, Mass. The report of this school for 1912 states, on page 16: "Promotions are made freely from group to group at any time during the year when a pupil shows evidence of ability to do the work of the class next above." It is possible that this end may be attained in good measure in the public schools for cripples in future years.

#### EDUCATIONAL AIMS.

Some of the problems which must be solved in the teaching of a class of cripples are produced by the fact that both curable and incurable crippled children are usually included in the same class. A large proportion of crippled children can be cured, or so far helped that in the course of time they will be able to reenter regular classes in the public schools. These temporarily crippled children find in the special classes much needed opportunity to keep up with their school work in so far as their physical condition permits. Some of them are able to return to the regular public school classes after only a year in a special class for cripples. It is important that the curriculum in a class including such children should resemble as closely as possible that in regular public school classes in order that the temporarily crippled children may return to regular classes with as little break as possible in their school career. As a matter of fact, in all the classes for cripples there is a remarkable resemblance between the subjects studied and methods of instruction used and those in ordinary public school classes. The assistant superintendent of schools in Cleveland summarizes the course of instruction as follows:

The work in this school is about the same as we are doing in other schools: Reading, spelling, writing, arithmetic, geography, history, sewing, drawing, molding simple objects, kindergarten work, music, and gymnastics. Our aim is to make these children feel that they are doing what children ordinarily do, and living the natural life.

This statement could be very nearly duplicated as true of the public school classes for cripples in the other cities.

It is usually the ambition of a teacher of crippled children to be able to say that the children who leave her class after they are cured,

reenter regular public-school classes in the grades which would have been theirs if they had remained perfectly well. This ambition is very commonly realized. It is a pleasure to record the success of the efficient and painstaking efforts made by teachers of crippled children in all the special classes to fit their curable pupils for return to regular classes.

But there are also considerable numbers of crippled children whose cure is impossible, or possible only after many years of treatment. They may be entirely free from disease, but some degree of deformity is permanent. In many schools these children represent a large majority of the total enrollment. They need a complete system of education in special classes, because they will never be able to attend regular schools which will develop such powers as they possess.

*No high schools for cripples.*—It is unfortunate that there are as yet no special high schools for cripples in the United States and no high-school buildings with any classrooms offering the accommodations needed by crippled children. The only hopeful exception is the Spalding School in Chicago, a graded school for cripples, where a class was organized in September, 1916, with nine cripples who were graduates of the eighth grade, for the purpose of instructing them in some high-school branches. Some crippled children do go to high school if their physical condition is sufficiently improved, but a very high proportion of the crippled children attending special classes are unable to go beyond the grammar grades because the high schools offer no free transportation by stage and the buildings, often without elevators, have classrooms on several floors which are not equipped with special seats or desks. It is to be hoped that in the course of time high schools for cripples may be established in the largest cities, or, at least, that some high-school branches may be taught in every city, as in Chicago, in connection with one or more of the schools having grade classes for cripples.

*Training for intellectual pursuits.*—The fact that permanently crippled children have not usually been able to look forward to higher education is particularly unfortunate because their physical defects usually make them poor competitors in manual pursuits with young people of sound physique after they leave school. If every crippled child with good mentality could be trained for a career which made small demand upon his physical capacity but required considerable mental training, we should be making the greatest possible use of our handicapped citizens. People interested in the career of a particular crippled child should give him a high degree of training for some so-called "intellectual" pursuit, if he has the ability and if the money to meet the cost of such training can be secured.

*Manual occupations.*—The majority of crippled children, like the majority of other children in great cities, can not look forward to

higher education. The greatest service which it is possible for the schools to give these children is the provision of some general education plus trade training for a manual occupation which they can pursue with the least possible risk of physical harm. This fact has been understood sufficiently well wherever there are special classes for cripples and has resulted in the introduction into the school work for cripples of an unusual amount of handwork. The children are specially fond of this work, and those who are unable to enjoy active games, because their legs are crippled, often develop remarkable skill in all kinds of hand processes. The younger crippled children do a good deal of cutting and weaving, which calls for training of the hand and eye. In addition to the usual hand processes with paper and raffia, creditable work has been done in many classes by some of the older children in knitting, crocheting, making of simple cotton garments, and rug making.

*Detroit.*—In Detroit several of the older boys have gone for one day each week to another public-school building having special courses in manual training. A class in millinery was taught at the cripples' school in 1915-16.

*Philadelphia.*—At the Meade School, in Philadelphia, eight children are doing good work in rug weaving on the one loom which has thus far been provided. Two looms could probably be kept busy. The older children in this school have also made creditable hammocks.

*Cleveland.*—The girls receive thorough training in sewing. The older girls are able to make dresses for themselves. Other handicrafts taught are basketry, weaving, and the making of simple toys and pottery.

*Baltimore.*—The handwork in classes for cripples in Baltimore includes basketry and simple rug weaving. At the Kernan Hospital school near Baltimore, a public-school teacher has charge of the grade instruction, while a special teacher of handwork and industrial handicraft is employed by the institution. Good work is done in sewing, lace making, rug weaving, basketry, chair caning, burnt woodwork, stenography and typewriting. At the Children's Hospital School in Baltimore, a teacher from the Playground Association, half of whose salary is assumed by the hospital school, teaches advanced kindergarten work, basketry, and chair caning.

*New York.*—In New York City there is great variation between the different schools in regard to the amount of handwork and simple industrial processes taught. The school superintendents all report the children's eagerness to make things with their hands. The principals of the schools where the least provision is made for such teaching urge the undertaking of more handwork instruction.<sup>1</sup> At Public School 15, Brooklyn, the children have made raffia baskets, done

<sup>1</sup> See Report of Superintendent of Schools of New York for 1915-16, pp. 78, 80, 81.



embroidery and plain sewing, including the making of some complete garments, and woven small rugs.

