

ELEMENTARY HISTORY TEACHING IN THE LABORATORY SCHOOL.

I.

WHETHER or not history can be taught successfully to children below the high-school age depends upon one's conception of "history." If out of the many attempts at defining it, that by Droysen, "History is humanity becoming and being conscious of itself," be chosen, then it is easy to understand, not only the possibility of teaching history to the young child, but the necessity, if he is to know himself and the society in which he lives. The problem thereafter becomes one of selection of subject-matter and of proper order of sequence.

Fundamental principles do not differ so radically in the study of physical and social sciences that they cannot be arrived at through either. A child's inheritance and training, even though he be but six or seven years old, may enable him to approach these fundamental principles more easily through one avenue than through another, as a teacher's inheritance and training may fit her to guide the child more truly along one road than along another; yet the end is always the same, and in history that end is an analysis of a complex whole to which the child is introduced upon becoming an inhabitant of this world. Through this analysis and comprehension must be secured the ability to work in harmony with the laws of physical and social forces.

Whatever section of the world's past be selected for the teaching of history, the aim is to enable the child to interpret society of which he finds himself a part, and his own part in that social whole. The way in which this can be done must differ with the age of the child, with his environment, and to some extent with the teacher who undertakes to develop in him power to modify his environment and to adapt himself to possible future conditions different from those by which he may at the time be surrounded. This report, therefore, of work in history is an

attempt to solve this problem for an average group of young American children.

The child of six knows, in a general way, that there are other families besides his own, and other occupations beside that in which his own father engages; but the dependence of families upon other families, and occupations upon other occupations, is made conscious to him in the kindergarten and first year in school, when his history is a study of typical social occupations.

The city-born child of today opens his eyes to a world of exceeding complexity, and unless his attempts to inquire into and comprehend it are to a degree successful, his efforts gradually cease and interest is confined to a very small area. The teacher's part is to make successful these early investigations, to stimulate to new investigations, and to develop power to interpret conditions. To do this she must see to it that the first conditions presented are simple.

A desire to find out where the bread and butter which he eats comes from may lead the child into a comprehension of the farmer's occupation and his own relation to it, to an understanding of processes which are as new and fascinating to him as the discoveries in his private laboratory are to the scientist. These processes are realities in the metamorphosis of matter which the child now meets for the first time. Thus a few typical occupations developed in a year enable the child to enlarge very greatly his conception of the materials and processes by which the comfort and convenience of life are secured.

At this age, as well as in the year or two following (four or five to seven or eight), the child's concepts are built up chiefly through his activities, rather than through his language faculty. He must therefore "play" farmer, ranchman, miner, etc., and in his small way perform the occupations he would comprehend—not with imaginary materials, but with real ones, though his farm be but a 4×4 sand-box, his dairy but a glass bottle in which the cream is shaken or churned, and his mine the same sand-box at another time, modeled to represent the mountains from which the ore is extracted. His farmhouse, barns, fences, etc., must be real, though they are constructed of thin wood, blocks, or paper.

The *construction* in connection with the idea of the work is the reality for the child as for the farmer.

But analysis of fundamentals must go farther than existing social conditions. It must seek to comprehend the beginnings. So in the next year the history is planned to analyze the beginnings of society. The child lives in a house and in his way has been engaged in constructing a house, and in so doing has gained some notion of the difficulties involved. But how did people ever learn to build houses, and what did they do before they knew how? The child has clothing, and has seen the animal or the plant from which it came; but how did the complex structure come to be, and what did people do before they found out how to make clothing? There are certain plants and certain animals which the child knows are good for food, and others which he has been told are not. How was the difference discovered, and how the processes which make food-getting so simple in his family? The child is surrounded with tools and various devices for the convenience of life; but what of the man who had none of these with which to assist his empty hands, either in supporting his life and that of his offspring or in defending these? The child comprehends, to some extent, that there is order, direction, leadership, in his home, his school, his town; and, through his "plays" of the preceding year, that there is great differentiation of labor today. How did it all come about? These are some of the fundamental problems which the child of seven is to attack, and the solution of which is to give him a clearer insight into his world.

As in the preceding year, "play" is the mode of attack. The class is the tribe, and the sand-box its habitat, which moss from the greenhouse can convert into the pastures of a river valley, or stones and clay into a mountain region where caves form a natural shelter. The stick and stone united by a thong may make the spear the first invention and provide a weapon for attack and defense. Keen observation may enable the child to select clay for dishes, skins for clothing, and to choose a leader for a dangerous expedition, or to suggest combination with other tribes for attack upon a common enemy, or for defense in a common danger.

