

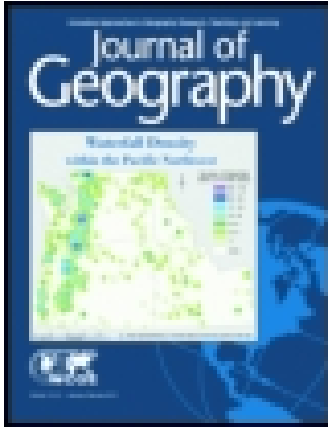
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Laboratory Work in High School Geography

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"The Nile valley as we now know it, has been the result of mighty disturbances and of peaceful erosion. Its mud-laden flood waters are the witnesses of storm and stress in the Abyssinian highlands, its summer stream a memory of the lakes of Uganda, and the delta spreading mile-wide as one vast sea of cultivation, the record of a hard-fought fight between great rivals where sea and river meet."

The most important contributions in recent time to Nile literature, are first, a book by Captain B. G. Lyons F. R. S. called "The Physiography of the Nile and its Basin," published in Cairo in 1906, and "The Nile Quest" by Sir Harry Johnston, published in London in 1903.

LABORATORY WORK IN HIGH SCHOOL GEOGRAPHY

By E. F. BEAN

University of Wisconsin, Madison,

PREVIOUS to the year 1893 there had been little or no laboratory work in physical geography. After the publication of the report of the Committee of Ten, which advised work of this sort, the feeling grew that physical geography, like physics and chemistry, should devote some time to laboratory work, and some schools arranged their courses in accordance with this idea. This work usually deals with the purely physical and mathematical sides of geography. The percentage of high schools which have no laboratory work is large, as is proved by the fact that out of hundreds of students who have entered the University of Wisconsin in recent years and who had studied physical geography in high school, only about 14 percent had done laboratory work in that science.

At present there is a feeling that laboratory work has not accomplished its aims, and there is a growing demand that the human element be made to supplement the purely physical side.

Exponents of the laboratory idea have been disappointed with the results of the work for it has failed in far too many cases to accomplish its aims. In the writer's judgment, the primary aims are:

1. To make clearer and to supplement the work of the recitation.
2. To study maps in such a way as, in a measure, to make up for world wide field study.
3. To gain a knowledge of regional geography which will make the students more intelligent readers of newspapers and magazines.
4. To study some of the activities of man in their relation to his environment.
5. Other incidental purposes are:
To broaden the interest in other studies, especially history.
To gain an acquaintance with the United States topographic maps, which are the best published in this country and among the best in the world.

To learn something of common rocks and minerals.

To gain power to study pictures intelligently.

To train the students to habits of close observation.

The chief reason why the work has not met expectations is the inadequate preparation of teachers. The subject is assigned to teachers who are interested in other subjects and who therefore devote little time or energy to this subject; or, if willing to devote sufficient time and energy, do not know what to do. As a result the following are some of the elements of weakness that have developed:

1. The pupil's interest is not gained. Without the element of interest, an exercise loses much of its value.

2. The work is not thorough. So little time is spent upon a subject that careless work or hazy ideas result.

3. Work is not independent. Two or more students work together and the weaker ones go over exercises without understanding them.

4. The laboratory work does not come in proper relation to the class work. "The laboratory work ought to go hand in hand with the text book work, each supplementing the other."

5. The directions in laboratory manuals are frequently not clear. The result of this is misdirected effort and wasted time.

6. Much laboratory work is not really worth while. Careful consideration should always be given to this question, "Is this exercise worth the time it will require?"

7. In the study of topographic maps, too much attention is often paid to structure. Cross sections, showing stratigraphy, are out of place in an elementary course.

8. Too small a proportion of the time is devoted to the study of atmospheric phenomena. The causal relations between temperature and pressure, pressure and winds, winds and rainfall, rainfall and vegetation, are best brought out by carefully planned map work.

9. Too much emphasis has been placed upon the note book. It is intended merely to aid the student in giving independent expression to the ideas obtained in the laboratory and is not a theme book.

