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Publisher: Routledge

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Number: 1072954 Registered office: Mortimer House, 37-41

Mortimer Street, London W1T 3JH, UK

The Pedagogical Seminary

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/vzps20>

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Elnora Whitman Curtis

Published online: 30 Aug 2012.

To cite this article: Elnora Whitman Curtis (1909) Out-Door Schools, The Pedagogical Seminary, 16:2, 169-194, DOI: [10.1080/08919402.1909.10532575](http://dx.doi.org/10.1080/08919402.1909.10532575)

To link to this article: <http://dx.doi.org/10.1080/08919402.1909.10532575>

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OUT-DOOR SCHOOLS

By ELNORA WHITMAN CURTIS

It has often happened in the past that normal children have profited by educational experiments found beneficial in the treatment of defectives. The present movement for the establishment of open-air schools while relating to sickly and backward children, merits the serious consideration of educators, as pointing to possible changes in methods and curricula likely to be of practical benefit to all school children. Still in its infancy and comparatively little known, this educational innovation may be said, nevertheless, to have passed already its experimental stage in the countries in which it has thus far found expression. It may be noticed that while in line with other fresh-air activities, all illustrative of the advance in the science of hygiene and of child study, this movement for out-door education is of somewhat different inception, having started by means of the active co-operation of school authorities, in the cities which were the first to establish these schools.

We are accustomed to look to Germany for initiative in matters pertaining to education. It is not surprising, therefore, to find that country leading in the present radical departure from established pedagogical methods. The first experiment of the kind was made in Charlottenburg, just out of Berlin, where in a beautiful forest about three miles from the city this first out-door school was started, in the summer of 1904.

Before describing this school, patterning after which the other forest schools of Germany as well as the out-door schools of England and America have arisen, a few words as to its origin may be in order.

For a number of years there had been, scattered throughout Germany, day sanatoria. As far back as 1889 a thesis given at the International Tuberculosis Congress in Berlin aroused great interest in the subject of fresh-air treatment, and not long afterwards the Red Cross Association erected its first institution for men. *Kranken-kassen* (insurance societies for the sick) took up the work and many parishes and local associations supported institutions of the kind. Dr. Ritter-Becker, in co-operation with the Red Cross Society, had one of these establishments which he carried on for some years, placing

great emphasis upon forms of treatment now in everyday use and particularly upon the amount of time to be spent by children in the open air exposed to sunlight, advocating sun baths, dietetic treatment and individual gymnastics, but particularly an abundance of pure air for consumptive and scrofulous patients. In the beginning, these day sanatoria, or fresh-air colonies, were for men, then followed the establishment of similar ones for women and later, out of caring for the children of married women patients, grew institutions for children. In these day sanatoria for children, where a small amount of instruction was given weekly, simply enough to prevent their becoming entirely unaccustomed to work, we have the germ of the present Waldschule or forest school, which has lately spread to different parts of Germany.

It was but a step from the establishment of these fresh-air institutions for sick and convalescents in 1900, in which instruction at public cost played a part, to the establishment of similar ones for children, who though comparatively well, were not able, without injury, to endure the strain and confinement of ordinary school work.

That the number of public school children badly in need of treatment, remedial and preventive, is surprisingly large, has been strikingly brought out by the system of medical inspection which now prevails in most large cities of Europe and America, and which has been operative in Germany for the last fifteen years. By means of this system health records are kept throughout the school life of children and a correlation has been shown to exist between bodily weakness and mental inability, a large proportion of "backward children" being found in the number of those suffering from incipient tuberculosis, anæmia, heart trouble, scrofula and general debility.

To meet the need of such children, the Charlottenburg school board decided upon the establishment in 1904 of a forest school, and out of twenty-five schools of the city, children were chosen, selection being made by the school physician aided by principal and teachers, those having severe forms of heart trouble, open scrofulous sores and those in the more infectious stages of tuberculosis not being included in the number. The school opened with ninety-five children. During the same year the number increased to one hundred and twenty, and in 1907 to two hundred and forty.

As has been said, the school is in a beautiful forest. Situated three miles from the city, a ride of twenty minutes by car and a walk of seven minutes brings one to the entrance gate. A portion of the wood, comprising about five acres, has been enclosed by wire fencing, and here one finds temporary barracks containing schoolrooms, besides sheds and small buildings for

baths, kitchen, workshops, etc. These buildings all have the simplest of appointments. Schoolrooms are provided with desks, light-weight chairs that can be carried in and out by the children, and ordinary school apparatus. They are furnished also with stoves for use in coldest weather though, in accordance with the design and purpose of the school, teaching must be carried on out of doors whenever possible. Even the prescribed rest of two hours after the mid-day meal must be taken in the fresh air, and reclining chairs, rugs, and wraps form part of the school equipment.

The children arrive at the school at an early hour (7.45 A. M.) and remain into the evening. On reaching the school they have breakfast, which consists of a bowl of soup and bread and butter. Classes are then held until 10, when the children are given a luncheon of milk, bread and butter. Lessons, gymnastic exercises, play and manual work fill up the remaining morning hours until 12.30 when dinner of soup, meat and vegetables is served. After dinner comes the two hours period of rest or sleep, obligatory for all. Classes are held from 3 to 4, after which the children again have something to eat—this time, milk, black bread and jam. The remainder of the afternoon, as a usual thing, is spent in play. Supper at 6.45 consists of soup and bread and butter, after which the children return to their homes.

Six men and three women are employed as teachers. The same general subjects are taught as in the regular schools, all of the seven grades except the lowest, which is left out because of the distance which is too great for the youngest children, being represented, the children ranging in age from seven to fourteen years. Classes usually number twenty, and never more than twenty-five. No lesson lasts over half an hour and no class follows another without five or ten minutes intermission. Much of the teaching is of an informal character, many subjects lending themselves readily to a freer form of treatment because of the environment. The materials for nature study are, of course, available, and plant, animal and insect life at hand. Geography is taught by the scaling of maps out doors in sand, and arithmetic made of less remote interest by practical work and actual measurements with rules and tapes. Poetry and songs descriptive of forest sights and sounds are chosen. Materials gathered in the woods, dry twigs and branches from the trees trimmed in the spring are utilized for work in carving and carpentering. Singing and gymnastics form a prominent part of the work. Nowhere, it is said, is there so much singing or so much voluntary gymnastic exercise as in the Waldschule. Apparatus consisting of bars, poles, ropes, etc., are out of doors, and swings especially are constantly in use.