As the language faculty of the child has increased in a year, much more can be done in building up concepts through its use than in the previous year. He can now comprehend more and can express his own ideas more fully. All his work tends to stimulate a desire to express himself. Throughout the year, too, it is the child's initiative in attacking the problems which is of most educative value. As in the preceding year, his problems are real problems, and so far as he is able to solve them, he has not only gained a deeper insight into his world's complexity, but has the joy and stimulus of successful effort along a line of investigation that to him is worth while; for he is primitive man, striving to find out by trying how he may control nature, and in this experimentation discover nature's laws.

In the next year (average age, eight years) the study of society is related to definite localities and concerns peoples whose acts have been recorded. It thus becomes more concrete, and corresponds more nearly to what a child would regard as a "true" story. In the two years preceding, certain associations between the people and their social life and the land they occupy have been noted. The region occupied by the farmer differed from that occupied by the miner; and the advantages of a tribe in a river valley, from those of a tribe on the sea-coast or in a rocky or arid region. In the study for this year, therefore, the concepts already formed of shelter, food, clothing, inventions and discoveries, ideas of government and leadership, are to be enlarged and a closer approach made to the discoveries and inventions which usher in the stage of progress we call "civilization." The spirit of romance and adventure common to children of this age aids in introducing natural lines of travel and exploration into the countries about which the study is to center. The whole study gives opportunity for the exercise and training of imagination.

A study of Homeric society is often used in schools as subject-matter for this age, and was used in the Laboratory of the Department of Education at one time. Biographical stories are frequently used, on the ground that they furnish the personal element necessary with children and help to develop moral

standards of conduct. It was felt, however, that better results might be obtained by attacking subject-matter of greater unity and broader dimensions, and one which furnished types of life that would be more universal. While the general aim for this year has varied little, the subject-matter has frequently been changed in order to discover that which might make it possible to carry on and develop the concepts of the preceding two years with new material, and that which would keep alert, on more difficult problems, the inquiring and inventive attitude of the child. In one year a study of the American Indians, with their inventions, customs, etc., was used, and this was followed by the discovery of the Indian by white men, and some of the explorations which made known the form of the earth and its larger geographical features and forces.

It was particularly desired, however, that the child, who took up seriously in this year the use of symbols in reading, writing, and number, should realize the conditions in which these conveniences originated. It was thought that the Phœnicians would best serve as the link between primitive man (after he had discovered the use of fire, metals, and agriculture, as developed in the second year) and the period in the world's history when its form and some conception of its physical forces had been comprehended through actual contact in exploration and circumnavigation.

In the study of the Phœnicians the habitat, from being a variable one, becomes fixed, and conditions unfavorable to the previous life-experience of the tribe must be overcome. With a sea in front and mountains behind, agriculture and flocks and herds as a means of support were no longer possible. The conditions of the environment must be made to yield means of subsistence, therefore, if this tribe were to continue. How this could be done was the first problem given the children. Out of their past experience with primitive peoples they suggested that the sea might furnish fish and the mountains metals and timber, and that these, if means of conveyance were found, might be exchanged with other tribes for wheat, wool, etc. Here, then, was an opportunity for the development of trade and all its

attendant aids. The development of trade alone on sea and land would furnish subject-matter for a very valuable study. But this development must wait until the needs of these first carriers of the world's commerce should evolve a system by which the products of a people could be measured and valued and records of transactions kept. At first, however, all trade would be by barter and values dependent upon supply and demand, as between neighboring tribes in the primitive period.

As the people who depended largely upon outside tribes for food materials increased, and as their ability to supply something in exchange increased, certain localities were selected as furnishing largest returns for labor expended. Thus trade centers developed, around which grouped the peoples concerned in them and hence arose the necessity for defending themselves and their wealth. This defense resulted in walled cities. Damascus, Jerusalem, and Memphis were selected as types of cities among which the Phœnician merchants plied their trade, and Tyre and Sidon as Phœnician cities which became places for manufacture of the raw materials secured by trade. Many Bible stories had a new meaning when placed in this setting.

In the study of society the child has now to comprehend a new type with its problems: the person who does not sell what he produces, but merely exchanges what others produce—the middleman and his profit. To carry on his work successfully, the merchant or trader would have to invent, adopt, or adapt a system of measurements and weights; he would need a numerical system and a system of records; he must plan how to utilize the labor of others, how to combine with others, and how to exclude others from his field of labor. The child has merely started on a line of investigation which, carried out through the years, will enable him to comprehend the commercial combinations which are the menace and the hope of the future.