10. Too little attention is paid to the human side of geography.

In spite of the fact that laboratory work is far from satisfactory at present, every condition can be improved without great difficulty. The materials and room are more easily secured for this than for any other laboratory science. The materials may be the maps and pictures bound in the book or illustrative material in the form of maps, charts, rocks and minerals, weather maps, etc. An elaborate equipment is not necessary. Physical maps of the continents, one twelve-inch globe, several six-inch globes, a few sets of topographic maps, and sets of a few common rocks and minerals will cover the real needs of a small school. If more money

is available, a few models, lantern slides, pictures and additional topographic maps are of benefit. The work with these materials need not be confined to a definite laboratory period, but may come during any period when their use will make the class work clearer or more telling. In the regular periods, more formal exercises may be completed. The idea that a carefully kept note book and cross section paper are necessary for a successful laboratory exercise has had something to do with the general dissatisfaction with laboratory work. A well planned oral discussion is in some cases more valuable than a written one.

It seems best to have a combination recitation room and laboratory equipped with tables and chairs. With this arrangement a part or all of a period may be employed for work with materials, the transfer of maps to and from a separate recitation room is obviated and the chances are that illustrative material will be used more often.

The report of the 1909 Committee of the National Educational Association criticises the course as at present organized, (1) because the lands are not studied from the geographic point of view, (2) because a concrete study of human response to its environment does not receive sufficient attention. In the laboratory there is a splendid opportunity to develop the human side of geography. Every map, picture and model takes on new interest when studied from this view-point. For instance, in the study of rapids and waterfalls, the class is interested in the human response in the form of manufacturing cities. In the consideration of drainage and divides, the routes of explorers and discoverers traced upon a map will increase the interest in both geography and history. In every topographic map there is more or less of this human interest. Nearly every lesson should be enlivened by this practical, human side of geography.

The following cautions or specific suggestions may be of some value to younger teachers of the science:—

1. The work for each exercise should have a definite aim. This may be stated at the beginning of the work. At the close of the period, the class should feel that the aim is attained.

2. In planning the work, consideration should be given to the natural interests of the pupils. The teacher may determine whether an exercise is interesting by asking this question, "Would I have been interested in this when I was the age of these students?"

3. Some study of topographic maps should be made so that these maps may be used intelligently in later years.

4. If possible, the larger facts of the regional geography of the upper grammar grade should be reviewed in the light of new knowledge.

5. Commercial relationships such as railway routes, harbors and trade routes are always interesting.

6. The publications of the U. S. Geological Survey and of the geographic magazines form a splendid reference library. Special topics for reports may be assigned both as a review and as a means of giving a broader knowledge of a subject.

7. The young teacher, who has had no special training, can do no better than to use a good laboratory manual, carefully selecting exercises to meet the needs of the work.

GEOGRAPHICAL INSTRUCTION IN GERMAN ELEMENTARY SCHOOLS

By ANTON JAHR

Instructor in Geography, Leipzig Schools*

WHEN I attempt, at the request which I have received, to give the readers of this magazine a presentation of geographical instruction as it is generally given in the elementary schools of Germany, I must take for granted that in Germany as in America, in England as in France, the purpose of this instruction is the same; to make the children view themselves as inhabitants of the earth and as fellow-beings with the inhabitants of other parts of the earth; to make them acquainted with the commercial relations between different countries and peoples and with the exchanges between the various countries. This is exactly the task of geographical instruction—even in the elementary schools which treat this subject in greater detail than do many higher schools, especially the *Gymnasien* which prepare their students for University work. The *Realschulen*, which may be compared with the American High Schools and are intended more expressly as preparation for actual life, give a good deal of time to geography.

Concerning the elementary schools, we have in Saxony primary schools, intermediate schools and higher schools which differ principally in their organization and in the number of hours which are spent on the different branches of instruction. In my discussion, I have in mind throughout the intermediate public schools of the City of Leipzig, for which a new plan of instruction was adopted in 1908 by commissions of teachers and directors. We proceed, as you apparently do, from the known to the unknown, from the near to the far, from home to foreign lands. In all the grades, we attempt to broaden geographic ideas by the judicious use of wall and hand maps and by means of simple sketches and drawings which are made on the board by the teacher and in the notebooks by the pupils. We try to make our instruction perceptive through

*Translated by E. C. Herron, University of Wisconsin, '12.