Gardens are cultivated, each child having a separate flower bed, larger plots being reserved for grains, vegetables, and common food plants which many children know only by name. Girls spend some of their leisure time at needlework, weave baskets out of grass, and help in preparing vegetables for dinner and in small class-room duties.

Baths play a prominent part in the Waldschule programme. Each child receives warm baths, and by order of the physician salt, sun, and shower baths are given in individual cases, being considered among the important therapeutic agents.

The cost of establishing the school was in round numbers 40,000 Marks and the daily average cost per child is 85 Pfennige (approximately 21 cents), of which 50% is for nourishment. When able, the parents pay from 5 to 50 Pfennige a day, but for many of the children the school is entirely free. The street railway company has given reduced rates, and twenty free tickets, the city furnishing one hundred, thus providing transportation for one-half the children. The culinary department is provided for by the Women's Patriotic Alliance, and is in charge of a Red Cross sister. The city furnishes instruction and school equipment. Teachers are chosen from the regular Charlottenburg schools and receive besides board fifty Marks per month in addition to their regular salaries, for hours are longer and no holidays possible, as the Waldschule is open seven days in the week.

A physician visits the school three or four times a week, makes frequent examinations and prescribes all courses of treatment. Every fortnight the children are weighed, and steady gains are reported in the majority of cases. In general, the gain is seven or eight pounds during their few months' stay, or about one-half pound per child per week. Sometimes from ten to sixteen pounds are gained. As to other physical results, twenty-three of the anæmic cases were reported cured and forty-five as greatly improved; an increase in chest measurements is recorded, and heart and lung troubles have been greatly benefited. All children showed increasing immunity to colds and almost complete freedom from infectious diseases, due to forest surroundings.

Beginning with three months in the first year, and open for five months in its second, the school term has now been extended till it covers a good portion of the year, being suspended only from December to April, the worst months of the North German climate. In proportion as the length of stay into the winter has been late each season, the percentage of cures has been greater.

As to results from a pedagogical point of view, children are reported as showing marked improvement in "attention and

mental alertness", almost all, or nine tenths, being able to resume ordinary school work. Great improvement in behavior, too, has been noticed, moody and quarrelsome children becoming more equable. Punctuality, cleanliness and orderliness are developed. As to discipline, no difficulty is experienced in maintaining it, notwithstanding the greater freedom allowed the children. Corporal punishment is not permitted and harsh treatment, and irony even, may not be indulged in.

A closer personal relation between teacher and pupil is established, and the co-educational factor which is not usually looked upon with favor by Germans has met with approval, and has even been acknowledged to have been beneficial in influence.

Writers on the Waldschule are enthusiastic. They speak of the blessing that goes through the children to their homes, of the effect of the forest upon them, of how their æsthetic nature is aroused, of how they watch the changing seasons, are inspired to find out the causes of the phenomena about them, and of the advantages of getting ideas from objects themselves instead of entirely through the words of a teacher.

A number of German cities soon followed the example set by Charlottenburg, and early in 1906 the Kultus-minister sent out a circular letter to his colleagues in different parts of Germany, calling attention to the Charlottenburg school. The Kaiser, too, recommended the establishment of other out-door schools, no doubt influenced by the increasingly large number of youths unfit for military service because of flat chests and muscular weakness, thought to have been brought about by sitting over desks in ordinary schoolrooms.

In May, 1906, on the occasion of the Kaiser's and Kaiserin's silver wedding anniversary, a school at Gladbach was founded, funds being furnished by a local organization. Fifty pupils attend the school, which has permanent buildings provided with regular apparatus and equipped much more elaborately than the Charlottenburg school, its walls being decorated with pictures from German fairy tales. The buildings are surrounded by woods, and children have lessons out of doors whenever possible. The plan followed is in general like that of Charlottenburg, instruction being limited to two hours. Children are chosen by the city physician and are under medical inspection while in the school. Meals are furnished by a near-by sanatorium, but the city provides school instruction. The cost per child is fifty Pfennige a day and this includes car fares to and from the city.

Mülhausen also established an out-door school in 1906 very much on the lines of the Charlottenburg experiment, but providing for one hundred children during the summer months only.

The municipality not only bears the cost of instruction, but also that of food, four meals daily being provided, and free transportation furnished. Two men and one woman are employed as teachers and instruction is limited to two hours, much informal teaching finding place, however, at other times, in enjoying different occupations and recreations afforded by the grounds. The school is especially for anæmic children, those suffering from heart and lung troubles being excluded. Satisfactory results are reported, though no record, unfortunately, as to the progress of children who have returned to their ordinary schools has been kept.

In Dresden, an open-air school was started in May, 1905, by a private individual on his estate in Blasewitz. The school is for twenty pupils and the teacher was provided by the municipality. Children were chosen from nineteen schools of the locality and are given four meals a day. It is a regular *Volkschule*, except that in summer the classes are held out of doors under the trees or in the forest. It was hoped that it would be made a part of the school system, but at last accounts this had not been done. Schools have also been established at Strasburg, Elberfeld, Lübeck and Dortmund. Those at Strasburg and Dortmund, like the one at Mülhausen, were erected at state expense; the others by private organizations. The Dortmund *Waldschule* opened this past year with one hundred children, and four teachers in charge of classes. As in the other *Waldschulen*, instruction was carried on out of doors, except in impossible weather, when barracks were used as shelter. Street cars carried the children to and from school each day. The Lübeck *Waldschule* for fifty-eight children, twenty-six boys and thirty-two girls, was opened in May, 1908, with a man as head teacher and two women assistants. A physician has medical oversight of the school. Baths and a two hours' mid-day rest are part of the prescribed treatment. School gardens are a special feature, about fifteen quadrameters of garden plot being apportioned to each child for his own use.

