cowman became infected with the germs of scarlet fever and diphtheria (possibly whilst suffering from a cold in the head) directly or indirectly from the grown-up daughter returned from hospital. It is interesting to note that the cowman was subject to colds in the head, and that whilst so suffering, drops of clear mucus constantly formed at the tip of his nose. (The information as to this peculiarity was volunteered to me by a fellow workman.) Obviously, if these were infected, they would by dropping into the pail during milking, supply that substantial amount of infective matter, which it appears reasonable to assume must have found its way into the milk. It should be added that the milk was not cooled before distribution.

The cowman asserts he never milked the cow with the sore teats, otherwise there would remain the possibility of these sores becoming inoculated, and acting as breeding grounds for the specific germs of the two diseases.

It may be added that any doubts that were originally entertained as to the identity of the disease with scarlet fever were subsequently removed by the occurrence of several secondary cases (no less than four cases having occurred at considerable intervals in each of three houses), and by the sequence of free desquamation, and the common complications of the disease.

Of the primary milk cases two were under five years of age, three were from five to ten, four from ten to fifteen, one from fifteen to twenty-five, and four from twenty-five to thirty.

MILK POISONING OUTBREAK AT YOULGREAVE.—On Friday, August 28th, upwards of thirty persons were seized with violent sickness and diarrhoea. There was also much headache and depression. The temperature varied from 102 to 104. No death occurred. On investigation it was ascertained that all the persons seized had their milk from the same dairy, and that a cow calved on the previous Sunday (August 23rd.) had her milk added to the usual supply on the Wednesday and Thursday, and that all the cases occurred within the next day. The cow had been sold, as I am informed, previous to calving, but was not delivered until the Thursday evening. No fresh outbreak occurred after her removal to Elton, from where she was taken to Bakewell Market on the following Monday and re-sold, when she was lost sight of. The cow was believed to be healthy by the dairyman, for he not only partook of the milk, but also his wife and child, with a similar result. Unfortunately we were unable to have a bacteriological examination, as no sample of the milk could be obtained.—*Special report by Dr. John Knox, Medical Officer of Health, Bakewell Rural District.*

COUNTRY SCHOOLS, SCHOOL CAMPS, AND OPEN AIR SCHOOLS.

By H. L. P. HULBERT, M.B., D.P.H.,

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Ludi Magister, parce simplici turbae.

* * * * *

Ferulaeque tristes, sceptris paedagogorum

Cessent et Idus dormiant in Octobres:

Æstate pueri si valent, satis discunt.

M. Val. Martialis, x. lxxii.

IT was the privilege of the present writer in the early summer to see hundreds of the poorest school children from the towns on the Lake of Geneva, scattered over the Elysian fields above Les Avants, picking the *Narcissus poeticus*; to watch a large Jesuit boys' school climb the Dent de Zaman with their masters, and glissade down the snow slopes on their descent; to dine with the cosmopolitan scholars of an Armenian school who were taking their annual week's tour on the Alps. Such holiday excursions are worth much schooling, and might well have their counterpart more often in England; but the object of the present paper is to show how much can be done by means of schools to secure for English town children a more free and open, and therefore a healthier life, during part of the year at all events. Two Manchester examples will be taken first, and will show how this may be combined with great educational advantages.

I. *The Manchester Country School for town children.*—A detailed account and plan of this school will be found in a paper read at the recent International School Hygiene Congress. Only the main facts concerning it need here be stated.

The school provides a fortnight's education in the country, with board and lodging, for selected groups of children from the Manchester elementary schools during the summer months.

It is situated at Knoll's Green, in Cheshire, sixteen miles from Manchester, in the midst of well-wooded pastoral country. It is built on five acres of land, acquired at a peppercorn rent through the David Lewis Trustees, and is surrounded by gardens.

In addition to the absolutely necessary accommodation for children, their teachers

and the permanent staff, a bath-room containing ten shower baths and a bath for the staff has recently been completed.

Every child at the school during the present season has thus been enabled to have at least one bath during its residence there.

When possible, the children take their meals in a play shed, open at the sides, and covered by a corrugated iron roof, and are then practically in the open air. The total cost of the building furniture, laying out of the grounds and water supply up to the beginning of the 1907 season, has been £3,000. This is exclusive of the bath-room, which is the gift of one generous donor.

The permanent staff consists of:—

A matron and her daughter, who acts as assistant.

Two female servants.

One gardener who is also teacher of	} out of doors.
nature study	
One general workman	

Three or more teachers (one for every forty children) accompany each party.

The diet is practically unrestricted, and almost incredible amounts of food are disposed of by some of the children. It has been impossible to obtain exact quantities.

Both boys and girls are requisitioned in the kitchen as "potato peelers," "bread cutters," etc. The children wash up for themselves, make their own beds and sweep the dormitories. The matron assures me that the rudimentary knowledge of these necessary accomplishments, which most of the children possess, is perfected by a fortnight's stay at the school. This is of more use to the children than much of the information laboriously acquired during eight years at a school desk.

