It seems fortunate that in the past a few groups of scientific men have been led to take an interest in accrediting procedures, as a consequence, most likely, of the professional problems which they encountered. Valuable results were accomplished by the science faculties at the Universities of Iowa and Missouri, the latter in conjunction with their colleagues in other liberal arts institutions of that state. Additionally, certain other state universities,[2] notably Illinois, Iowa and South Dakota, were led to formulate more specific criteria for "standard liberal arts colleges" in their regions, a procedure in which their science faculties have cooperated.

Included among the bodies which have manifested an active interest in problems associated with the accrediting process is the Academy of Science of Virginia, and doubtless the names of other organizations will occur to the reader. The *Journal of Chemical Education* performs an important service in a field which is basically related to the topic under consideration, while there has been recent evidence of increased interest in the problems of teaching biological science. Lately, there has been notice of the formation of an association for research in science teaching. Last, and quite important, have been the notable contributions towards the standardization of secondary science, its equipment and facilities for instruction by professional associations of scientists working on that level; these have already had their effect upon the teaching of science in higher education. All will grant, therefore, that conditions affecting science teaching in the colleges have changed in recent years.

Despite the preceding, however, one is forced to admit that many scientists have remained indifferent towards these matters. Indeed, it recalls accusations concerning the attitude of this group as a whole toward the social maladjustments said to have grown out of scientific research. One will readily grant that the indefinite specifications as to the equipment and facilities for science instruction, which are characteristic of the requirements of the regional accrediting associations, are workable, given properly qualified personnel and adequate financial resources. Unfortunately, as regards the questions at issue, human failure on one part or the other in the past has reduced these problems in some cases to a purely "administrative" status, which may throw it and research as well into the lap of local politics. It thus seems, and especially in view of the prevailing pre-professional requirements, that a logical way to advance science is to take all practicable measures which would insure its uniformly good teaching, regardless of any particular philosophy involved in accreditment. This, of course, would be the safest antecedent for productive work in those institutions which are lacking in any such atmosphere, such as many of the small colleges. Again, if for any reason greater uniformity in the quality of science teaching on the higher levels is desirable, then the interests of the smaller institutions become important, for they greatly outnumber the larger ones where many of the problems related to accreditment have been more or less satisfactorily solved.

Under the conditions which have been described, could leadership in matters involving the accreditment of science laboratories be conceived as a function of the American Association for the Advancement of Science and as a responsibility to be delegated to its various affiliated societies along the lines of their interests? In view of the encouragement received in this matter by organizations of secondary science teachers, there seems to be no reason why such cooperation would not be welcomed by those entrusted with the accreditment of higher institutions. Certainly, if American men of science have no interest in such questions, others who may not fully appreciate the scientific viewpoint and the considerations it endeavors to meet may decide in some cases for them. Such a procedure may result in additional professional problems and in conditions less tolerable for scientific men.

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[2] Ella B. Ratcliffe, *Bull.*, 1934, No. 16, U. S. Department of the Interior, Office of Education, Government Printing Office, Washington, 1934.

CAUSES OF EROSION ON THE BOISE RIVER WATERSHED

RESULTS of a recent study of erosion on a portion of the Boise River Watershed in Idaho should be of interest to all conservation workers. The study was conducted by the U. S. Forest Service on 371,313 acres of the most critical part of the mountainous watershed, which furnishes the entire water supply for 355,000 acres of irrigated lands in the Boise valley.

Accelerated erosion is in progress on nearly two thirds of the portion of the watershed examined. Outstanding relationships of several factors to erosion on the area are as follows:

Gradient. The amount and severity of erosion varied directly with gradient up to approximately 35 per cent.

Aspect. The causes of erosion were mostly operative on southern exposures.

Soil. The loss of litter and organic matter through the removal of the topsoil reduced resistance of soils to erosion.