Presumably Giessen already has a *Waldschule*, for in accordance with a city ordinance of last July, a school of two classes was to be opened on April 1st, 1909, in the city forest.

In Cologne, Essen and Pankow plans for starting schools are under way, while other German cities, as for example Hanover and Solingen, have the founding of such schools in contemplation.

At the beginning of the last school year a school was started in Lausanne, thus extending the experiment to another country and the establishment of one in Zürich has been strongly advocated. The Lausanne school is in a most beautiful forest region, high above the city, in the neighborhood of the street

car line. Thirty children, of whom nineteen are girls and eleven boys, in age ranging from seven to thirteen, make up the number of those having been chosen who were suffering especially from anæmia, general weakness, delicate constitution, bronchitis, etc. Instruction is in the open whenever possible and occupies on an average two hours of the morning.

In Austria, too, the idea has found favor and a lively propaganda in the interest of the Waldschule was at last accounts being carried on in Vienna.

ENGLISH OUT-DOOR SCHOOLS

As the result of a visit to the Charlottenburg Waldschule by municipal authorities of London, while on a tour of investigation, a forest school patterned closely after the Charlottenburg model was opened by the London County Council in July, 1907.

The school, now established on Shooter's Hill, Woolwich, was located in its first season just outside London in Bostall Woods, a large forest owned by the "Royal Arsenal Co-operative Society," which loaned twenty acres of its recreation grounds for the purpose. An appropriation of £400 was voted by the government for salaries and equipment, and voluntary subscriptions made up the sum necessary for running expenses, so that for three months the school was able to care for one hundred children. A head teacher and four assistants were appointed, and classes formed, the number of pupils not exceeding twenty in any one. Children arrived at the school at nine in the morning and remained until seven at night, except on Saturday, when they returned home at one. The daily programme followed was much the same as in the Charlottenburg school; here, too, teaching being carried on in the open whenever possible, short school periods alternated with periods of rest and play. The same practice prevailed, also, of leaving easier subjects for afternoon, reading, writing and arithmetic coming in the morning. Informal instruction was given in a number of subjects, among them history and geography, this particular section of the country abounding in local historical interest. The land which the school now occupies at Woolwich was once owned by the Earl of Shrewsbury and gambled away by him in a single night, and here Henry VIII is supposed to have come and dined with Robin Hood, a legend which if not tending to historical accuracy has served to enhance the romantic interest of the spot. Stretched out in their reclining chairs, for as in Charlottenburg, children must take an afternoon rest, their eyes may wander over an extended view of surrounding country, for part of the recreation ground includes a sunny hilltop and slope. Here the children have

their gardens, and here they play many of their group games. The barracks, as one would expect, are in the more sheltered and wooded portions of the grounds. Singing, physical exercise and manual work form a large part of the school occupations. Sitting under the trees, groups work at basketry and model in clay, and many of the little objects designed and moulded after their own fancy show a degree of thought and originality, surprising in children that to all appearances are below those of average intelligence. The teaching in general is a departure from ordinary school methods. Discipline has been reduced to lowest terms, punishment being almost unknown, and steady progress in character has been apparent.

The pupils are drawn from three neighborhoods, Woolwich, Greenwich and Deptford, and are selected by the school medical inspector from the weak, anæmic, debilitated and consequently backward children, representing in fact those lowest in physical condition of these school districts. They are subject to medical inspection by the London County Council physician, weekly measurements and weights being taken, records of which are kept by a trained nurse, who makes one of the school personnel. Blood tests are made upon the children on their entrance and again after a stay of ten weeks. A gain in weight of half a pound a week on an average is reported for each child; also a generally improved condition of all the children. Four good meals a day are furnished, and pupils take part in preparing dinner, washing dishes and clearing away, boys as well as girls being taught to wait upon table. The pedagogical as well as the physical side of the experiment has proved satisfactory, pupils being able to return to their own grades after their stay in the open-air school is ended. That school authorities were satisfied that the aims of the school were fulfilled, even under the less favorable conditions of its first year, the establishment of other schools of the kind by the London County Council the following season goes to prove.

Last year the government grant was increased from £400 to £2,000, a sum which it was estimated would cover all expenses except the cost of feeding, that similar schools might reach the needs of poor children in other parts of London. The school at Shooter's Hill, Woolwich, took the place of the one at Bostall Woods and two others, one at Horniman Park, the other at Kentish Town were opened, each providing for seventy-five children, divided into three classes and provided with a staff of head and three assistant teachers, nurse, cook, helper, and school keeper. As further evidence that the experiment was thought fully to justify continuance, Dr. Frederick Rose, advisor to the London County Council, caused to be placed in the County and Town Exhibition at the White Chapel Art Gallery and later at

the Franco-British Exhibition, a model of an out-door school. In addition, a pamphlet was issued, giving descriptions of the model and many suggestions for starting out-door schools. The need of such schools was set forth, substantiated by statistics as to the number of debilitated children in London, there being thirty-five thousand to forty thousand in that city alone, it is claimed, unable to attend ordinary school without injury. Suggestions were given also as to proper location and equipment, estimates of cost and hints as to management, as well as methods of instruction to be employed.

London, after her initial experiment, was not alone the following season in providing these schools in England, and two others were established during last summer, one at Halifax in July and one at Bradford the month following. These, like the three London schools, followed closely their German prototypes. In both places untenanted country estates were used, in Halifax mansions and outbuildings being utilized, as in the London school at Kentish Town, and here children between the ages of six and eleven to the number of sixty-five were taken from schools of the poorest districts, characteristic defects of children selected, being according to the report of the Halifax Education Committee "enlarged or tuberculous glands, feeble circulation and anæmia." Children were brought by car to the school at eight in the morning and remained until seven at night. Three women, who were chosen with great care from the number of teachers volunteering for the work, formed the teaching force of the school and a cook and two assistants made up the staff, which next year is to be further increased by the addition of a nurse, who will give the children baths and attend to other hygienic needs. The gain of the children in weight was from one to eight pounds during the three months that the school was open, the average increase being three and one-half pounds and that in a season when increase in weight was small. A great change also was noticed in appearance, and altogether the physical gain of the children was unquestionable. Marked improvement was noted in behavior and as to progress in studies, about two-thirds of the teachers of schools to which children were returned, reported that these pupils were able to follow their work more intelligently.