At a meeting of the Association of Public School Teachers of Crippled Children in New York, on March 10, 1916, a committee was appointed to draw up a course of study with special reference to industrial and vocational subjects for crippled children. This committee reported in favor of a course of study which would offer needlework, including plain and fancy sewing, dressmaking, embroidery, knitting and crocheting, and novelty work. They also advised the introduction of a course in drawing and design to include the following subjects: Costume and textile design, commercial design, lettering and poster design, interior decorating, design in its relation to domestic art.

*Chicago.*—A large amount of handwork has always been done at the Spalding School in Chicago, and since January 1, 1916, special attention has been given to industrial work. At that time new equipment was added and new courses offered. The children in the fourth and fifth grades have a total of 1 hour and 50 minutes of work in the shop each week. Those in the sixth, seventh, and eighth grades have 75 minutes daily in industrial classes. The younger children have made toys and doll furniture after completing the regular kindergarten processes of cutting paper, weaving, etc. Older children have manual training work, sewing, crocheting, lace making, basketry, cooking, printing, block printing, cobbling, weaving, special training in designing and free hand lettering, making of artificial flowers, typewriting, and bookkeeping.

The school has excellent equipment for teaching printing, including one very large press. This work is taught to both boys and girls, beginning with the sixth grade. The most successful results have been attained with Christmas cards designed by the children, printed in the printing room, and then returned to the art classes for decoration. It is believed that some of the children will be able to earn their living later by this work. A graduate of the school, a young man who has no use of his lower limbs, is running a commercial printing establishment with two large motor presses and other modern equipment, all purchased through his own efforts. The only instruction he ever received was at the Spalding School.

A \$50 outfit for cobbling, sufficient to keep six boys at work, was presented to the school in June, 1915. Since then, the children's shoes have been kept in good repair by the boys' work. Equipment has recently been purchased which is to be loaned to any boys who wish to make the experiment of starting cobbling shops in their own neighborhoods. A graduate of the school in June, 1917, is earning \$10 a week in the fine shoe-repairing department of one of the largest stores in Chicago. It is believed that a maximum of \$30 a week can

be earned in this trade. Motor-driven equipment costing about \$150 has recently been ordered for the cobbling department. It is believed that this work offers an especially good opportunity for boys who have lost the use of both lower limbs but who are able to be about on crutches.

The school has 6 large foot looms and 10 hand looms, and good work in weaving has been done since February, 1916. Several of the looms were loaned during the summer to children who are confined to wheel chairs. A gift of \$400 was made to the school in June, 1916, for the express purpose of buying looms or other equipment to be given or loaned to such children. The teacher of weaving has had special training for this work. The teachers believe that weaving is a very good occupation for one-armed pupils.

A graduate who left the school in February, 1915, has an apprenticeship in engraving with one of the best engraving firms in Chicago. Two other graduates have office positions, and one is making artificial flowers.

The highest development of handwork and industrial training is found in the two large private day schools for cripples, the Industrial School for Crippled and Deformed Children in Boston, and the Crippled Children's East Side Free School in New York. Their industrial classes are mentioned in detail in Part II of this Bulletin, pp. 45, 46. Any board of education which contemplates the establishment of industrial trade classes for cripples should visit these schools which have been pioneers in this direction.

*Trade training.*—The problem of trade training is bound to be the outstanding feature of future discussions concerning the education of crippled children, both because the establishment of industrial classes is the natural outgrowth of the excellent graded class work which has already been established in six large cities, and because the entrance of America into the great war has brought before us the problem of the reeducation and trade training of crippled soldiers. In choosing occupations for which soldiers crippled in different ways can be trained and in selecting methods of instruction, the agencies for the reeducation of crippled soldiers in European countries have profited greatly by the experience of trade classes for crippled children, many of which were organized a great many years before the war. In some cases crippled soldiers have been taught together with the crippled children in their trade classes. The public sympathy with the efforts of crippled soldiers to fit themselves for self-support will quicken the interest in the problems of all cripples. It is probable that there will be a rapid development within the next few years of public-school classes for cripples and of special industrial classes for their occupational training.

## PROVISION FOR CRIPPLES IN CERTAIN CITIES.<sup>1</sup>

### NEW YORK.

*Statistics.*—The City of New York has 46 special classes for physically crippled children, located in 16 different public-school buildings in various parts of Manhattan, The Bronx, and Brooklyn. In seven schools there is but one class for cripples in the building, together with many regular classes for children who are not crippled. Two, three, four, and five classes for cripples each occur in two schools. Finally, one school has 11 classes for cripples, the largest number taught in one building in any school in the United States. This school, unlike any of the others in New York, occupies a building especially designed for the use of crippled children and given over to them exclusively.<sup>2</sup> These 46 classes have a total register of 918 crippled children and an average attendance of 693. The smallest number with which a class may be organized is 12, and 20 is the intended maximum for one class, though that number has been exceeded in several cases because of the great number of applicants.

The principal of a school whose one class for cripples had 32 enrolled in 1914-15 stated his objections thus:<sup>3</sup> "At present, with 32 on register and but 20 sittings, the pupils in excess are compelled to use ordinary chairs and tables. The result is that the room is overcrowded with furniture, and the pupils, who are compelled to use the chairs, become overtired." The fact that the average attendance for this class of 32 is 24 must in some measure lessen the difficulties.

*Buildings.*—The 16 public-school buildings in which the classes for cripples are located include several of the newest and finest schools in New York. Some of the other schools with cripples' classes are older and less perfectly adapted for the use of handicapped children. In old and new buildings alike the crippled children are always given the best rooms in the school. Special desks and seats are used in great numbers, and other needed equipment has been liberally provided.

<sup>1</sup> The following summaries have been prepared for convenient reference. They include data already given in this bulletin, together with some other points of special interest in connection with the classes in each particular city.