Plant Cover. Erosion conditions differed sharply on various plant types. Weed and grass areas in particular suffered severely, apparently because they were previously most disturbed by rodents and livestock grazing.

Density of Vegetation. The vegetation, when depleted to a stand of less than 30 per cent., was largely ineffective in the prevention or control of erosion. A 40 per cent. cover sufficed to prevent gully erosion under normal conditions of grazing use in the Boise Region.

Rodents. Rodents were an important factor in contributing to erosion.

Accessibility to Live Stock. Erosion varied directly with the degree to which the vegetation cover was depleted and the surface conditions disturbed by live-stock grazing. This appeared to be far more important than any of the other factors studied.

The results point to the necessity of immediately restoring the plant cover to a density of at least 30 per cent., and initiating improvements in range and live-stock management which will relieve conditions on areas particularly susceptible to erosion. They also indicate the type of more intensive studies needed. Such studies are already under way. A more complete discussion of these results and their significance will be presented later.

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LETTERS OF DR. WILLIAM H. WELCH

AT the request of the trustees of the Johns Hopkins University and Hospital and of the immediate family of Dr. William H. Welch, I have undertaken the preparation of a biography of Dr. Welch. The work on the book is progressing, and I should be very grateful for letters written by him, which can be sent me either in original form or in copy. If the originals are sent they will be copied and then returned promptly by registered mail.

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SOCIETIES AND MEETINGS

THE SEVENTEENTH ANNUAL MEETING OF THE AMERICAN GEOPHYSICAL UNION

THE seventeenth annual general assembly of the American Geophysical Union and the meetings of its seven sections were held on April 30 and May 1 and 2, 1936, at Washington, D. C., in the building of the National Academy of Sciences and the National Research Council.

The scientific session of the general assembly was devoted to a symposium on recent trends in geophysical research and included the following papers: "The Place of Geodesy in Geophysical Research," by William Bowie; "Recent Developments in the Geophysical Study of Oceanic Basins," by R. M. Field; "Trends in Seismological Research," by James B. Macelwane; "Recent Progress in the Physical Interpretation of Synoptic Weather-charts," by E. W. Wollard.

Reports were received from four special committees as follows: (1) On geophysical and geological study of oceanic basins; (2) on geophysical and geological study of continents; (3) on establishment of an American journal of geophysics; and (4) on consideration of desirability and feasibility of inviting the International Union of Geodesy and Geophysics to hold its seventh triennial general assembly in 1939 at Washington, D. C. Reports (1) and (2) will be published in the usual annual volume of *Transactions* of the Union. The executive committee was empowered to further consider reports (3) and (4) and to take action as circumstances may warrant.

An interesting feature of the assembly was the exhibits prepared by the special committee on the geophysical and geological study of continents. The central item was a relief model, constructed to scale, which showed the approximate configuration of the "basement complex" rocks underlying that portion of the United States extending from the Atlantic seaboard to and just beyond the Rocky Mountain Front Ranges. With the irregular blanket of sedimentary rocks removed from the "basement" surface the model made clear the nature, form and interrelation of both the buried and emergent mountain ranges of this region. The relations of the ranges to the profound troughs which flank them and to the more remote dome-shaped uplifts and basin-like depressions were also thus disclosed.

In order to show how "basement structure," as portrayed by the model and by its parent structure contour-map, also finds significant expression and reflection in the areal distribution of surface-sediments, in local variations in the force of gravity, in local variation in magnetic intensities and in regional variations in earth temperature conditions, maps and diagrams were also exhibited in proximity to the structural model as follows: (1) The United States Geological Survey's areal geologic map of the United States; (2) contour-map showing configuration of Pre-Cambrian surface for portion of United States east of Nevada (prepared by R. G. Moss, formerly Eleanor Tatum Long fellow of Cornell University, and now with the Phillips Petroleum Company, and exhibited by courtesy of Mr. Moss and the Geological Society of America); (3) contour-map showing configuration