The origin of writing, number, weights, and measures was, from the child's point of view, an attempt to solve the problem how he, a merchant trader from the Phœnician tribe, could tell the value of his merchandise as compared with that of other merchants, and how he could record promises to give him or

receive from him merchandise. The question of records seemed easiest, and the child who acted as trader at the time devised his own system of records. This was usually a picture of the articles exchanged, with marks by each to indicate the number. Thus a trade of fish for wheat was indicated by a bag and a fish opposite each other, with marks to indicate the number exchanged. When, however, other products were used in quantity, and it was necessary to select and name a part from the whole quantity, a more definite system was demanded. The ability to initiate solutions of problems which thus arose varied with different groups of children and with the individuals within the group. Parts of the body as means of measurement were suggested by the teacher, and measurement made in spans and paces. The transition from a somewhat irregular unit to an adopted unit could usually be obtained from the class. For example, the distance from the middle finger to the elbow was used as a unit for measuring cloth, and called a "cubit." After this had been used in many measurements, the teacher one day told a story of a Phœnician who went to trade in cloth, and, noticing that the men in the market-place were of different heights, selected the man with the longest arm from whom to purchase cloth. The other merchants noted this, and called a meeting to decide what should be done. At this point the class was called upon for suggestions. One child thought that the shortest man's arm might be taken as a standard, and others stop short of the elbow in their measurements; or that the little men measure above the elbow. When, however, someone suggested that a middle-sized man be selected and the rest get sticks just the length of his cubit, all agreed that this would be better.

No satisfactory way of deciding upon a natural unit of weight or liquid measure was conceived, so the present measurements were learned in using them. Divisions of a pound for weights were made in clay, each child planning what seemed to him the most serviceable form, and marking the weight while moist. The children devised at home scales with which to use their weights. These were then tested, improved, and constructed in the shop. Half-bushel, gallon, quart, pint, and gill measures were obtained, and their relations determined by measuring.

The numerical symbols were improved from time to time. One child introduced a line across four marks to indicate five, the common method of recording numbers of single games. Another child came one day and said that she knew a new way to count, and put upon the board the Roman numerals to X. The class was then interested in seeing how IV could indicate one less than V, VI one more, and that X was two V's, and that less or more than X was indicated by the position of the I to the left or right of X. The pleasure of the class when they comprehended the significance of this device proved how much a matter of thought a number scheme had been to them.

Concurrent with this construction of a number system, necessity was felt for a more accurate method of record than rude pictures. The use of a part of a picture to stand for the whole, then of a sign to stand for a sound, resulting in an alphabet, was worked out with suggestions from the teacher. The arbitrariness of this system was reflected in two alphabets invented by the children.

The symbols of social intercourse worked out naturally centered about the trader and his experiences, for the child is still chiefly interested in himself and gains his concepts through his activities, and of course he is the trader. The method adopted was that of imaginary travels for exploration and trade. This form of story-telling and dramatization was used in the preceding year, but the events which could be narrated at the beginning of the year were chiefly confined to the experience of a primitive tribe. The trader had met with strange peoples, friendly or hostile; he had had to make his wants known by signs; he had asked only for things he knew about, and hence his increase in knowledge had been slight. As the year went on, more and more content was apparent in the stories of the children. They gradually introduced the discovery of precious stones, new processes of manufacture, new devices, etc., thus carrying out, so far as they were able, the aim of the work: inquiry into the origin of products and development of processes which have transformed modes of living from primitive crude forms to the present complex industrial machinery. That glass was made from sand, that

the clay used for dishes in primitive times could be molded in more beautiful forms, burned hard by fire, and decorated with colors made from the metals of their mountains; that wool woven into cloth could be dyed with the beautiful purple from the shell fish of the sea; that the forests on their mountains contained wood and metals of great value to people of other countries—were some of the trade secrets woven into stories. The discovery of localities where copper, tin, gold, and silver existed supplied in a smaller area the motives which sent the explorers of the sixteenth century all over the world.

It was nearly always discovered that some children in the beginning could not “make up” a story as a whole, so the plan was sometimes adopted of having a story begun by one member of the class and carried on by different members, until all had had a share in making it.