The Bradford school, situated five miles from the city on high ground 425 feet above the sea level, in a field of five acres, was made up of children between the ages of eight and nine to the number of forty. They were chosen from five schools in the poorest districts near the centre of the town and were of the "very poorly developed, delicate, neglected looking, anæmic, scrofulous type". Each morning they were carried by car to the school, arriving there a little after nine, and re-

maining until 6.35 at night. Three meals were furnished daily, the more frequent feeding of these children not commending itself to the doctor in charge. One hour a day was given to rest, this period being extended to an hour and a half for a considerable number of children. Baths were given weekly, the intention having been to give two shower baths each week had this not been temporarily impossible through defective water supply. Physical exercise and opportunities for play and games were supplied. Two women teachers, both of whom were paid on a higher scale of salaries than are teachers of ordinary schools, were in charge of the school instruction.

The gain of the children was very satisfactory. In weight the average gain per week for the nine weeks that the school was open, was .10 kilos or $3\frac{1}{2}$ ozs., while the increase in the percentage of hæmoglobin shown by blood tests was most marked. There was an increase in chest expansion, and the change in bearing and general appearance was much for the better. While in the report of the Bradford experiment little is recorded on the pedagogical side, the statement is made that as to the usefulness of the open-air school in the system of elementary education there can be no doubt.

Before leaving the English schools it may be well to mention the Manchester Country School which, though representing a different type of work, has materially benefited children physically and mentally. In 1904 a number of private citizens leased five acres of land ten miles from the city of Manchester and erected permanent buildings upon it, containing two dormitories with sixty-four beds in each, and tents which would accommodate one hundred and thirty-two in addition. In the grounds surrounding the buildings were flower and vegetable gardens and a playing field of four acres. A resident matron with a corps of assistants was placed in charge. Here, for a stay of two weeks, children are sent out in relays with their teachers from April to October, but for this outing parents pay seven shillings, this sum including railroad fares. These payments nearly cover the cost. One fortnight of the time is reserved for mentally defective children, but for the rest, normal children profit by this change of air and scene. All show improvement in health, manners and general behavior. From the start the committee of citizens worked in conjunction with the Education Committee, and later the school was taken over by the city and made part of the municipal educational system.

Another somewhat different experiment has demonstrated its value in the London County Council open-air school at Osea Island, for children who, besides being deaf, are so physically and mentally weak as to have made little or no progress in an ordinary city school for deaf children. The entire school of

seventy children, teachers and all, is transferred to Osea during the summer months, and under the more favorable influences of natural surroundings, with plenty of fresh air, physical exercise and sea bathing the children have not only benefited physically, but the duller and most apathetic have manifested an awakening interest in things about them and have shown some mental improvement.

PROVIDENCE FRESH-AIR SCHOOL

Let us turn now to America. Providence was the first city in this country to establish a fresh air school in connection with the public school system. Unlike many such radical educational departures, this venture served no apprenticeship as a private philanthropy, but had at the outset the active support and co-operation of the Board of Education, though to the efforts of the Society for the Prevention of Tuberculosis the carrying out of the undertaking is primarily due. The school was started in January, 1908. It differs in many respects from the fresh-air schools of the old world. It is entirely lacking in country and even picturesque surroundings. Situated in the heart of one of the city's thickly settled, though otherwise desirable localities, on a side hill close to the street, the site nevertheless offers a favorable contrast to those of schools in densely populated sections of larger cities, being well exposed to sun and wind. Here we find, instead of barracks, designed and built for the purpose, an old brick school building—the "Meeting St. school house", as it is called, which has been slightly remodeled to meet present needs. A portion of one wall of its upper story has been torn out, and four long windows reaching nearly from floor to ceiling, have been fitted into the opening. These can be lowered in inclement weather by means of pulleys, but as a usual thing remain fastened back against the ceiling. Besides this wide exposure on the south, the room is lighted from two other sides. Movable desks and chairs are placed in front of the large opening and the children sit with their backs to the sun and air, well wrapped up during the coldest weather in warm outer garments, their feet in heavy quilted bags which extend up over the back of their chairs. They are provided, too, with mittens and at times with warm soapstones which they use either for hands or feet. At one end of the long room are two stoves, and these temper the air so that it averages ten degrees warmer than that outside. One of the stoves which is used for cooking purposes, for the children do not return to their homes between sessions, also serves for heating the soapstones. The pupils arrive at 9 in the morning, not for breakfast, as in the other schools mentioned, and in the middle of the forenoon (10.30) during the twenty

minutes recess each child receives a cup of hot soup. At noon they eat luncheons which they have brought with them which are supplemented by one substantial hot dish prepared for them at the school.

It is a very merry little company that gathers around a long table and if faces are an indication of their feelings, these children are having a good time. One almost forgets the cause of their being there, and inclines to count them, for the time being at least, among the fortunate school children of the world. Children, however, admitted to this school are all tuberculous. There are some cases of hip disease and a few children are in plaster casts, while others have bandaged necks, because of tuberculous glands which operated upon, have failed to respond properly to treatment. Most of the children, however, are without apparent ailment or deformity.

The school numbers twenty-five. It is, of course, ungraded, and all grades from 1 to 6a are represented. Lessons are carried on for the greater part as in a regular school, children being able even in cold weather to cipher, write and draw by using at times their soapstones. Physical exercises form rather an important part of school work. In some few cases children are excused from these, but the majority carry them through with zest. They exercise with rods, march and go through various movements tending to develop lungs in particular and bodies generally, many of these movements taking on the form of play, and even at times the "let's pretend" sort. Picking up snow from the floor they round the mass, make hard balls and throw them, or they blow up imaginary paper bags, their faces growing red with their efforts to burst them. In this manner certain definite ends in view are pleasantly accomplished.