<sup>2</sup> This building does not belong to the city but to a private organization, the Crippled Children's East Side Free School, which formerly financed the school entirely and which still maintains industrial classes and work rooms in the building.

<sup>3</sup> Rep. of Supt. of Schools, New York, 1914-15, p. 107.

*Transportation.*—Provision is made for the transportation of crippled children between their homes and the schoolhouse by 42 stages, of which 40 are furnished by the city and two by a private society, the Association for the Aid of Crippled Children. A driver and an attendant, able to lift the more helpless children, accompany each stage. In stages owned by the city the attendants are men. The stages provided by the Association for the Aid of Crippled Children are accompanied by women nurses as attendants. The special teacher in charge of physically handicapped children urges the superiority of women attendants.<sup>1</sup> She advocates the use of these stages in taking crippled children from their homes to hospitals for dispensary treatment.

*Lunches.*—Hot lunches are sold to the children for very small sums. In Public School 107, for example, soup was served in 1912-13 for 3 cents, and sandwiches, cookies, cups of cocoa, etc., for 1 cent each. Children are required to take the soup before they are allowed to have sweets. In some schools, the children in the special classes for cripples are served first.

*Physical supervision.*—A special teacher is assigned to the classes for cripples by the director of physical training in the New York public schools. Under her supervision the grade teachers have learned to watch carefully the health of the pupils. The course of study and physical activities of each child are limited in accordance with the recommendations of hospital record cards, printed in full in the Appendix, pages 49-51. These cards show which exercises are regarded by the child's surgeon as desirable and what kinds of exercises the child in question must not undertake. The card index also shows whether or not the child should be allowed to climb the stairs. These cards are renewed once each year for all pupils under hospital supervision and once each term for all cases with tuberculous joints. They are also renewed after any long absence from school, after any change in a child's brace or cast, and after any surgical operation. Every effort is made to keep the child's record on these hospital cards up to date.

*Classes for different types.*—Particularly good work has been done in the physical supervision of the children within the last two years, since the segregation of three types of crippled children into different classes in all of the schools having several classes for cripples. There are separate classes for children with tuberculous joints in six different public schools. According to the report for 1915-16, the formation of these classes has been followed by very beneficial results. Such classes are located in large rooms with southern exposure and open-window ventilation, with a temperature in winter kept between 50° and 60°. In addition to hot lunches at noon

<sup>1</sup> Rept. of Supt. of Schools, New York, 1914-15, p. 122.

these children have special feeding both in the morning and just before starting for home at the close of the school day. Cots and blankets are provided for use during a rest period after the midday meal.

Still more recently an effort has been made in the New York schools to segregate children who are both mentally deficient and physically crippled. During the year 1915-16 there were three such classes. The special supervisor of cripples' classes recommends that these segregated classes for doubly handicapped children be retained in the public schools, but that those children who prove themselves unable to benefit at all by the educational facilities provided should after reasonable trial be sent to an institution under the supervision of the department of education.

The remaining classes in the New York schools where segregation into different types of classes has been begun are those for nontuberculous crippled children who are mentally sound. These represent the majority of the crippled children. Most of them through the skillful orthopedic treatment of surgeons at the hospitals are eventually fit to be transferred to regular classes in elementary schools and to attend high schools later.

*Visiting teachers.*—There are some crippled children living at home who are not able to attend school even with the special facilities provided for cripples' classes. The New York report for 1915-16 recommends the appointment of special visiting teachers for crippled children who will be assigned to the instruction of children in their own homes. Funds are being solicited by the Association of Public School Teachers of New York to pay one or two visiting teachers at once, before the board of education is ready to act.

It is only a city like New York, with a very large population, which will find necessary large numbers of classes for crippled children. It is, of course, in such a city that the work can be carried on with the greatest degree of segregation of the children into classes of different types. In order to secure the benefits which undoubtedly come from the separation of different types of cripples into classes of their own, the cripples' classes are so arranged that there are, if possible, at least two special classes for cripples in a given building. The presence of two or three classes in the same building usually makes possible also some separation of the grades, so that one teacher does not have to carry six or eight grades, as she does in every special class for cripples if it is the only one in the building.

*Sessions.*—Sessions are one hour shorter in classes for crippled children than in other public-school classes in New York City. The classes for cripples begin at 9 o'clock and end at 2 o'clock instead of 3. In one school where there was much congestion in the crippled children's classes, part-time classes were tried as an experiment.

Half the children came from 8.30 to 12.30, the others from 12.30 to 4.30, using the same stage. But the plan did not work. The children in the first group had to eat breakfast at home too early; the children in the second group had to eat lunch at home too early. Also, the special seats when adjusted to fit the children in the first group did not fit the children in the second group. Furthermore, the children did not cover so much ground in their studies by a wide margin, although the new system offered apparently a school day but one hour shorter than the usual period from 9 to 2. The children were actually able to accomplish much less because of the liberal rest periods needed by many of them.

*Curriculum.*—The curriculum is as closely similar as possible to that in classes for children who are not crippled. The classes are not graded quite so exactly; the children are given more individual attention and more time is spent on handwork.

*Handwork.*—There is great variation between the classes for cripples in different schools in regard to the amount of time given to handwork and simple industrial processes. Most of the classes offer all the usual kindergarten handwork and more advanced work with cloth, raffia, and yarn. It is noteworthy that the superintendents of the schools where least provision is made for such teaching urge the undertaking of more handwork.<sup>1</sup>

*No public high school nor trade school.*—There is no high school with special facilities for cripples, and no public trade school. Trade classes for girls in needlework of many kinds and for boys in box making are maintained privately at the Crippled Children's East Side Free School; also other trade classes at two other private schools, the Rhinelander School, distinguished for its classes in jewelry, and the William H. Davis Free School, notable for hand-made articles of leather and wood, as well as needlework.

