GEOPHYSICAL AND MINERAL ECONOMICS AT PENN STATE

The study of geography has experienced a rapid rise in American universities and colleges within the past twenty years. Previous to that time a few colleges offered courses in physical geography, but the whole subject of geography was considered essentially something belonging in the elementary school. During the past twenty years, or approximately since the beginning of the World War, geography as a college subject has progressed rapidly. Now there are well developed departments of geography at the University of Chicago, the University of Wisconsin, the University of California, the University of Michigan, Ohio State University, Columbia University, Clark University, Yale University, Harvard University, and a number of other universities and colleges throughout the country.

Just what is covered by the subject of geography as it is now taught in colleges and universities? Modern geography deals with two sets of phenomena: features of the natural landscape and those of the cultural landscape. The natural landscape or natural environment includes climate, soil, topography, mineral resources, natural vegetation, and other things or conditions which were in existence before man’s arrival. The cultural landscape includes houses, cities, fences, mines, fields of grain—in short all the man-made forms. The central theme or object of modern geography is (1) to describe the cultural and natural landscapes, and (2) to point out interrelationships which exist between the two landscapes or the two sets of landscape features and the better or more advantageous adjustments man might make to his natural environment. This central theme might be expressed as four questions: What does a certain area look like? How is man occupying and using the area? How are man’s distribution and activities in the area related to the natural environment? What better uses might man be making of the natural environment in which he finds himself?

It is a matter of common observation that there are areas which are much alike throughout, but in which man’s principal activities are different from those of adjacent areas. One area may be dominated by bituminous coal mining and related activities, another by corn growing, and a third by petroleum production. Each of these areas is referred to as a geographic region. Thus in discussing the geography of Pennsylvania we might differentiate the anthracite region, the lower Lehigh Valley industrial region, the Nittany Valley (an agricultural region), the Poconos resort region, and so on.

The several elements of the natural environment vary in their relative importance in different regions. In the Corn Belt of Central United States, climate, soil, and topography are the most important elements. In Pennsylvania, mineral resources are very important elements of the natural environment and many of the geographic regions of the State are mining or mineral industries regions, that is, within these regions mineral resources constitute the principal elements of the natural environment, and mining and the processing of minerals constitute the principal human activities.

What is the work of a geographer? The principal application of the subject is in regional field studies and such studies or surveys seem to hold forth great possibilities for the future. America is a newly developed continent which was so richly endowed by nature that full and efficient utilization of natural resources has until recently seemed unnecessary. Now exhaustion of the most easily accessible mineral resources, depletion of soil fertility, and fierce competition are making it increasingly necessary for man to make the best possible use of his natural environment. It is believed that there will be an increasing demand in the future for men with the necessary training and experience to carry on systematic field studies of man’s utilization of his environment in specific regions. Such studies should serve as foundations for sound economic growth or economic rehabilitation.

What opportunities does the geographer find open to him? Most geographers have, in the past, entered the teaching field or engaged in some combination of teaching and research. Where graduate study has been carried on in geography, the teaching field has usually meant a university or college teaching position. Outside of the teaching field, geographers are filling an increasingly large range of positions. The Department of Commerce, the Department of State, and other branches of the Federal Government have geographers on their staffs. Various organizations such as the American Geographical Society of New York employ geographers in editing, map making, and kindred work. Several states have employed geographers for regional field studies of the type described in the preceding paragraph, and a full-time position of this sort has recently been created in Pennsylvania. Such openings will probably be increasingly numerous in the future. In addition to the foregoing, companies engaged in foreign trade have at times had openings for geographers.

Geography received little attention at Penn State up to the present year except during the Summer Session. It was decided to extend the work in this field and, in the fall of 1931, the Department of Geology of the School of Mineral Industries added Dr. Raymond E. Murphy to its staff as Assistant Professor of Economic Geography. In the fall of 1932 a regular program of college work in geography is to be offered for the first time at the College. The courses to be given for the first two or three years will include elementary geography; regional courses on the geography of the World, of North America, of Europe, of South America, and of Pennsylvania; climatology; and physiography. Later it is hoped that the work may be expanded to include courses in agricultural geography, field methods in geography, historical geography of the United States, and regional courses on Asia, Africa, and Australia.

The field of mineral economics will be associated with geography in the School of Mineral Industries.

In addition to the regular teaching program outlined above, research work will be carried forward in both geography and mineral economics. During the present year a survey of the economic aspects of Pennsylvania’s mineral industries is being carried on by Dr. Murphy. This will be followed by the continued accumulation of economic data regarding the State’s mineral industries, by economic geographic studies of various regions within the State, and by studies on the economic problems of the State’s mineral industries.

The need of an adequate economic basis for progress in the mineral industries is constantly becoming more apparent. Economic considerations more and more are guiding new developments. Thus the research work in geography and mineral economics is vital to a well rounded mineral industries program.