

Native tradition appears to indicate that the valley of the Lukuga was originally formed by an affluent river, and that subsequently a river of the Congo basin rising on the other side of the divide worked its way gradually backwards, cutting through the ridge, and successively capturing the various tributaries of the other river, and finally the whole river-system. A connection having been thus established, it was an easy matter for the waters of the lake, on reaching the high level after the addition of the drainage from Lake Kivu, to drain away naturally westward to the Congo. Stanley¹ takes this view, but Moore² considers the bed of the Lukuga a continuation of the cross-valley in which Lake Rukwa lies.

A good many readings of the water-temperature of Lake Tanganyika were made by Cunningham,³ and he concludes that the temperature in general must be very high, as the lowest reading obtained on the lake was 73°·3 Fahr. (22°·9 C.), while the highest was 81°·0 Fahr. (27°·2 C.). At a depth of 456 feet (the length of the sounding-line), readings taken on different occasions and at different spots only varied between 74°·1 and 74°·8 Fahr.

Attempts were also made to observe the seiches by means of an improvised apparatus. The principal series of observations taken lasted for eight consecutive hours, during which readings were made at minute intervals. From the curve obtained there appear to be oscillations with a period of about 60 minutes or a little under, which occur with some degree of regularity, and probably a seiche of longer period: 4½ hours or a little over. The greatest amplitude noticed is only 2½ inches (6·5 cm.). Unfortunately, sufficient details as to the depth and contour of the lake are lacking, so that the theoretical periods of the seiches cannot be worked out.

The aquatic plants of Tanganyika are in no respect unique, and in many cases the same species occur in Nyasa or Victoria Nyanza, or both. The fauna is remarkable not only as including forms of unusual character for a fresh-water lake, and possibly distinct in origin from the general fresh-water fauna of Africa, but as containing a much larger number of species than the other big African lakes. This seems to indicate that Tanganyika was long isolated, and at some former time had some connection with the sea. Moore believes this to have taken place in Jurassic times.⁴ From the configuration of the continent he considers the only possible connection of Tanganyika

¹ *Through the Dark Continent*, vol. ii. p. 47, London, 1878.

² "Tanganyika and the Countries North of it," *Geogr. Journ.*, vol. xvii. p. 10, 1901.

³ "The Third Tanganyika Expedition," *Nature*, vol. lxxiii. p. 310, 1906.

⁴ "On the Hypothesis that Lake Tanganyika represents an Old Jurassic Sea," *Quart. Journ. Micr. Sci.*, N.S., vol. xli. p. 303, 1898.