#### CHICAGO.

The city of Chicago maintains special classes for crippled children in two sections of the city, with an average daily membership for 1915-16 of 304.1 and an average daily attendance of 280.9.

#### THE SPALDING SCHOOL.

*Building.*—The Spalding School, at 1623 Park Avenue, on the west side of Chicago, is the only permanent school building in the United States built and maintained entirely by a city board of education for the exclusive use of crippled children.<sup>2</sup> It is a one-story and attic building only, slightly elevated above the street. On the ground

<sup>1</sup> See Rept. of Supt. of Schools, New York, 1915-16, pp. 78, 80, 81.

<sup>2</sup> The school building for cripples in Cleveland serves its purpose very well, but is of a much less permanent character, since it is built entirely of wood.

floor there are five classrooms and an assembly hall, a kitchen, a dining room, and a nurse's room, bathroom, and rest room. The attic, which is reached by an incline from the first floor, contains the industrial classrooms. The children in the attic rooms are protected against accident in case of fire by a specially designed fire escape recently completed. An incline 100 feet long leads from each end of the attic directly to the ground. Twice as many children are now taught in this building as it was designed to accommodate, because of the rotary system which changes the children about from class work to industrial work, etc. An addition to the building has been authorized by the board of education to cost \$82,000. It will contain four additional classrooms, three large industrial rooms, an assembly hall with a stage, nurse's room, dental room, massage room, rest room, receiving room, toilets, bathroom, and a large sun room with glass roof.

The equipment of this school is of the most modern sort obtainable. Special seats and desks are provided, also a liberal number of wheel chairs. Cork matting is laid on the hall floors.

*Pupils and teachers.*—The enrollment in this school for the year 1915-16 was 225, of whom 200 were taught in the building itself, and 25 were patients confined to their beds in the nearby Home for Destitute Crippled Children. One teacher is assigned to give bedside instruction to these children. In 1916-17, 300 were taught in the Spalding School, 25 at the hospital, and 85 in temporary quarters in the wing of a neighboring school building. In 1916-17, 11 teachers were employed for regular class work, 2 teachers for industrial work, and 2 for corrective gymnastics.

*Transportation.*—The entire expense is borne by the city of Chicago. Since January, 1917, each of the teachers has been paid \$200 more than the amount paid teachers for similar work in other public schools. The children are taken to and from school in comfortably heated and ventilated motor busses, which replaced the old horse busses in 1914. Each bus has in addition to the driver a man or woman attendant. These motor busses have made it possible to enlarge the school district, and some of the children come from long distances. Hot lunches are furnished at noon and milk to drink upon the arrival of the children in the morning.

*Physical supervision.*—The schools for cripples in Chicago have always emphasized strongly the physical care of the children. This is especially true of the larger of the two schools, the Spalding School. The principal of this school states in her report for 1915-16:

The policy of the school is to take in all crippled children who apply, even though the deformity may be very slight, so that advice and assistance may be given parents in obtaining proper treatment. The first aim of the school is to improve the physical condition of the children. The actual school work gives place always to this.

The teachers in the school are required by the board of education to take a special course of study concerning the diseases, treatment, and care of crippled children, and a course in industrial work suited to cripples. They are able to cooperate intelligently with the special teachers who give curative gymnastics to the children.

The entire care of the physical condition of the children has been taken over by the new Municipal Tuberculosis Sanitarium of Chicago, which has enlarged its field in order to care for all the crippled children whether or not the cause of their condition is bone tuberculosis. The sanitarium furnishes to the school a nurse and medical supplies, arranges for operations and treatment, and takes the children to clinics. Complete files are kept in which there is a social and physical history of each child. At the Spalding School itself, the children have thorough physical examinations frequently, daily dressing of sinuses, massage, and curative gymnastics, and baths for medical purposes. The board of education has recently installed dental equipment at a cost of \$500, and the board of health gives the services of a dentist. An oculist from the board of health also visits the school.

*Sessions.*—This school is in-session from 9 until 2 during the school year. A morning session has sometimes been held in summer. Every child from this school has the opportunity to spend six weeks in a private summer camp in Wisconsin.

*Curriculum.*—The regular course of study outlined for the eight grades of the elementary schools in Chicago is used as a basis for the curriculum. The board of education authorized the opening of a high-school department for crippled children in connection with the Spalding School. The first class of cripples doing work in high-school subjects was opened in September, 1916, with nine pupils.

*Handwork and industrial classes.*—A large amount of handwork has always been done at the Spalding School in Chicago, and since January 1, 1916, special attention has been given to industrial work. At that time new equipment was added and new courses offered. The children in the fourth and fifth grades have a total of 1 hour and 50 minutes of work in the shop each week. Those in the sixth, seventh, and eighth grades have 75 minutes daily in industrial classes. The younger children have made toys and doll furniture after completing the regular kindergarten processes of cutting paper, weaving, etc. Older children have manual training work, sewing, crocheting, lace making, basketry, cooking, printing, block printing, cobbling, weaving, special training in designing and free-hand lettering, making of artificial flowers, typewriting, and bookkeeping. For a detailed account of work in different hand processes, see pages 31-33 of this bulletin.



## THE FALLON SCHOOL.

The large Fallon School, on the south side of Chicago, has many classrooms for normal children and has also reserved on the first floor for the exclusive use of crippled children four classrooms and a play room, a kitchen, dining room, and toilet rooms. Four grade teachers give their entire time to the crippled children. In 1915-16, the enrollment was 89, and the average attendance was about 84. In November, 1917, there were 94 children registered, and the average attendance was 90.

All expenses in these classes are met by the city. The teachers receive a bonus of \$200. Motor busses are used to transport the children. Hot lunches are provided at noon, and milk or cocoa to drink in the morning. Desks and seats adjustable as to height are provided.

