year of travel and study in the Hawaiian Islands, Japan, Korea and China. He spoke at the government colleges for teachers in Peking, and at other schools in China. The report of his work, which is the most detailed study made to date, of the valley of the Min river in the borderland of Thibet, some 300 miles beyond Cheng Tu, will be published by the government geological survey of China. Mr. Hubbard is also preparing papers on the copper mines near Cheng Tu worked by the Chinese, on the antimony mines at Kwang Tung, near Canton, on the physiographic history of the Yang Tse river, and on the geography of some of the Chinese rivers. The copper mines at Asieo, Japan, will be the subject of a paper. Mr. Hubbard is planning two books based on the year's study; a book on the development of the mineral resources of China, and a book on the geography of China for use in Chinese schools.

UNIVERSITY AND EDUCATIONAL NEWS

DEAN HENRY P. TALBOT, of the department of chemistry of the Massachusetts Institute of Technology, and Dr. William H. Nichols, of New York, made addresses at the dedication of the new Steele Chemistry Building at Dartmouth College, on October 29.

PROFESSOR ARTHUR M. GREENE, JR., head of the mechanical engineering department at Rensselear Polytechnic Institute, at Troy, N. Y., has been appointed dean of the School of Engineering of Princeton University.

PROFESSOR A. V. MILLER, associate professor of drawing and descriptive geometry, has been appointed assistant dean of the college of engineering of the University of Wisconsin to take the place of Professor J. D. Phillips who is now acting business manager of the university.

AT the Detroit College of Medicine and Surgery Dr. Donald Beaver, formerly of the pathologic department of the University of Minnesota has been appointed assistant professor of pathology, Dr. Paul Wooley, former professor of pathology in the University of Cincinnati, associate professor of pathology and pathologist to the Herman Keiffer Hospital, Detroit.

DR. SERGIUS MORGULIS has been appointed professor of bio-chemistry and Dr. George A. Talbert assistant professor of physiology in the College of Medicine, University of Nebraska, Omaha.

DR. M. J. DORSEY, for ten years in charge of the section of fruit breeding of the department of horticulture of the University of Minnesota, has been elected head of the department of horticulture of the West Virginia University and the West Virginia Agricultural Experiment Station, to succeed Professor J. H. Gourley.

HENRY SCHMITZ AND C. EDWARD BEHRE, of the school of forestry, University of Idaho, have been advanced, respectively, to the rank of associate professors of forest products and of lumbering.

DISCUSSION AND CORRESPONDENCE

AERIAL OBSERVATION OF PHYSIOGRAPHIC FEATURES

THE article on "Aerial observation of earthquake rifts" published by Professor Bailey Willis in SCIENCE for September 23, 1921, prompts me to add a word to his interesting discussion. During the war I had occasion to make a short aeroplane flight over the harbor of Valona for the purpose of studying the natural topographic defenses of that strategic key to the southern Adriatic Sea. The ascent was made in the late afternoon, when strong shadows brought out most distinctly the relief of the terrain. It was to me a matter of some surprise to find that physiographic features which were so poorly represented on the inadequate maps of the region as scarcely to betray their presence, or at least their true character, appeared with surprising distinctness when seen from the plane. In particular, certain abandoned shorelines, now left some distance inland by the prograding of the shore, and which I had failed to observe in brief excursions by automobile about the harbor, suddenly stood out with all the clearness of a diagram. The es-

sential characteristics of the mountain ranges of this part of Albania were much more easily observable than from the ground, while something could also be determined about the form of the seaward extension of the land under the shallow marginal waters of the Adriatic, especially as to the submarine extension of delta and beach deposits.

In an aeroplane flight from Paris to London this past summer I was again impressed with the potential value of the aeroplane in physiographic reconnaissance. The surface of northern France is of very moderate relief, yet when flying low it was much easier to observe many critical features and to note their broader relationships than would have been the case from selected points on the ground. The excellent topographic maps of this region render aerial observation less necessary than in countries where maps are poor in quality, or wholly lacking; but there can be no doubt of the value of such observation in supplementing map studies and ordinary field work on the ground. On both the French and English shores of the English Channel shoreline phenomena such as cliffs, beaches, dunes, deltas, and submarine bars not only were remarkably distinct, but their relations to surrounding features appeared with a clearness observable in no other manner. Certainly the large scale British maps of the Dungeness foreland, excellent as they are, give no such vivid impression of the evolution of that wonderful series of beach ridges as comes to one who looks down on the foreland from an aeroplane flying at an altitude of a few thousand feet. In the late afternoon the unroofed dome of the Weald had all the distinctness of a relief model, with the oval pattern of its infacing cuestas or hogbacks readily distinguishable.

In the detailed work of tracing specific peneplane levels across mountainous country one not infrequently encounters the difficulty that in critical areas where observations are much needed the only effective viewpoints are rendered useless by a dense forest cover; or one may climb a selected peak only to find that it is not at the proper elevation to give the best results. Good field observations may be of vital importance, not merely as a check on profile studies based on topographic maps, but also because the limitations of the profile method are such that not infrequently proper field observation alone can settle doubtful points. It has occurred to me that in studies of this nature either the captive balloon or aeroplane could be used to good effect. Map studies, where possible, will define the limits of the problems to be settled in the field, and indicate the places where evidence of decisive value can most probably be secured by satisfactory observations. A few hours in captive balloon or aeroplane under these conditions might prove of more value than weeks of inconclusive work on the ground.

Douglas Johnson

Columbia University

SCIENTIFIC LITERATURE IN EUROPEAN COUNTRIES

The lead taken by the Biological Club of the University of Minnesota should certainly be followed by many other scientific groups or individuals, according to their ability. Such arrangements as Dr. Barker describes not only promote the interests of science, but also aid materially in bringing about that international good-will and cooperation which this world so sorely needs. After a visit to Europe one returns with the conviction that if the psychological difficulties could be overcome, it would not take very long to restore material prosperity. Could Europe somehow be endowed with a genuinely scientific spirit, combined with general good will, the fearful situation which now exists might well give way to a new epoch compared with which the past would seem like a bad dream.

During the winter I was in Portugal and the Madeira Islands, I found that the escudo, formerly having the value of a dollar, was rapidly diminishing in exchange value. On arriving in Madeira in December, I got 28 for an English pound. When I left, in March, the exchange was fluctuating between 45 and 50 to the pound. I met a very able and enthusiastic