A large map was made one year, as an aid to story-telling. A galvanized iron pan, $5\frac{1}{2} \times 3$ feet, was secured. On the bottom of this the Mediterranean sea was indicated by blue enamel paint, then the surrounding countries built up around this with plaster of Paris and putty, covered with enamel paint in shades of brown and green to distinguish mountains and plains. The sea was filled with water, and each trader loaded his boat with merchandise and sailed it to the land where he expected to trade. In doing so he must name the country and describe its people or something about them. The development of navigation was discussed so far as the interest and ingenuity of the children seemed to make it worth while. Means of guiding by the stars, representation of distance by a scale, the knotted cable as a means of determining rate of speed at sea, latitude and longitude to determine locality, were some of the points taken up.

The amount of time given to this study averaged a half-hour a day for six months one year. This was decided to be too long and was then reduced to about three months. In the shorter period a wall-map was substituted for the relief map, and the explorations were carried only to the Semite and Egyptian countries, instead of including Greece, Italy, Carthage, and Spain, as in the longer period.

Following the three months of study about the Phœnicians, the history was a consideration of the adaptation to environment of people in equatorial and polar regions. This included the discovery of these regions by explorers and a study of the causes of differences in climate. Nansen and Livingstone were selected as typical explorers, and their description of the life and customs of the people was used. The connection of this study with that of the Phœnicians was made by observing that Africa is a part of the coast along which the Phœnicians had traded and established colonies. Stories were then narrated of travelers who told about the heat of the South, the color of the people, and the animals in Africa. The story of Prince Henry of Portugal and the results of his scientific investigations and explorations around Africa were told. Paper relief-maps of Africa were given the children, on which they were to select what they considered the four largest rivers. They thought exploration into the country must have been by means of its rivers. The rivers were named by reference to a wall-map. Water-color paints were used to make prominent each river system. The mountains and deserts were next found, named, and colored; then the surrounding oceans, until finally the whole map had been studied. These maps were used in telling stories of travel and exploration, in order that the children should, if possible, gain a habit of referring to a map in their study of history. One child would announce as his object the discovery of the source of a certain river. In telling the story of this he would have to tell whether he was going "up" or "down" the river; whether he followed the main stream or one of its tributaries; whether he encountered falls or lakes; the character of the beginnings of the river when discovered; animals, plants, or people encountered. In this way the larger geographical features—equatorial zone, ocean currents, mountains, deserts, etc.—became familiar, with the causes of their formation. Incidentally the difference between a cape, an isthmus, a peninsula, a bay, and a strait was learned, not as definitions, but as land and water forms met and needing differentiation.

In the study of the Eskimo emphasis was laid on substitutes for the building material, textile fabrics, and vegetable foods found

in milder climates, and upon discovering the causes for the difference in climate at the equator and at the poles. This led to a discussion of the cause of seasons. The children watched the reports in the paper of the rising and setting time of the sun for several days before the equinox and for several days after. The lengthening and shortening of the day in our latitude was the starting-point for discovering the differences in other latitudes. The black-board globe was used to show the circle of illumination with reference to the poles at different seasons of the year; then the tellurian watched in its revolutions. When the children seemed to have any difficulty in imaging the effects of the earth's position at different seasons, the gas jet was lighted, the room darkened, and the globe carried about the illuminating center, the parts which received sunlight in different positions being noticed. The great wind and water currents and the forms of continents were studied in connection with the life of Columbus, and a contrast between the ideas that then prevailed and present knowledge was attempted.

If one can state what the child gained in this year, besides facility in language, the most striking thing would seem to be the enlarged concept of his world. He has, so far as his power of imagery would permit, himself lived through and worked out the progress of the nations through many hundred years, and his mind has grasped the necessities that have made men invent and thus solve the problems of progress. The interest which the child naturally takes in biography has been given a natural setting. His heroes are not isolated from the times in which they lived, but are men who are great because they achieved something for their fellow-men—not of the marvelous fairy-story order, but in the line of knowledge or power which has benefited all. In imagination the child has striven with nature to gain control through the recognition of nature's forces and laws. To whatever extent he has realized this, to that extent he has entered upon the true line of progress—the industrial and economic side of human effort, upon which the literature and arts depend. In following a thought which is vital and fundamental throughout the year, and making the subdivisions of the subject simple, but

strong, the confusion is avoided that sometimes comes to children of this and a later age from too many stories, involving many characters and incidents. They have to some extent learned to take pleasure in the expansion of a great idea rather than the sensations of newness and change. In working as a class to accomplish a common aim they have learned to adapt themselves to the will of the majority and to appreciate the value of each one's part to the whole. They have been taken through the history of the development of the race, not because a child necessarily lives through these stages in his development, but because in passing through these stages he can most easily gain the acquired inheritance of the race.

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[*To be continued.*]