The daily rambles in the fields and country lanes are a characteristic feature of the country school life. These are quite free and easy. The children have abundant opportunity for making discoveries for themselves in the fields and hedgerows. Attention is drawn by gardener or teacher to the characteristic features of the trees, flowers, and animals encountered.

The children are taught to listen to and distinguish the songs of the birds. Bees have been kept at the school, and their hives and habits demonstrated. In the mornings systematic lessons in natural history prepare the way for the afternoon rambles.

The weighing machine, once aptly described by a farm bailiff as "that dumb judge which tells us the truth," has given on the whole, satisfactory results during the last two seasons. During the present season, from April 27th to October 3rd, 1,232 children have visited the school. Of these, 824 are recorded to have gained 1,549·5 lbs., making an average gain in weight per child gaining weight of 1·9 lbs., 181 are recorded to have lost weight. Of these, twenty-seven came from one school and ninety-one from another. Thus, 118 out of the total of 181 who lost weight, came from two schools only, and these figures must be discounted as anomalous, pending further inquiry. It will probably be found either that some mistake has been made during the weighing, or that some slight illness occurred during the visit of these particular children. The weights have been kept for each batch of children visiting the county school during the past two seasons, and in the absence of a medical officer at the school from a delicate indication of the condition of the health of the children while there. A wet fortnight always tells upon the weights of the children, and a transitory epidemic of summer diarrhoea which occurred during last season had a much more marked effect. Dr. Brown Ritchie, medical officer to the Manchester Education Committee, has kindly provided me with this season's figures at the time of writing, but they still await further investigation.

Twenty-five different school departments have sent children to the school during the present season. The children and teachers of different schools meet there to their mutual advantage. Boys and girls visit the school alternately.

The average cost per child, including railway fares, during its stay at the school is 11/9; each child has to contribute 7/- towards this amount. Exclusive of capital expenditure, it is calculated that if the school could be extended to include 500 children, it would be self-supporting.

Among the advantages found to result from the school are:—

1. The introduction of new interests and pleasant memories into the lives of the children at an impressionable age.
2. No loss of school attendance (the school is recognised by the Board of Education).
3. The education afforded by life in a community.

4. Fresh air after town or slum life, regular habits and meals, adequate and undisturbed sleep, result in marked improvement in the health and appearance of the children.

II. *School "Camps" from the Fielden Demonstration Schools, Manchester.*—The Fielden are experimental schools, under the direction of Professor Findlay, in connection with the training of teachers at Manchester University, at which the children pay a small school fee. Experiments in school camps have now been conducted from them for the past three years.

In 1906, three boys and nine girls, between the ages of eight and fourteen years, camped out on the side of a hill near Marple, with one mistress and two students. These were followed by sixteen boys at a later period. They did all their own domestic work and cooking and no attempt was made to teach the children set lessons. The camp seems to have been more of a picnic than a school. In her report of the visit, Miss M. G. Findlay, head mistress of the primary school, writes:—

"A marked effect was visible during the remaining week or two of the term, nerves were steadied, self-control greater, and a new readiness to help in practical ways was manifest. . . . The sum charged to each child (10/-) covered all expenses, including the few pence of the railway fare for teachers and children, and left us with a balance of 23/- in hand."

Next year, 1907, it was determined to develop the experiment on a larger scale, and to make use of the educational advantages afforded by a school migration to the country. The upper school sent thirty boys (aged 10-16) with three masters, and the primary school twenty-nine children (aged 6-11) with six mistresses to the Holiday Home, Great Hucklow, in a most remote and beautiful part of the limestone district of Derbyshire.

A more fitting place could scarcely have been chosen for such an experiment. It is approached by a road curving between the precipitous rocks of Miller's Dale; it is within a few miles of the historic Parish Church of Tideswell, rich in fine wood carving and old brasses; it is situated in an open situation with a wide view of a mountainous country and few houses in sight; it is within a day's excursion of Haddon Hall and some of the interesting Derbyshire caverns. The weeks preceding the visit to Great Hucklow were used to prepare for it. The preparation took tangible form in a book produced by the boys,

the contents of which include:—"Flora and Fauna of the District," "Geological Notes," "Historical Notes," "Survey Map," and "Notes on the Weather Record." The children were sent "back to the land," to learn their history, geography and science.

The Time Table as given in this book was as follows:—

- 7. 0 a.m.—Rise.
- 8. 0 „ —Prayers.
- 8.30 „ —Breakfast.
- 9. 0 „ —Science Records.
- 9.30 „ —Lesson or Excursion.
- 1. 0 p.m.—Dinner.
- 2. 0 „ —Lesson or Excursion.
- 5. 0 „ —Tea, followed by play, letter writing, entering up diaries, etc.
- 8.30 „ —Supper.
- 9. 0 „ —Concert or bed.
- 10. 0 „ —Bed.