*Physical supervision.*—A nurse from the Municipal Tuberculosis Sanitarium is in constant daily attendance, dressing sinuses, taking temperatures, etc. A doctor from the same institution comes daily to inspect the children. A special teacher of corrective gymnastics is employed, who gives daily exercises with very beneficial results. A masseur gives massage two days each week to children whose parents grant permission for such treatment. One of the teachers in this school has used songs and rhythmic motion, with music as an accompaniment, in order to make the children more spontaneous in their activity, and has secured excellent results in stretching and strengthening muscles by means of dancing.

*Organization.*—The school sessions last from 9 until 2 during the winter, and summer sessions have been held from 9 until 12 in the morning. Many of the children go to a private camp in summer. The curriculum is similar to that in other public-school classes, except for the increased emphasis upon handwork. All the ordinary processes with paper, raffia, reed, and cloth are taught.

## PHILADELPHIA.

The city of Philadelphia has set apart seven special rooms for crippled children in three of the large public schools in different parts of the city. Seven teachers are employed for these classes. Another teacher, paid by the city, is assigned for work with crippled children at the Orthopedic Hospital. The average number of children enrolled for the year 1915-16 was 140 and the average attendance was 126.<sup>1</sup> From 20 to 25 children are usually enrolled with each teacher, and an average attendance of about 18 per teacher is maintained.

Two of the three school buildings in which special classes for cripples are located are less well adapted for this work than any newer school

<sup>1</sup> For the school year 1916-17, there were eight classes for crippled children, with an average enrollment of 163 and an average attendance of 142.

buildings would be. The three classrooms at one of the schools and two classrooms at the other have each but two windows in one direction. At the Binney annex of the McCall School, where there are three classes, the rooms are so dark that the gas lights are often kept burning at midday. The fundamental needs of fresh air and sunshine can not be met in such rooms. The equipment provided is in every other respect adequate. There are special adjustable seats in all the schoolrooms, and wheel chairs in which the children sometimes rest. Kitchens, dining rooms, and separate toilet rooms for the cripples are provided. All the classrooms for cripples are on the first floor and have no thresholds.

*Transportation.*—The children are transported to and from school in horse-drawn busses contracted for by the city. They are heated in cold weather. Each bus starts its trip at 7.30 and reaches the school between 8.45 and 9 o'clock. Each bus has an attendant, usually a man, in addition to the driver. One of the busses running to the Meade School has a woman attendant. When the children are too heavy for her, the driver carries them into the school.

*Lunches.*—At each of the three schools a matron is employed by the city to assist in looking after the physical needs of the children, and especially to serve their noonday meal and midmorning lunch. The children who can afford it are allowed to make some payment for their meals, but most of the cost is met by subscriptions from philanthropic agencies and interested individuals. Just before Thanksgiving each year contributions of cereals and other food supplies for the benefit of these cripples' classes are taken up in the various schools in each neighborhood where the classes for cripples are located.

*Physical supervision.*—The orthopedic supervision is entirely through the hospitals of Philadelphia. The teachers cooperate with visiting nurses from the hospitals. The school nurse has general supervision of the cripples, as of other children, and a matron is provided in each school where there are cripples, to superintend the serving of their lunches and to act as attendant when needed.

*Curriculum.*—The school work is based upon that of the regular elementary grades, with the addition of a large amount of handwork. The smaller children work with paper, red, and beads. At the Meade School eight children are doing good work in rug weaving on the one loom which has been thus far provided. Two looms could probably be kept busy. The older children in this school have also made creditable hammocks.

*Segregation.*—At the McCall School, one of the three rooms assigned to cripples is given to children of the first and second grades who are mentally normal. Another room has children from the third grade up who are of good mentality. The third room has only child-

ren of the lower grades and includes those who are mentally dull or actually defective. The teacher of this class has been specially trained for the instruction of mentally retarded pupils.

At the Meade School, each of the two classrooms for cripples has some beginners, but most of the children in one of the rooms are included in the first three grades.

In the second room some children are doing fifth-grade work. About 8 or 9 of the 45 children in these two classes are somewhat retarded mentally. If the number of classes for cripples should increase at this school, these children would be placed in a separate class as they are at the McCall School.

#### CLEVELAND.

*Building and equipment.*—In Cleveland, classes for crippled children are conducted in a one-story wooden building located in a large yard at the rear of the Wilson School, one of the best public schools in the city. The building set aside for cripples has classrooms, dining room and kitchen, and surgical dressing room. Desks and seats are adjustable as to height; one central pivot supports both a desk and a seat. Small chairs are used in the kindergarten.

*Statistics.*—The number of crippled children enrolled during the year 1915-16 was 127, including 17 in the kindergarten; the average monthly enrollment was 95.7 and the average daily attendance 87.5. There are six teachers, with an average of about 22 pupils per teacher. The school is financed entirely by the board of education. A principal and six other teachers, including a kindergarten, are employed. They do not receive extra pay for teaching crippled children. Hot lunches are furnished without cost to the children.

*Transportation and lunches.*—Horse-drawn busses are supplied by the city for the transportation of the children. Each bus has a driver and a guard or attendant, who assists the children who need help.

*Physical supervision.*—The school nurse inspects the children and visits their homes. For actual orthopedic care most of the children go to the dispensary at Lakeside Hospital. An orthopedic visiting nurse, employed by both this hospital and Rainbow Cottage, a country convalescent hospital, visits the homes of many pupils at this school, although she does not come to the school itself.

*Sessions and curriculum.*—Sessions are from 9.30 to 3. The work in this school, to quote from a letter from the assistant superintendent of schools of Cleveland—

is about the same as we are doing in other schools: Reading, spelling, writing, arithmetic, geography, history, sewing, drawing, molding simple objects, kindergarten work, music, and gymnastics. Our aim is to make these children feel that they are doing what children ordinarily do, and living the natural life.

