DR. HUGH M. SMITH, who has been carrying on an investigation of the fish resources of Siam for the government of that country during the last several years, has been collecting natural history material in his spare time and sending the results of his labors to the U. S. National Museum, amounting now, in birds alone, to several thousand specimens.

H. V. COES, chairman of the finance committee of the American Society of Mechanical Engineers, has received from Ira N. Hollis, honorary member and past-president of the society and chairman of the committee on awards, a check for $1,000 for a "Bibliography of the History of Engineering" and for books not already in the library of the United Engineering Society in New York.

IT is announced that the first congress of the International Society for Microbiology, which was to take place in Paris in October, 1929, has been definitely postponed to June, 1930.

UNIVERSITY AND EDUCATIONAL NOTES

ISIDORE D. MORRISON, a lawyer of New York City, who has been active in the Zionist movement for more than thirty years, has contributed $100,000, together with a pledge of $10,000 annually for maintenance, for the establishment of an ophthalmic institute in connection with the Hebrew University in Jerusalem.

DR. ALAN R. ANDERSON, of the Mayo Clinic, Rochester, Minnesota, has taken office as dean of the New York Post-Graduate Medical School to succeed Dr. William D. Cutter, who resigned last July. Dr. Cutter becomes dean of the newly organized medical school of the University of Southern California.

PROFESSOR GEORGE P. BACON, for ten years head of the department of physics at Tufts College, has been appointed dean of the Engineering School.

AT Columbia University the following promotions to full professorships have been made: Sam F. Trelease, botany; Harold W. Webb, physics, and J. Enrique Zanetti, chemistry. Promotions to the rank of associate professor include: Earl T. Engle and Bern B. Gallaudet, anatomy; Frederick B. Flinn, physiology in industrial hygiene; Louis P. Hammett, chemistry; John E. Orchard, economic geography; Willard L. Severinghaus, physics, and T. Clinton Taylor, chemistry.

DR. JAMES PIERPONT, professor of mathematics at Yale University, will be a member of the coming University of California Summer Session at Berkeley.

DR. JOSEPH L. GILLSON, associate professor in the department of geology of the Massachusetts Institute of Technology, has been granted a leave of absence for the year 1929–30, and will serve as associate professor of economic geology at Northwestern University.

DANIEL FRANKLIN HIGGINS, a graduate of Northwestern University and for the present semester lecturer in petroleum geology at that institution, has accepted the professorship of geology at Lincoln Memorial University, Harrogate, Tennessee, for the year 1929–30.

DR. DIETER THOMA, head of the division of hydraulics at the Technical School at Munich, will be visiting lecturer at the Massachusetts Institute of Technology next October.

DR. E. L. BRUCE, professor of mineralogy at Queen's University since 1920, has been appointed first Miller Memorial Professor of Research Geology at Queen's University. The new chair has been founded by friends and students of the late Dr. Miller and by mining companies in Northern Canada.

DISCUSSION

THE FALL ZONE PENEPLANE

WITH the passing of years the subject of the peneplanes of the eastern United States has not gained in simplicity, and some may feel that the addition of another name to those already proposed for such features will needlessly complicate the existing confusion. Nevertheless, the erosional surface to which it is proposed to apply the term Fall Zone peneplane is of considerable importance to the geomorphologic history of the region between Connecticut and Georgia, although it has lacked proper recognition, perhaps on account of the absence of a convenient and suitable means of designation. In the following paragraphs the author sets forth his reasons for adopting the term "Fall Zone peneplane" in the hope that others may find the name useful.

The recognition that the erosional surface underlying the Coastal Plain deposits is entirely distinct in origin from the upland peneplanes of New England and the Piedmont has been a matter of slow development, which need not be discussed here. A number of years ago Shaw[1] reviewed the literature and emphasized the relationships for the region southwest of the Hudson; more recently Renner[2] has carried the discussion into southern New England. He recognizes the presence of two peneplanes where Davis and earlier writers had found only one: an older steeply sloping surface exposed by the stripping

[1] E. W. Shaw, "Ages of Peneplanes of the Appalachian Province," *Bull. G. S. A.*, 29: 575–586, 1913.