The lessons frequently took the form of careful drawing and painting of flowers and leaves, picked up by the children, either on account of their beauty or botanical interest. A diary was carefully kept by every child of sufficient age to do so.

In connection with such a programme as the above, it is important to note that the school hygiene of boarding school has been much neglected in this country. Dr. T. D. Acland has shown that the hours of sleep are insufficient in thirty-five of forty of our best English public schools. If country schools for town children are to produce the best possible results, such a point must be carefully attended to. Other problems and difficulties will also arise. For instance, a condition of over excitement and overstrain, likely to be produced by suddenly placing a child in new and strange surroundings, has to be avoided. We all know the exhaustion produced by wandering aimlessly through a museum. A child may suffer from the same complaint if left too long to its own resources in strange surroundings. The best preservatives seem likely to be regular hours and regular, if fewer, indoor lessons. The latter are of use because concentration prevents distraction. The solution, however, of these and many other difficulties, can only be the result of progressive experiments, such as those which have been made with so much enterprise by the Knoll's Green Committee and the staff of the Fielden Schools.

Following the example of Germany, much

stress has been laid on the selection of delicate children by school doctors for open-air treatment. An "open air" school is becoming a technical phrase for a school for such children like Charlottenburg Forest School, the L.C.C. school at Bostall Woods, and the Bermerside "Open Air" School, recently started by the Halifax Education Committee.

Might not such schools be started on a larger scale for normal children, who might thus be trained up from infancy to a more open-air life? Delicate children might be admitted with the rest, and special provision made for the rest and feeding which they require under the supervision of the school medical officer. Public parks and open spaces might be used for such schools, and the cost of the necessary shelters and offices need not be great.

The Fielden Schools have just moved into a large house surrounded by gardens, and it is hoped that these may be used for some such purpose, though the damp climate of Manchester will be a disadvantage less acutely felt elsewhere. In conclusion, it is scarcely necessary to remind the readers of PUBLIC HEALTH of the encouragement promised to all such schools when properly conducted by the provisions of Section 44 in the Board of Education's code for 1908.

REFERENCES.

1. Quoted in School Excursions and Vacation Schools. Board of Education Special Reports on Educational Subjects. Vol. xxi, p. 21.
2. On the Hours of Sleep at Public Schools: T. D. Acland, M.D., J. and A. Churchill.

SCHOOL HYGIENE IN FRANCE.—APPOINTMENT OF SPECIALISTS AS MEDICINAL INSPECTORS. — The Prefect of the Gironde sanctioned the appointment, on the 17th August, 1907, of Dr. Régis, Professor of Mental Disease in the Faculty of Medicine, as special medical inspector of the schools of the town of Bordeaux. His duties comprise the medical inspection of children for nervous affections, and, in particular, the medical inspection of classes and schools for abnormal children. At the same time the township of Bordeaux appointed a special medical inspector for each of the important branches of medicine and surgery of children; for Nose and Throat conditions, Professor Mousé; for Skin Conditions, Professor Dubrenith; Eyes, Professor Cabannes; Teeth, Dr. Dunogier; Surgery of Infants, Professor Deaucé; Orthopædics, Dr. Gourdon. — (*Le Progrès Médical*).

SCHOOL ATTENDANCE OF CHILDREN UNDER FIVE.*

THE Board of Education have recently published the report of the Consultative Committee appointed by the Board "to consider and advise them in regard to the desirability or otherwise of discouraging the attendance at school of children under the age of five years." The committee found that during the last fifteen years or so at least one-third of all the children in England and Wales between the ages of three and five were on the registers of public elementary schools. From time to time, however, various medical men and students of education had expressed the opinion that a public elementary school was not a proper place for such young children, and after the passing of the Education Act in 1902, some of the new authorities began to consider the question. The Board of Education also made investigations, and in 1905 published the report of five women inspectors on the position of children under five in public elementary schools. The result of these inquiries was that in the Code for 1905 the Board of Education left it open to any local education authority to refuse admission to their schools to children under five.

To ascertain the actual practice of the various authorities, the Committee issued a form of inquiry, which was circulated to every local education authority in England and Wales. The report which is now published is based on the information gathered from the written replies of the education authorities, from the evidence of specially qualified witnesses, and from the reports by special investigators on the practice of foreign countries in this matter.

The Committee have arrived at the conclusion that there are many children in this country between the ages of three and five for whose care and education some public provision should be made, and that the objections urged against the attendance of such children at school are not valid, provided that the school is organized on proper lines. How such a nursery school should be organized and

* Report of the Consultative Committee upon the school attendance of children under the age of five. Printed by Wyman & Sons, Fetter Lane, E.C. Price 1s 5d.