The *handwork* includes sewing instruction to a point where the girls are able to make dresses for themselves, basketry, some weaving, and the making of simple toys and pottery.

A *census* of all cripples in Cleveland has been made recently with a view to discovering in what occupations they can best earn their living.

#### DETROIT.

The city of Detroit employs two teachers for special classes for crippled children, held in rooms on a lower floor of the Clinton School. The building was remodeled in 1910 in order to provide special rest rooms and lavatories, a kitchen and a dining room for the crippled children. The board of education has recently purchased a site for a separate building for the crippled children.

The total number of different children enrolled for 1915-16 was 76, with 67 as the highest number on the roll at one time during the year. There are three teachers, and the number of pupils per teacher is not often more than 23. Each teacher of crippled children is paid \$200 a year more than a teacher doing similar work with children who are not crippled.

*Transportation and lunches.*—Transportation is furnished by the city. Carriages were used at first, but in 1914-15 a new system was adopted. Since that time the children have been taken to and from school in the police patrols. The report of the superintendent of schools of Detroit for 1914-15 (p. 134) states that, "The children enjoy a much faster and safer trip." The patrolmen serve as attendants, and the superintendent says in the same report that they "have been untiring in their efforts to make the trip as comfortable and pleasant as possible." Free hot lunches are served at noon and crackers and milk in the middle of the morning.

*Medical supervision.*—An orthopedic surgeon, appointed by the board of health, examines all children applying for admission to the classes for cripples, and visits the school at intervals to examine the pupils and perform small operations. The school nurse gives massage and electric treatments. The Detroit Association for the Aid of Sick and Crippled Children supplies crutches and braces to all pupils in need of such help.

*Sessions.*—The hours of the sessions are identical with those in other public school classes in the spring and fall; but from November until April, the classes for cripples begin an hour later in the morning, so that the children need not leave their homes so early in cold weather.

*Curriculum.*—The curriculum has a surprisingly close resemblance to that for perfectly sound children. There is more attention paid to handwork, to which all of the children give at least half an hour every day. In addition, to the usual hand processes with paper and

raffia, creditable work has been done by some of the older children in knitting, crocheting, and rug making. In 1915-16, one of the teachers taught a millinery class for girls. Several of the older boys have gone for one day each week to another public school building for a special course in manual training.

*No high school for cripples.*—For the first time since these special classes were formed, the work of the eighth grade was completed by two crippled children during the school year of 1914-15. They could not go to high school because none of the high schools in Detroit offered the special facilities needed by these children. The director of the school, in her report for the year 1915-16, states:

We earnestly hope that in the event of our having a new building, we may be able to establish a trade school where these older pupils may learn a trade by which they can support themselves in later years.

#### BALTIMORE.

The city of Baltimore maintains two classes for crippled children in two different public school buildings. The city also supports a class for cripples at each of the three private institutions for crippled children in or near Baltimore, the Kernan Hospital and Industrial School for Crippled Children, the Children's Hospital School, and the Johns Hopkins Hospital School and Convalescent Home for Crippled Children (colored).

The numbers of pupils and teachers appear in tabular form as follows, in the report of the board of school commissioners of Baltimore for the school year ending June 30, 1916:

*Teachers and pupils in the schools for cripples at Baltimore, 1915-16.*

Schools.	Number of classes.	Number of teachers.	Average number of pupils belonging.	Average attendance for 1915-16.	Per cent attendance.	Number belonging, including temporary withdrawals.
School No. 20.....	1	1	15	14	93	17
School No. 22.....	1	1	13	14	88	23
Kernan Hospital school.....	1	1	13	12	92	10
Children's Hospital school.....	1	1	10	9	90	12
Johns Hopkins Hospital school.....	1	1	14	13	93	15

The two classes of public school buildings have sessions from 9 a. m. to 2 p. m. The city furnishes a light lunch at 10.30 and a more hearty midday meal. The children are transported between their homes and the school buildings by automobile patrols furnished by the board of police commissioners, but marked "School Ambulance."

The children range in age from 6 to 13. Most of them do work in one of the first four grades, with practically the same curriculum as that used for children in regular school classes, except that more handwork is done, including basketry and weaving.

The grade classes taught by public-school teachers at the three institutions cover about the same ground as those in the public school buildings, but the handwork has been further developed at the institutions. At the Kernan Hospital school a special teacher of handwork and industrial handicraft is employed by the institution. Good work is done in sewing, lace making, rug weaving, basketry, chair caning, burnt-wood work, stenography, and typewriting. At the Children's Hospital school a teacher from the Playground Association, half of whose salary is assumed by the hospital school, teaches advanced kindergarten work, basketry, and chair caning.

#### PRIVATE DAY SCHOOLS FOR CRIPPLES.

An account of public school classes for crippled children in the United States should also include mention of one school whose work is semiprivate, and three which are entirely private, because these schools were pioneers in the development of special educational work for crippled children before any regular public school classes were opened.

*The Industrial School for Crippled and Deformed Children*, in Boston, has done work of the highest order in the education of crippled children, both in grade branches and in industrial classes. The building was specially constructed for this purpose. It is modern in every particular and has all the equipment needed for the safety and comfort of crippled children. Its classrooms contain 100 desks and seats of the special adjustable sort. Each desk is adjusted at the beginning of the year, under the supervision of the doctor in charge, for the particular child who is to use it. The capacity of the school has recently been increased by the erection of a building for use as an outdoor classroom, which is a model structure for its purpose.

