

HOME MADE MAPS AND ATLASES

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BECAUSE of the lack of funds many teachers, especially those in rural communities, are deprived of the use of good maps for work in geography, history, literature, etc. In many instances the one or more maps which form a part of the equipment of the school, are legacies from the time when ideas concerning wall maps were crude and illogical, so that they offer little incentive to fresh and vigorous work. In the present days when teacher-training is so extensively demanded, it is within the bounds of reason to expect of the newer generation of teachers a broader view of their craft, and ingenuity enough to improve the equipment and surroundings of most school rooms. In the decoration of the school room, in the improvement of school exteriors, in devices for seat-work in elementary grades, and in the appliances for nature study, a great advance has been made. If the activities so well inaugurated in these lines could be spread over all the branches of the curriculum, the result would be remarkable.

Board work has become a usual achievement and it is common to find elaborate designs of calendars, of illustrations of stories, and of decorative emblems on the blackboard. It is only a step further to the construction of a good blackboard map. The step is not an advance in skill so much as in a knowledge of what constitutes a good map. First, it is necessary to put upon the board or upon paper, if the map is to be preserved, an outline of suitable size. There are a number of methods which may be used, but for most purposes the use of coordinate lines is the simplest. Draw squares of any convenient size, as for instance one half inch, over the map to be enlarged. Then on paper or on the blackboard lay off the same number of squares of two, four, or six times the length. Finally square by square draw in the enlarged network the map as it appears in the smaller network. Not only may the outline be drawn on a larger scale in this way but the locations of important cities, the boundaries of physiographic provinces, and the position of railroads may likewise be transferred. The network thus drawn is purely arbitrary and the squares are of no value after serving the ends stated; consequently they should be drawn with light strokes and erased when the map is done. The parallels and meridians on a map would serve as well as the squares but the inequalities of distance and especially the curvatures in many cases do not render them easily susceptible to enlargement.

With an outline of proper size to use as a wall map, the topographic features of the country may be inserted. It is assumed that a topographic map is more valuable than a political map, or rather, that a topographic map which shows political divisions is much more legible than a political map which shows topography. Topography may be inserted in color by the use of colored crayons. A three-fold scheme for the land, lowlands below 500

feet, uplands, 500 feet to 1650 feet, and highlands above 1650 feet, with water colored blue; or a four-fold scheme, dividing the area above 1650 feet into highlands, 1650 to 6500, and mountains, above 6500, may be used. The colors should be as uniform as possible since they are in themselves meaningless, and ease in reading maps can only come as symbols become widely used and agree in character. Consequently it is well to strive to imitate the shades of the best maps and those in general use are green for lowlands, a light brown for uplands, a darker brown for highlands, and a very dark shade for mountains. Crayons frequently give two shades of brown, a burnt sienna and a burnt umber. A light application of the former for uplands and a heavy application of the umber for mountains form a good combination. In the newer maps which strive to follow a uniform scheme of color, there is the greatest discrepancy in the use of the color for upland areas; some publishers preferring a yellow, others white, and still others a buff color. A widely accepted scale of coloring, although too elaborate for the neophyte to adopt, may be found on the sheets of the 1:1,000,000 map of the world, a number of sheets of which have been issued by the United States Geological Survey at Washington. When the topography map is completed, upon it as a base, boundary lines may be drawn in heavy red lines.

The chief danger in work of this sort lies in the crudeness of the product. Colors put on without a sense of values may give erroneous impressions and over-emphasize one area at the expense of another. This danger, however, can be shunned as the experiences multiply, and at its worst, it cannot be more serious than results from the bizarre history charts generally accepted by school authorities.

It is probable that a teacher undertaking a task of this nature for the first time will over-estimate the value of her first product and take greater pride in it than in later, more finished works. She should therefore submit it to fair criticism and test its efficiency constantly, and by repeated trials a map may be produced that will be of good pedagogical value. Maps of other countries may be added until a very creditable series of maps is obtained.

In many schools a great handicap to good teaching in geography results from the absence of a good topography map, and in others from ignorance concerning the use of such a map. Pupils have been led to learn laboriously the paragraphs on physical features and climate, and from these a recitation is afterwards demanded. The painful attempts on the part of the pupils to visualize the printed page contrasted with the training which results from formulating into words his impressions of a good map are unworthy of our schools. An English writer* states that the general sequence of cause and effect in geography may be divided into (1) a few preliminary climatic principles, and (2) a mode of applying these to particular countries. There is no reference here to topography but it is implied in the text that the school possesses and will use maps showing the physical features. In addition to the map showing the divi-

*Archer, *The Teaching of Geography in Elementary Schools*.

sion of the land into lowlands, upland and highland, a climatic map may be made to show the annual distribution of rainfall (in varying shades of blue) and the temperature of the January and July isotherms. With the location of important centers on the topography map in large black dots the two maps will form an adequate background for good elementary work in the geography of the area.

Most of the original sources for the construction of these maps are beyond the reach of the majority of teachers, but generalized products from them may be had without great inconvenience. Text books furnish topography and rainfall maps of grand divisions, but for the minor divisions the teacher will be able to borrow one of the many small school atlases, such as the Longman's *New School Atlas* or the Sydow-Wagner's *Schul Atlas*. Some of the requirements for wall maps were published in the *Journal of Geography* recently*.

A reference atlas, if no such volume is at hand, is not beyond the scope of the teacher's ability. Maps are being published today in great quantities, and railroad and steamship lines spread them widely. Papers and magazines illustrate articles by maps, many of them of small areas but a few of more extended lands. Plan an atlas of a loose leaf type so that it will be possible to insert maps from time to time as they are available. In putting the sheets together it would be well to follow the order of regulation atlases; a map of the world may be obtained from any one of a number of steamship lines, or for this and the maps of the continents, the pages from a discarded text book may be pasted on to the atlas sheets. Watch the magazines and papers for detailed maps; use railroad folders freely and it will be surprising how soon the blank spaces are filled. In this as in all map dealings discrimination has to be practiced. The teacher must appreciate that every published representation of an area is not worthy of a place in the school room. Some railroad maps, for instance, so distort the shape of the country that they are misleading and many of them over-emphasize the straightness as well as the importance of their respective lines. In using old maps, it is advisable to make sure that no change in the boundaries of provinces has been made. An example of this may be found in Canada, where, during a number of recent years, changes have been made in the provincial boundary lines, the last revision being in 1912. An atlas of this kind could be used as a record of current changes. Most teachers read some paper covering the topics of the day and are constantly reminded of the changes in importance of towns, in industrial centers, and in political boundaries. A teacher should have some way of recording these data, for in a year or so the maps of the newest text book are frequently out-of-date. Thus with the practice of very little ingenuity and with a modicum of skill, a school may be equipped with a creditable series of wall maps and a reference atlas which is the latest thing out.

*Notes on Wall Maps, Vol. XII, No. 7, p. 208. March, 1914.