Naturally great improvement in the physical condition of children under such special care and attention takes place. Charts are kept showing increase in weight, height, etc., and a physician, who visits the school three times a week or so, keeps in touch with all cases. A medical inspection record is made out for each child with information as to personal and family history, condition of eyes, teeth, glands, heart, lungs, chest circumference and expansion and presence of deformities. Special attention is given to teaching children proper care of the teeth, each child being provided with a toothbrush, which is kept at the school.

Much good has been accomplished by medical inspection in matters of school hygiene of late years in Providence, but the need has been realized more and more of some special provision for weak and debilitated children, who having passed the years when most subject to contagious diseases, from six years and upward, are in ever-increasing proportion given to lung

troubles. Many incipient cases, lacking care and attention and obliged to endure the confinement of an ordinary school-room, develop into serious ones.

While the city furnishes building, school equipment and teacher, it is the "Society for the Prevention of Tuberculosis" that pays car fares, provides luncheons and furnishes bags, mittens, etc. Satisfactory as the physical improvement of the children has been—for charts show an increase in weights and measurements and wounds which had refused to respond previously to treatment are reported in good condition—the progress which the children have made in their studies is no less encouraging. Individual attention, good nourishment, fresh air, physical exercise, etc., have all combined to enable children to keep up with the grades they have left. In one case a pupil has even been able to skip a grade. The periodical tests which by permission of the school superintendent might have been omitted for these pupils, had the teacher so desired, have been given, no difficulty whatsoever being experienced in keeping these children fully up to regular grade work.

The length of stay in the school is governed somewhat by the waiting list, those most sorely in need of treatment having the preference, though occasionally a child who has slipped back on a return to the ordinary school, as a matter of expediency is reinstated that the cure may be permanent, notwithstanding the fact that relatively the need seems less urgent.

It will readily be seen that of necessity a school within walls, even though it be within three walls instead of four, offers fewer chances for deviations from ordinary school methods and for informal and indirect teaching than do the *Waldschulen* of Germany or the out-door schools of England. In proportion as such opportunities are lacking, character-building may expect to find a less important place in the general results noticed. Coming under the influence of one teacher instead of several is more in accordance, too, with regulation methods, nevertheless, a school of this kind, affording as it does some opportunity for the cultivation of group spirit, is contributing somewhat to moral development. An enthusiastic teacher who shares occupations, pleasures, discomforts; eats, plays, works with them, is, indeed, a new experience in the life of public school children. Needless to say, a teacher of exceptional adaptability and personality is needed for work of the kind which often involves no small amount of personal sacrifice. Climatic conditions may mean temporary hardships, and the example of cheeriness and good comradeship sets the pace at which small imitators are to follow. Tact and kindness here ease many a situation. As the teacher of this little group in Providence talks enthusiastically to her visitors of her work,

the children listen and enjoy the recital as something personal in which they have full share. Instead of the low-toned conversation usually carried on at the teacher's desk, her bright cheery voice reaches the children who watch her movements as she points out this and that and talks openly about all that pertains to this new sort of school life. She explains, perhaps, how a certain boy does not really want to do so, but has been persuaded to wear his cap in school for the first few days till he can get thoroughly used to new conditions. She shows her own paper jacket which she is sometimes in severest weather obliged to put on under her outside coat. She tells how nicely the wound of this boy is healing or how finely another boy is doing in his studies. Under such influence it is difficult to imagine the question of discipline assuming very appreciable proportions. Such methods are not those of "rod discipline." Nevertheless they seem to be adequately meeting the needs of the situation.

BOSTON'S OUT-DOOR SCHOOL

To Boston, pioneer in the founding of vacation schools and other educational experiments, belongs the credit of establishing the first *out-door* school in this country, though as we have seen, Providence was the first city to have a *fresh-air* school. Like the Providence school, the one in Boston was started by the local society for Prevention of Tuberculosis. This society maintained last summer a camp on Parker Hill, a few miles from the centre of Boston on the edge of one of its suburbs, for children suffering from tuberculosis. This camp, called the "School of Out-door Life", opened last July and supported through the summer by voluntary contributions, at the end of the season was taken over by the city and made part of the regular school system, the Tuberculosis Society operating it in conjunction with the Board of Education.

In establishing this school the society was exacting as to the sort of teacher to be accepted for this new field of work. The choice fell upon a woman who had had experience in every grade and as principal, one who had taught children of almost every nationality and whose school had received "tough boy" problems—a teacher who had not been contented to know her pupil's through the school hours of the day only, but had been accustomed to follow them into their homes, giving time and attention to backward children to such an extent as to have received the somewhat doubtful compliment of being known as the "feeble minded" teacher.

The school was first located in an apple-orchard of fairly good size, on a hill-top particularly exposed to wind and weather and too well supplied, perhaps, with neighbors for the

ideal camp. Equipped with a lean-to kitchen, dining-room, shower bath and a number of tents for shelter, this school was kept up well into the winter, being moved last January to its present location in Franklin Park. Here in this city park a building called the "Refectory" which had been unused for the past eight years except for one large room on the lower floor, utilized as a public reading room, has been put in order and in its arrangement and equipment offers the greatest possible contrast to the schools already described. On the lower floor are dining-room, kitchen, etc., on the second a rest room, but it is on the roof of the building that all classes are carried on. A movable platform covering a space of 14 x 20 ft. has been built and studs erected which support a canopy top from which curtains can be let down in case of high winds or storms. No provision is made for heating the space which, except for chairs and desks, is provided with almost no school apparatus. The innovation noticed in Providence, of heavy bags to protect the lower part of the body, is in evidence here, but neither soapstones nor other artificial means of warming themselves are furnished to the children while on the roof. The greater part of the roof space is left open, for free play and games. As if to make up for lack of adornment and meagreness of schoolroom equipment, rooms on the lower floor of the building have been made particularly attractive. Pictures, carefully chosen, are upon the walls and flowers in the windows. Table appointments and the general scheme of decoration have been carried out with an eye to æsthetic values. Special sets of white and gold dishes figure in the dining-room inventory—as compared with enamelled bowls and spoons in the German Waldschule, where table furnishings are reduced to simplest terms.