The equipment, which is equal to that in the best public schools, includes slate blackboards, maps, kindergarten materials, shop supplies, and machines for industrial classes. The curriculum closely resembles that of graded public schools, and many observers of this school believe that its teaching standard is above that in most public schools. Much instruction in handwork is given, including clay modeling, basket making and cane seating, sloyd, needlework, cobbling, cooking, typesetting, and printing. There are also special trade classes for cripples over 15 years of age, who give their entire time to the work. The subjects offered at present are needlework, proof reading, printing, basketry, and chair caning.

The children are transported in busses, and free meals are provided at noon, as well as lunches in the middle of the morning. A nurse is in constant attendance at the school and visits the homes of the children on Saturdays and during the summer months. Visit-

ing physicians watch over the physical condition of the children and the nurse carries out their instructions, seeing, also, that the children go frequently to the various orthopedic dispensaries at which they are being treated. This school has a long waiting list and considerable time occasionally elapses before a vacancy permits admission of new applicants.

*The Crippled Children's East Side Free School*, of New York, is a private organization, owning its land and building. The school formerly financed all phases of its work, but the grade teaching is now supported by the city board of education, which furnishes the school equipment and pays the teachers. The classrooms accommodate about 200 children and the number registered is never below the full capacity. There are 163 desks and chairs of the special adjustable variety, and 33 kindergarten chairs. All grades, from the kindergarten through the eighth grade, are included. Classes are held on regular public school days from 9 until 2.30. The teaching very much resembles that in other public schools.

The private organization maintains the handwork and industrial classes, and a workroom for adult cripples where needle crafts of all sorts are carried on. Thirty-six girls and women earn from \$3 to \$15 per week in this workroom. The school has recently begun a very promising experiment in the teaching of box making as a trade for boys.

The private organization also supervises closely the physical health of all children in the building. It is worthy of note that the windows are kept open, and the air is good at all seasons of the year. A visiting orthopedic surgeon holds weekly clinics at the school. An assistant surgeon and a trained nurse assist in the adjustment of braces, application of plaster dressings, and other treatments. For more important operations the children are sent to various hospitals. Under the supervision of a staff of nurse maids, all the children have baths at the school twice each week. There were 9,703 baths recorded for one school year, and 450 visits were paid to the homes of the children. A summer home at Oakhurst, N. J., houses about 120 children at a time during July and August. Each child's stay varies from two to eight weeks.

*The Rhineland Industrial School for Crippled Children*, in New York, represents a combination of private activities. The New York Children's Aid Society furnishes the building and pays the teachers of grade classes. The Brearly League maintains industrial classes. Busses are provided by another private gift.

The building is somewhat old-fashioned and has no elevator. For this reason the classes are arranged on a unique basis. The children able to climb stairs easily are assigned to the second floor; the others remain on the first floor. The two grade classrooms are much like

country schools; each includes work in all the eight grades. Regular class work lasts from 9 until 12 on the five school days each week.

In the industrial classes the girls learn all kinds of needlework, including fancy stitches. The distinctive feature of the school is its jewelry class for boys, taught by an expert jeweler from a high-grade shop. The boys work on a two years' apprenticeship basis. They pay no tuition and receive no pay, except for occasional pieces made to order outside of the short hours of the trade class, from 9 to 3. The boys are taught both the making by hand of artistic pieces and the machine processes which they need to know in order to secure positions in a regular commercial jewelry shop.

*The William H. Davis Free Industrial School for Crippled Children*, in New York, is a private charity, offering kindergarten and grade instruction under two teachers. A wagonette, with driver and nurse, transports the children. They are at the school from 9 to 4 and receive a free hot meal at noon. The girls are taught needlework, including the making of many fancy articles. A few of the older boys, with a former pupil of the school as teacher, have designed and made artistic pieces in carved wood and tooled leather. The school has a summer home at Claverack, N. Y.



## APPENDIX A.

### SUGGESTIONS TO TEACHERS IN SMALL CITIES AND IN COUNTRY SCHOOLS.

The number of crippled children is fortunately small in proportion to the total number of children going to school in any community, and separate classes for cripples are possible only in fair-sized cities. Not many towns with a population less than 10,000 have need of a special class for cripples, unless the town has a hospital which takes orthopedic cases. Nearly every town has some cripples, however, and anything that the individual teacher can do to induce such children to come to school and to make their time in school comfortable and profitable is a real contribution.

The following are some of the practical ways in which any grade-school teacher can make it easier for the one or more crippled children who may attend her class. In the first place, she can arrange to give such children a shorter school day by letting them go home half an hour or an hour earlier than the other pupils. If the school has classrooms on more than one floor, the principal should assign to rooms on the first floor all crippled children who can not climb stairs safely.

The teacher should give to each crippled child a seat not attached to the floor, especially if the child wears a brace. It is usually easier for a child wearing any apparatus to take a comfortable position if his seat is movable. If some particular child is badly crippled, a teacher can sometimes induce the board of education to purchase an adjustable seat, or charitable people in the town can be persuaded to buy a wheel chair for him. If the school has any couch or cot, a crippled child may benefit by brief rest periods spent lying down.

It is usually not difficult to arrange for the child to bring his lunch to school. If the child's parents are poor, the teacher can often in some quiet way secure a gift which will make it possible to provide milk or other nourishing food as an addition to the child's lunch. If the child can not walk, perhaps the teacher can persuade a neighbor boy to bring the cripple in his express wagon or some tradesman who drives by the child's home may be willing to take him along.

If the teacher will permit a crippled child to do a large amount of handwork, she will find his interest unflagging. A child who can not run or jump is often unusually skillful with his hands.

Many of these suggestions do not concern the duties for whose discharge a teacher is commonly engaged, but most teachers do not stop with the letter of their agreements. The greatest service that can be rendered by an intelligent and sympathetic teacher to the occasional crippled child in her class is one that can not be easily tabulated. Her friendly interest will keep up his courage, especially during periods of illness. Her championship may prevent other boys from calling the cripple names and treating him with thoughtless cruelty. If the teacher can possibly find time to become well acquainted with the crippled child's mother and visit his home frequently, she can often help his physical cure by suggesting open windows, by advising more wholesome food, and by urging early hours for going to bed. There is scarcely any limit to the influence a teacher may exercise upon the development toward useful citizenship of a crippled child who might otherwise grow up dependent upon his family or upon charity.

