DISCUSSION

INTERNATIONAL COOPERATION IN GEOMORPHOLOGY

THE progress of research in the science of land forms has been carried on without the help of special journals devoted to its development. In the United States most of the papers on the subject have been published in geological serials and a few in geographical serials. The science has also been unfortunate in the lack of agreement as to name. In America it is usually called physiography—an indefinite term. The more appropriate "geomorphology" suffers the disadvantage of length.

Through the enterprise of Austrian geologists and geographers an international journal for the publication of papers on land forms was established in 1926. The *Zeitschrift für Geomorphologie* is edited by Professor Andreas Aigner, of the University of Graz, Austria, and is published by Gebrüder Borntraeger in Berlin at a price of 36 reichsmarks for each annual volume. It is now in its fifth volume and is highly creditable to its sponsors.

Planned as an international journal, it will accept papers dealing with the origin and development of land forms in the principal languages, German, English, French and Italian. Because the initiative has been wholly in the hands of Austrian and German scientists, nearly all the papers so far published have been in German. Contributions in other languages will be welcomed and papers which present material on the larger features of North America or which set forth the American view-point on geomorphological problems are especially desirable.

The four volumes of the *Zeitschrift* that have appeared are particularly noteworthy in quality and in the range of subject-matter. The minor phenomena of erosion, under differing conditions of climate and location, are the subject of articles by von Seidlitz on "spouting holes" due to wave erosion, by Paschinger on "double ridges" in mountain areas, by Bryan on niches and cavities in sandstone, by Stiny on a landslide in Spain, by Brandt on the channel phenomena of streams in an area of low water table, and by other notable authors. Observations in arid regions are set forth by Schultz on the eastern part of the Karakorom desert, by Machatsek on Central Asia and by Passarge and Mortensen on the Inselberg problem. Several articles deal with the Mediterranean region of seasonal aridity, such as that of Winkler on the Island of Mallorca. There are a number of thoughtful articles which make plain the German view-point on general questions of morphological development now so largely influenced by the work of Walter Penck. Among these may be mentioned an article by Braun, once a follower of Davis, who now repudiates the "Cycle of Erosion" as impossible. The short article by Serge von Bubnoff on the piedmont steps of the southern part of the Black Forest is an interesting comment on the work of W. Penck in which it is shown that he confused resurrected pre-Triassic surfaces with more recent partial peneplains.

In addition to original papers the *Zeitschrift* contains reviews of current literature by the editor, Professor Aigner, and also by a distinguished list of associates including Brandt of Prague, Creutzberg of Danzig, F. Jaeger of Basel and Panzer of Berlin. Reviews of the geomorphological literature of North America will be prepared by the undersigned and the geomorphologists of the country are invited to cooperate by sending him separates of their articles in order that no worthy work may be overlooked. Reviews and notices of North American literature began to appear in the April issue of the *Zeitschrift* (Vol. V, Pts. 1 and 2). Articles by American authors intended for publication in the *Zeitschrift* should also be sent to him for transmission to the editor. It is desirable that these articles should deal with principles or with questions and problems of general interest.

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THE PARAGOULD METEOR AND METEORITES

ON the morning of February 17, 1930, at 4:08 A. M., C. S. T., a meteor, hereafter referred to as the Paragould meteor, fell about fourteen miles southeast of Paragould, Arkansas. A large stone whose weight has been determined as 820 pounds and a smaller stone weighing about 80 pounds have been recovered. A third small stone, weighing a fraction of a pound, which was found the day after the fall of the meteor, may be an authentic meteorite. Only a hasty inspection of the little stone was made, however, as the finder would not part with it at the time he was interviewed.

No computation of the path of the meteor through the atmosphere has as yet been made, but a preliminary examination of reports from several states shows that it came from the northeast at a rather low angle. Its velocity was less than that of the average fireball which we have investigated. Its brilliancy was such that at the distance of St. Louis more than one observer reported that he thought an airplane was going down in flames near the local airport. The meteor burst, and one observer at a distance of sixty