Feeding plays a more prominent part here than in the Providence school, children receiving three meals daily. For breakfast they have cocoa, bread and butter, stewed fruit and sometimes a cereal; for dinner, either braised beef, stew or roast, a vegetable, fruit and milk, or sometimes in place of fruit, candy, either molasses or "fudge"; for supper, milk (all they can drink) graham wafers or ginger snaps. The best of materials are used in preparing the food, great care being taken to provide pure milk and the best of butter for cooking. Cost is not closely considered and running expenses are much higher than in the Providence school, for a matron or cook, cook's assistant and janitor or handiman are employed here, representing a cost of administration of \$1.00 per week for each child. Parents or charitable organizations pay 10 cents a day per child for food, the Tuberculosis Society paying the remaining cost, which amounts to about six cents a day.

All children take turns in waiting upon table and learn lessons in careful serving. Special attention is paid to conduct and to table manners, and a flag is given as a prize to the table best deserving it. It sometimes happens that behavior for the week at both tables is so exceptional that the flag must divide its time, staying until dessert upon one table when it is borne off to grace the other.

The physical gain of these children during the short period of the school's existence has been satisfactory in the extreme. It is true that two or three cases, owing possibly, it was thought, to the presence of other complications which prevented their responding to treatment, have not been benefited, and these have been removed to hospitals or sanatoria. On the other hand, seventeen or eighteen cases have been discharged as cured.

The length of stay is not limited. Children go every two weeks to the Boston Consumptive Hospital where they are examined by Dr. Floyd. Most of the children, it should be stated, are from families in which there have been one or more cases of tuberculosis. The majority have increased in weight during their stay. As an example of how the children of this school are taught self-dependence, they weigh themselves every day and report the record.

The same general course of study is followed as in any ungraded school, but periods are short, half an hour after dinner is spent in reclining chairs, and certain physical exercises, calculated to meet the needs of this class of children have been introduced, particularly breathing exercises.

SCHEDULE

A. M.	
8.45- 9.00	Breakfast
9.00- 9.15	Work in classroom by one section while the other is doing work in kitchen and dining-room
9.15- 9.30	Opening exercise
9.30- 9.35	Physical exercise
9.35-10.00	Number exercise
10.00-10.05	Breathing exercise
10.05-10.20	Spelling
10.20-10.40	Number
10.40-11.00	Recess
11.00-11.15	Reading C
11.15-11.30	Reading D
11.30-11.35	Rest period
11.35-11.50	Reading B
11.50-12.00	History

P. M.

12.00-12.15	One section plays, the other prepares tables
12.15-12.30	Washing
12.30- 1.00	Dinner
1.00- 1.15	Brushing teeth. Kitchen and dining-room work
1.15- 1.30	Preparing work in classroom
1.30- 1.45	Music and voice drill
1.45- 2.15	Division C and D, rest and relaxation Division B and A, language or geography
2.15- 2.45	Division A and B, rest and relaxation Division C and D, language
2.45- 2.55	Physical exercise
2.55- 3.30	Drawing, which may be Sketching, Cutting, Painting, Manual Work
3.30- 3.45	Play games in groups and preparing table for supper
3.45- 4.00	Washing
4.00- 4.30	Supper
4.30- 5.00	Home

To illustrate how the rigidity of the ordinary school régime is relaxed, children sitting at their work tied up in their bags, at the word of command free themselves, a second count finds them upon their feet, a third, and they are in position for marching and other physical exercises. A delightful freedom is manifested and enjoyment in what they are doing such as has been noticed in the last few years where kindergarten methods have been carried upward through the primary grades and children no longer feel they cannot express themselves until called upon to do so. "Close one nostril and smell of a flower," says the teacher, in starting exercises calculated to induce natural breathing movements, "a beautiful red rose, and smell hard." "And now take a dandelion, and blow off all the seeds." "Now walk like a duck," and around the children go imitating the waddle of a duck. Next in a sitting position, up and down they go on their toes trying their best not to be first in tumbling over. "And now let's make a snow ball," says the teacher. "Pick up the snow from your desks, squeeze it hard. Oh, make harder ones!" "I'm going to put some water into mine," pipes a small voice; "there now throw it!"—and away the imaginary snow balls fly! They blow up paper bags and are told finally to blow up a "very big one." "A meal bag," suggests one of the boys; accordingly a meal bag is blown up and burst with great enjoyment. Thus appeal is made to childish imagination and the picturesque element introduced into physical exercises, in a way to prevent their becoming too consciously purposeful.

Here, as was noticed in the Providence school, the oppor-

tunity which the teacher has to impress her own mood upon children, is exceptional. What might well be considered hardship is accepted as a privilege. "I wish I had n't ever got to go back to any other school," said one young pupil to a visitor, and they are all made to feel that they are having a capital time together. To be sure sunny rooms, flowers, daintily set tables and nourishing food are all great luxuries to these poorest of poor children, but to sit in the wind and cold doing their sums with cramped fingers is a less pleasing side of the experience which, except for being imbued with the idea that they are enjoying themselves, might easily appear unbearable. The skillful introduction of exercise or play at the right moment, and never-failing cheerfulness of their leader tides over many a critical situation. A snow storm comes up, and is straightway utilized as subject-matter for a dialogue.

Thus while bodies are being hardened the mental attitude of being game is inculcated. To put twenty children, in the course of a few months, well on the road to health is no bad municipal investment, but to cultivate in them a truly courageous spirit is likewise no bad training for future citizenship. When the visitor, notwithstanding her interest in the school and a desire to find out what she can about it, is unable to lose consciousness of her physical discomfort, is thankful for an opportunity, when the children march, to keep time with her own chilled feet,—has to think about it some moments before her courage rises to the point of attempting notes with her benumbed fingers—the attitude of these children raises a question as to influences which have brought this about. To be surpassed in such matters of physical endurance by those who have been in camp during the fall and winter months, is not so much to be wondered at, but to be outdone by certain little new comers who in a day or two have caught the spirit of the school seems more remarkable.