[2] G. T. Renner, "The Physiographic Interpretation of the Fall Line," *Geog. Review*, 17: 278–286, 1927.

away of the Coastal Plain to which he has tentatively applied the term Jurassic (?) peneplane, and the younger more gently sloping Upland peneplane to which he refers as the Tertiary (?). In his enlightening paper he assigns the origin of the falls and rapids of the Fall Line to the change in slope at the intersection of the two peneplanes.

Geologists in general have been slow to recognize this change in status of the Upland peneplanes, and they still are probably most commonly called the Cretaceous or Cretaceous (?) peneplanes, although as shown above it has become evident that the Coastal Plain basement and its uncovered extension is a distinct peneplane and not as formerly supposed the continuation of the Upland surfaces. Although of considerable extent and geologic importance this resurrected peneplane has had no more significant name than the Jurassic (?). In an unpublished report prepared in connection with a course in physiography at Columbia University, the writer, doubting the utility of age names of little accuracy and impressed by Renner's explanation of the origin of the Fall Line, first called this peneplane the Fall Line peneplane. Inasmuch as a peneplane is a surface the word line seemed misapplied, and at the suggestion of Professor Douglas Johnson the term Fall Zone peneplane was finally decided to be somewhat more appropriate. In fact, the peneplane stretches from Connecticut to Georgia in a long narrow belt or zone seldom fifteen miles wide between the more gently sloping Upland peneplanes on the west and the Coastal Plain on the east. It is considerably steeper than the Upland surfaces and perhaps averages fifty feet per mile in slope. Not only does the term Fall Zone avoid the implication of exact knowledge concerning the age of the peneplane, but it possesses the singular advantage of conveying a considerable amount of information about its location and significance in two words. For these and the following reasons the name is offered in the hope that its use may help to lessen the confusion surrounding the subject of the peneplanes of the eastern United States.

Although the Fall Zone surface has been called the Jurassic (?) peneplane, a moment's thought will show that this surface has the very structural relationship to the Cretaceous cover which the so-called Cretaceous peneplane, the Upland, was believed to have and which was the basis for dating the latter as Cretaceous. On correct evidence the resurrected peneplane, which it is proposed to call the Fall Zone, therefore has a better claim to the term Cretaceous than the Upland peneplane of New England or any surface correlated with the latter, although these have long been called Cretaceous because of a misconception. Nevertheless any belated attempt to rectify the error by calling the Fall Zone peneplane the "Cretaceous peneplane" would surely add to the difficulty, since with the general though unjustifiable use of the term Cretaceous or even Cretaceous (?) for the Upland surface, its application to the Fall Zone peneplane would simply add a second Cretaceous peneplane to geologic literature.

In addition it may be doubted whether the Fall Zone peneplane could properly be called Cretaceous, even though there were no other surfaces of that name. It is surely younger than the Newark Series of the Upper Triassic, for it is known to bevel rocks of that age in Connecticut and New Jersey. If, as some believe, the top of the Newark is of Lower Jurassic age, its development started later than early Jurassic. The tectonic disturbances which resulted in the block faulting of the eastern Triassic areas are usually dated at the end of that period or during the early Jurassic, and the Fall Zone surface was developed after these movements. On the other hand, a progressive overlap toward the northeast covered it with successively younger beds of Comanchian and Cretaceous age, and at any given area it must be older than the oldest of these beds immediately above it, so that it varies in time of completion from place to place.

As suggested by the overlap, one part of the peneplane was being buried while another part further north was apparently being carried to a greater stage of completion by erosion. In places where covered by the Lower Comanchian its formation must have taken place entirely within the Jurassic, and it might there be called the Jurassic peneplane. Elsewhere the time of its formation included not only most of the Jurassic but all the Comanchian up to the base of the Cretaceous or higher. These parts might perhaps be called the Jura-Comanchian or the Jura-Cretaceous peneplane, but it is evident that these terms no more than the Jurassic can be applied to the surface as a whole. Different parts of the same erosional surface are materially different in age, and the term Fall Zone may be taken to indicate a surface unit although not the same time of formation for that unit. An analogous case is found in stratigraphy where a formation name may indicate a stratigraphic but not a chronologic unit.

For the several reasons stated it seems desirable to avoid implying a single precise date of origin for a peneplane of wide extent. In the case of the surface under discussion such an implication is conveniently and suitably avoided by calling it the Fall Zone peneplane.

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