In short, the King Solomon ore-body has had a mode of formation roughly analogous with that of the limonite ore deposits of the Great Valley of the Appalachian region, and of the limestone regions of southern Missouri. Such accumulations of ferruginous matter as the result of deposition from waters of ordinary surface temperature, and circulating within several hundred feet of the surface of the earth, are of common occurrence in many parts of the world, and may be found in other sections of northwestern California, but they are not often auriferous to an appreciable extent. It is its gold contents which make this King Solomon deposit so remarkable.

To the writer, the scientific interest of the preceding facts appears to be in their bearing on the question of the power of ordinary subsurface waters to dissolve and redeposit gold under conditions not favorable to the production of iron pyrites. We seem to have here a clear case where metallic gold has been put through the same process of solution, concentration and precipitation as has the staining material, the oxides of iron and manganese.

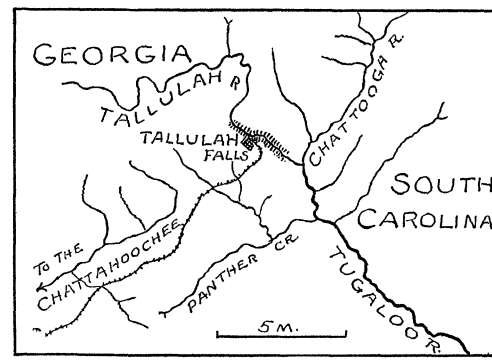
OSCAR H. HERSHEY.

BERKELEY, CALIF., Jan. 20, 1901.

CURRENT NOTES ON PHYSIOGRAPHY.

TALLULAH GORGE, GEORGIA.

THE studies of Hayes and Campbell on the southern Appalachians have made us familiar with the general features of a contested drainage area in northeastern Georgia, where the headwaters of the Savannah (Tugaloo) river are capturing those of the Chattahoochee. Some further details of the changes thus effected are described in a brief essay on 'the Geology of the Tallulah Gorge,' by S. P. Jones (Amer. Geol., XXVII., 1901, 67–75). The gorge is narrow, steep-sided, and over 500 feet deep; the river flows through it in a succession of cascades and rapids; it is evidently a young river course. The precise order of events in the development of the gorge does not appear to have been made out; indeed the author here cited does not seem entirely convinced of the process of capture as an efficient cause for the new order of things. Yet it is certainly significant that the gorge, unusual if not unique in sharpness of form among the southern Appalachians, should occur in immediate association



with a group of features whose systematic relations would seem to point unequivocally to the invasion of one river basin by the head branches of another.

In view of the open form and gradual descent of the Chattooga valley in contrast to the narrowness of the Tallulah gorge and the rapid descent of the river through it, one may reasonably conclude that the first was captured much earlier than the second. This makes it seem probable that the Tallulah formerly followed a course near the railroad line, and that its entrance into the Chattooga is the result of diversion by the headward growth of a creek on the line of the gorge; although a somewhat different opinion is expressed in the article here abstracted.

PREHISTORIC LANDSLIDES IN THE ALPS.

CERTAIN Alpine valleys contain huge accumulations of mountain waste, described as moraines by earlier observers, but now interpreted as landslides (see SCIENCE, II., 1895, 618). The latest special study on this subject is by J. Oberholzer ('Monographie einiger prähistorischer Bergstürze in den Glarner Alpen,' Beitr. Geol. Karte der Schweiz, n. f., IX. Lief., Bern, 1900). It discusses a number of large prehistoric slides in the neighborhood of Glarus, giving abundant details as to structure, source, path, volume, etc. A colored map, 1 : 20,000, shows the geological formations of the district in the slides as well as in the mountains. Some of the slides still bar their valleys and hold back lakes;

others have been trenched by streams. All show more or less distinct changes of form by weathering and washing (especially where torrent fans are built upon them), although generally retaining something of the tumult of surface that characterizes recent slides. One of the slides (that by Schwanden in the Linththal) has a small amount of morainic material strewn over its surface, as well as more abundant moraine beneath it; and from this Oberholzer concludes that it occurred during the last interglacial epoch. But inasmuch as its surface is still very uneven, it can hardly be believed that it has been overridden by more than a small and short-lived glacier.

No reference is made to the suggestion, which is certainly gaining ground among Swiss observers, that the landslides of the class here described result from the oversteepening of the basal slopes of valleys that have been overdeepened by glacial erosion.

THE GREAT AFRICAN LAKES.

THE peculiar likeness of the fauna of Lake Tanganyika to marine forms has prompted a special study of the Great African Lakes by an expedition under the direction of J. E. S. Moore, whose report contains matter of much value (Tanganyika and the countries north of it. Geogr. Journ., XVII., 1901, 1–35).

North of Tanganyika, the floor of the great rift valley or *graben* in which the lakes lie rises to form a strong barrier which once constituted part of the divide between the Congo and the Nile drainage systems. But now a group of large and active volcanoes some 50 miles further north, one of which is 13,000 feet high, have built a second barrier on the valley floor, thus cutting off the basin of Lake Kivu from that of Albert Edward Nyanza, and raising the former nearly 2,000 feet. That Kivu was once tributary to the Nile is clearly shown by its fauna, which is in nearly all respects identical with the normal fresh-water lake fauna of the Nyanzas to the north; but its outlet, Rusisi river, now flows south with many cataracts over the rocky swell in the valley floor, thus connecting Kivu with Tanganyika; and it is evidently since this connection was made that a fish characteristic of the Congo basin has reached Kivu. The rift valley, the active volcanoes far inland, the great lakes and their peculiar fauna combine to make this a region of remarkable interest.

W. M. DAVIS.

RECENT PROGRESS IN PALEONTOLOGY.

CONGESTION OF MUSEUMS.

IT is very important that the various museums of the country should receive special funds with which to work up the collections of vertebrate fossils that are rapidly accumulating. Much more time is required in preparing a fossil than is spent in collecting and shipping it from the field. The result is that all the museums of the country which have been collecting during the past few years are greatly congested with material. According to a moderate estimate, from five to fifteen years of constant work must be spent upon the collections now in each of our museums. The delay in working up fossils of various types threatens to cause serious inconvenience and delay in the matter of publication. Even highly trained preparators are unable to prepare a fragile fossil rapidly. Some single dinosaur vertebræ, for example, are so broken that from a month to six weeks must be spent upon them. The collections which have already been made in the West fill thousands of boxes, and the most welcome gift which could be made to any of our museums would be a gift especially for the purposes of preparation.

SPECIAL INVESTIGATIONS.

A GRATIFYING division of labor is in progress among the vertebrate paleontologists of the country. In Kansas University, Professor Williston is beginning a very careful study of the Plesiosaurs, which will form a sequel to his admirable memoir upon the Mosasaurs. In the University of California, Dr. Merriam is making a special examination of the John Day fauna. In Yale University, Dr. Wortman is thoroughly revising the rich collections made in the Eocene or Bridger beds, and will publish a series of papers illustrating Professor Marsh's principal types. In the American Musuem, Dr. Hay is especially studying the fossil Chelonia of the American Museum and Cope collections; Dr. Matthew is making a study of the Creodonts of