"Do the children enjoy it?" asks the visitor. "Answer the lady and tell her why you like it", says the teacher, and a reply is given that while it suggests a little the idea that the children may have been aided in the expression of what it is considered desirable they should feel and a Christian Science attitude, is so corroborated by beaming faces as to leave no room for doubt upon this question.

As to pedagogical results, some "impossible" cases, as the teacher called them, have been taught to read and write and all are able to keep up with the grades they have left, for notwithstanding innovations and interruptions to which work in the school is subject, pupils receive a larger amount of individual attention than is possible with larger numbers. Plans

for the extension of the work to summer camps for tuberculous and anæmic children are now under consideration.

Boston's board of education proposes to establish another out-door school, possibly in Charlestown, and Providence is to have another school in its vicinity, as plans are already under way to establish one in Pawtucket. Each day brings reports of different cities which have either made appropriations or are considering the project of open-air schools, among which may be mentioned Chicago, Cincinnati, Columbus, and Elizabeth, N. J.

Open-air schools have already had some little effect on the regular public schools system. For example, the new Abraham Lincoln School of Boston, now in process of construction, is to have "health rooms" or rooms with large casement windows opening outward, leaving the rooms practically out doors.

COMPARISONS AND INFERENCES

As has been shown, open-air schools of the several countries in which they are now found all agree in placing emphasis upon fresh air and dietetic treatment, and also upon more or less systematic and carefully regulated exercise. They have all introduced innovations into their daily programmes, reduced the number of children usually given to one teacher, thus securing more individual attention and consideration of particular needs, and they have relaxed the rigidity of ordinary school routine and encouraged family or communal feeling. Between the German *Waldschule*, however, and the latest exponents of this progressive scheme of education, there is wide divergence and it is interesting to note the points of difference both in the method of establishing and of maintaining these schools. England patterned closely after the German *Waldschule*, choosing picturesque country or forest regions and carrying out details with the same simplicity that characterized the German undertaking. The idea was adopted and put in practice by the school board *without extraneous aid*, except such as is customarily given to other municipal projects. English open-air schools, however, have thus far been restricted to warm weather months. America, in starting these schools, departed more radically from the German model. The German idea was followed in that they were started by educational authorities in co-operation with philanthropic societies, also in the matter of keeping open in the winter, even surpassing the *Waldschule* in this respect, as the intention is to carry on the schools throughout the official year. Work of the schools here, however, is in a more restricted field, being confined to tuberculous children, and carried on only throughout the length of the ordinary school day. Stress is laid only upon certain of the

hygienic principles involved, *i. e.*, fresh-air treatment and nourishment—no provision being made for baths, as in Germany and England, and the after-dinner rest or sleep period being reduced to a minimum, or, as in the Providence school, entirely absent, also exercise, work and play in the open receiving less attention as well as environment and the benefits to be derived from contact with nature.

In enumerating the factors conducing to favorable results in the fresh-air schools, may be noted fresh-air treatment, regulations of the dietary, in which attention is given not only to providing a sufficient quantity of wholesome food, but also to proper proportions of body-building material; the alternations of rest, work and recreation, stress being laid in most of these schools upon the necessity of a sufficient amount of sleep, the serious lack of which among children has been brought out by recent reports upon housing conditions; the opportunity for healthful exercise and play often lacking in thickly settled districts where playgrounds have not yet been established; the practical lesson, too, in cleanliness taught by regular baths, from lack of which the health of so many children suffers.

Apart from physical benefits which are indisputable, there is a pedagogical lesson to be drawn from results obtained in open-air schools, particularly from schools of the original *Waldschule* type. The fact that children can do the same amount of work in much less, sometimes in half the time, with increased energy and alertness, offers a strong argument in favor of applying, in the case of normal children, the agencies that have brought this about. The advantages of studying nature at first hand and of substituting live growing things for museum specimens or book descriptions, and of cultivating habits of observation, is apparent to every student of elementary education. The advantage, also, of substituting the natural activities of play and work for the more artificial physical exercises of the schoolroom is too obvious to need more than a passing mention. Less obvious but no less important is the subtle influence of forest and field upon the æsthetic and emotional nature of children, usually ignored in discussions of educational questions.

Notwithstanding the undoubted benefit derived from open-air schools, of course certain difficulties are in the way of the immediate realization of such an ideal on any large scale. The costliness and extent of our school plant, requiring an annual expenditure of over \$65,000,000 at present, and the consequent impracticability of substituting a so radically different system is readily apparent. The whole school plant cannot be changed at once, but when new buildings are needed, there is opportunity for introducing the open-air system. The difficulty of

finding teachers adapted for the work is the most serious of all, and not to be underrated. On the other hand, the establishing of open-air schools is relatively inexpensive; and in the event of their being extensively adopted, the smaller expenditure necessary for buildings and equipment would leave a margin, allowing for the cost of meals and transportation, should this be assumed eventually by municipalities, permitting also the increase of the teaching force as well as of salaries, which teachers of superior ability and training and of ungraded schools command.

While the Waldschule and the English forest school approach more the ideals, and the Boston out-door school, though lacking some factors which seem most desirable, admits of a wider application, very likely the Providence school, still further removed from the type, entirely lacking every æsthetic and picturesque feature, nevertheless will be thought to have some practical possibilities not found in the others. The approach to the subject of open-air schools depends upon the interest of the individual in different phases of education, each advocate seeing in the present movement a significant point of departure. For one, it is the natural sequence in the establishment of a thorough system of school medical inspection, and an outcome of the crusade against tuberculosis, now become a school problem. For another, it is an effort to satisfy recent requirements in the matter of school baths, school nurses, and the feeding of indigent children, etc., or an achievement in line with the aims of the vacation school and playground movements. Again it may be regarded as an expansion of the "settlement" idea and characterized as by an American enthusiast who left these words in the visitor's book of the Charlottenburg school, "It is the best social effort that I have seen in Europe during a year of study and observation." Still again it may be thought to follow the growing tendency in different countries, so well illustrated in Germany by the Mannheim school system, to recognize and provide for the "pedagogically backward child," victim of physical defects, grading, etc., in distinction from the "mentally abnormal." There are even those who assume, notwithstanding an assertion in Germany to the contrary, that the establishment of these schools is related to the "school reform" movement and that a notable impetus has been given, though unconsciously, to the effort to substitute a less formal system of education for the present school régime. And not least important, perhaps, some educators see in the experiment an organized and comprehensive effort on the part of public school administrations for a "return to Nature," the need of which has been increasingly realized ever since investigations by European educators and

Dr. Hall, as to the contents of children's minds on entering school, showed such poverty of concept. The fresh-air school, especially in its ideal form, seems to be solving many of these problems, combining in one effort the factors that have separately demonstrated their efficiency.