## APPENDIX B.

### RECORD CARDS USED IN NEW YORK.

*Hospital record cards.*—When the department of physical training first took charge of the physical welfare of crippled children it was found necessary to have some official record whereby the school life of these children might be regulated according to the plan of treatment required by the orthopedic surgeon of each child. This has proved to be the essential basis for all recommendations for the kind and amount of both physical and mental work the child can do.

*Department of Education—City of New York.*

#### RECORD CARD FOR CRIPPLED CHILDREN.

Name ..... Born .....  
Family. Given.  
 Address No. .... Street ..... Floor .....  
 Name of teacher .....  
 School ..... Borough ..... Date entered ..... Class .....

#### RECOMMENDATIONS FOR PHYSICAL TRAINING.

Exercises indicated—Gymnastics. { For improving posture .....  
 { For alert response—control .....  
 { For physiological results .....  
 Games. { Seat games .....  
 { Quiet games .....  
 { Active playground games .....

Exercises contraindicated .....  
 Name of pupil .....  
Family. Given.  
 Ho-pital ..... Physician .....  
 Diagnosis ..... Date .....  
 Treatment—Mechanical appliances .....  
 Should the child be in hospital? .....  
 If not, is he physically able to attend school? .....  
 Should he be placed in a class with physically normal children? .....  
 Is the disease active at present? ..... Date .....  
 Should he be permitted to climb stairs? ..... No. flights .....  
 Chorea ..... Cardiac disease ..... Vision ..... Breathing ..... Hearing .....

*Class record of physical welfare of crippled children.*—This card was originated for the use of the class teacher in order that the medical record on the hospital card might be transcribed in terms applicable to schoolroom activities. The physical and mental effort of each pupil is governed by the diagnosis and recommendations on the card. The physical-welfare card was tried by way of experiment last year with success. The principals find it helpful as a reliable record of the children in their classes for cripples, and in the opinion of one of the principals who have had the greatest experience with these classes, it is one of the best record cards for such purpose now in use.

Department of Education.

Form Pt 2.

P. S. ....

Boro. ....

..... Teacher.

THE CITY OF NEW YORK.

[Class record of physical welfare of crippled children.]

Names of pupils (boys).	Grade.	Age.	Formal exercises.					Recreative exercises.			Diagnosis.	Mechanical appliances.	Remarks.
			2-minute exercise	Brough flag exercise.	Posture.	Editorial exercises.	Hygienic exercise.	Seat games.	Class room games.	Play ground games.			
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Date ..... Department of Physical Training.

Large record cards for crippled children.—In the supervision of the physical welfare of crippled children much valuable and helpful data concerning them has been obtained. In order that this may be kept systematically for the benefit of each child, the large physical record card of the department of physical training was originated. The records on this card are entered entirely by this department and filed at the office for reference.

Pupil's name.		Family.		Given.		Vaccinated.		Date.	
Hospitals attended.	Date.	Physician.	Treatment.	Hospitals attended.	Date.	Physician.	Treatment.	Date.	Treatment.
History of illness:									
Diagnosis:									
Treatment: Mechanical appliances.					Date.				
Treatment: Mechanical appliances.					Date.				
<p>1. Should this child be in a hospital? Yes. No.</p> <p>2. In the disease active at present? Yes. No.</p> <p>3. Should he be placed in a class for crippled children? Yes. No.</p> <p>4. Is he physically able to attend school? Yes. No.</p> <p>5. Should he be permitted to climb stairs? Yes. No.</p> <p>Chorea. Yes. No.      Cardiac disease. Yes. No.</p> <p>Speech defects. Yes. No.      Pulmon. " Yes. No.</p> <p>Excess urine. Yes. No.      Defective vision. Yes. No.</p> <p>School consultation.      Defective nasal br. Yes. No.</p> <p>Home visits.</p> <p>Family history: Father.      Nationality.</p> <p>   Mother.      Age.</p> <p>   No. of children.      Brothers.</p> <p>   Family or relatives.      Deaf.      Blind.</p> <p>Home conditions.</p> <p>Home cooperation. Yes. No.</p> <p>Helped by charities. Yes. No.</p> <p>Back history.</p> <p>Dis. from sch.      Date.</p> <p>Occupation after leaving school.      Cause.</p> <p>Remarks.</p>									

## APPENDIX C.

### COST OF SPECIAL CLASSES IN CHICAGO AND CLEVELAND.

#### CHICAGO.

*Expenditures for public-school classes for cripples.<sup>1</sup>*

Teachers' salaries.....	\$14,905.00
Educational supplies.....	306.45
Lunches.....	2,300.00
Transportation.....	24,930.00
	40,441.45

Per capita cost:

Teachers' salaries.....	51.24
Educational supplies.....	.16
Lunches.....	7.96
Transportation.....	86.26
	145.56

#### CLEVELAND.

*Expenditures for public-school classes for cripples for three successive school years.<sup>2</sup>*

Year.	Cost of instruc- tion.	Enroll- ment.	Per capita cost of instruction.
1913-14.....	\$5,262.84	117	\$44.98
1914-15.....	5,644.38	115	49.08
1915-16.....	5,586.89	127	\$44.00

<sup>1</sup> See Report of Superintendent of Schools for 1915-16, p. 80.  
<sup>2</sup> Idem, pp. 57, 149.  
<sup>3</sup> Per capita cost for 1915-16 when reckoned on average monthly enrollment, instead of on registration was \$38.40 instead of \$44.