What will develop as the type of American open-air school on further extension of the movement is an interesting subject of speculation. Having been so closely connected in its origin with the Tuberculosis Societies, it is possible that it may continue along the same line, and limit its efforts to providing for tuberculous children instead of extending them to children physically defective in other ways, but quite as much in need of more favorable opportunities for school life.

Though the medical aspect of the question is without the scope of this paper, it may yet be permissible to add a few significant facts to the subject as bearing on the future establishment of these schools. There is a growing consensus of opinion that the germs of tubercle enter the system in childhood. It is quite generally held, too, that notwithstanding the various tuberculin tests now in use the presence of the disease in children is difficult to detect. The theory, also, that anæmia is one of the symptoms of the disease has considerable support. Moreover, as tuberculosis is not generally infectious in its early stages, the presence of tuberculous children in the open-air school carries with it slight menace to the health of others.

The fact that so few reports of the foreign schools have been published in English and the accessibility of the Providence and Boston schools may tend to make them models for other American cities. It is quite possible, however, following Germany's and England's precedent, to break away more fully from tradition.

The *Waldschule* is a phase of a widespread educational movement which has found expression in such institutions as Abbotsholme in England, Ilsenburg, Haubindea and Bieberstein in Germany, besides schools in France and Switzerland and a number in our own country which lay special emphasis upon out-door life. It is an expression of the tendency to extend more generally benefits hitherto confined to children of the more favored classes.

This same tendency toward out-door education is illustrated by the very rapid increase in summer camp schools, beneficial effects of which have been noted not only in an increase of physical vigor, but in improvement in school work the following year.

Again in the crusade against tuberculosis just alluded to an effort is being made to establish out-door schools in con-

nection with some of the sanatoria for tuberculous diseases, in this country, as at the state institution in Glen Gardner, New Jersey. The need of providing for the schooling of children in institutions of the kind was especially felt in that state where children are admitted at ten, this being from four to six years earlier than they are admitted elsewhere. No appropriation has been made, but the teacher's salary, etc., is paid by clubs and private individuals. As in the day sanatoria for children in Germany which preceded the Waldschule there, no attempt is made in these institutions to keep children up to the grades of their home school, enough instruction being given, however, to ensure their not forgetting how to study, to increase considerably their fund of general knowledge and stimulate a desire for continuing in school after their return home.

Out-door schools are carried on also in semi-private institutions, as at the "Stony Wold Sanatorium", and at some of the hospitals for surgical tuberculosis. While New York has no open-air schools as yet, the school board of that city is furnishing teachers for a number of institutions for the benefit of tuberculous children. Among these may be mentioned Sea Breeze Hospital situated directly on the shore, conducted under the auspices of the "Society for Improving the Condition of the Poor"; a hospital boat run since December, 1908, in connection with Bellevue Hospital, and also one run by the Presbyterian Hospital of New York, since April, 1909, in which children spend the day, have regular instruction, following a plan which in principle is the same as the German Waldschule, short lesson periods, frequent recess and afternoon rest being the rule and diet, of course, receiving special consideration. The course of instruction ranges from kindergarten to eighth grade, some children never having attended other schools while others are there for a few months only.

Another institution which is akin in underlying principle to the open-air school is the French vacation school, an example of which is found in the Country Holiday Home at Contrexéville, opened in 1889. The idea originated with Dr. Graux, a Contrexéville doctor, and M. Dural, a member of the council of a Paris *arrondissement*, who, in carrying out their plan, worked in touch with school authorities. A disused château was purchased and additional buildings erected to accommodate two hundred children chosen from the poorest and most crowded districts of Paris, so that a three weeks holiday was given to a thousand children between the ages of ten and fourteen during the warm weather months. That as many children as possible might benefit by the outing, it was necessary that some should be withdrawn from school during regular term time.

Accordingly the method was adopted of taking those making least progress in their studies. Though no formal instruction is given, the plan has proved successful from an educational as well as hygienic point of view.

Other institutions, too miscellaneous to classify, nevertheless show an affinity to the examples previously mentioned. Within the past year our commissioner of Indian affairs has built a few experimental schoolhouses, which are merely screened in with wire netting above a solid wainscotting, thus giving some of the practical benefits of an out-door school, in the hope not only of lessening the spread of tuberculosis among Indians, but of mitigating also the feeling of imprisonment among Indian children.

The tendency to abandon precedent and substitute a less formal teaching out-of-doors for the usual schoolroom régime is further shown in Italy's plan for elementary teaching in the open for educating the illiterate youth of her provinces, lately adopted by the minister of instruction at the suggestion of Prof. Emidio Agostinoni. Fifteen "ambulant teachers," as they are called, have been appointed, who mounted on horse-back ride into the mountains, collect their pupils wherever they can find them, and gathering them together teach them in the open. The plan has worked so well that not only boys but men attend, and old and young sit side by side in a class.

While it is impossible at this early stage of their history to draw inferences from results that can be stated statistically, personal observation impresses one with a sense of the value of these schools and of their great possibilities. Although impossible of immediate realization the whole lesson of the Waldschule points towards radical reconstruction in the future of the educational system along lines plainly indicated by results already attained.

In closing I wish to acknowledge my indebtedness to Dr. William H. Burnham for suggesting the topic and for help and criticism; also to teachers, officials and correspondents, whose courtesy has made this investigation possible.

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