

(1,218 ft., sandstone and shale), and Point Arena (3,115 feet, sandstone and shale). The two latter formations have yielded a considerable fauna of foraminifera, 130 species in all. This is compared to faunas from Ecuador and Venezuela, and is referred to the Miocene period. It is suggested that the unfossiliferous Skooner Gulch formation may be Oligocene.

A. M. D.

CORRESPONDENCE

THE AGE AND TECTONIC RELATIONSHIPS OF EAST AFRICAN VOLCANIC ROCKS

SIRS,—Dr. Pulfrey has made some useful corrections and additions in his letter (*Geol. Mag.*, lxxxii, 1944, 191–2) commenting on my paper on East African Volcanic rocks (*Geol. Mag.*, lxxxii, 1944, 15–27), but one or two points require further mention.

The question of the correlation of the phonolites of the Kisumu and Nairobi districts was briefly discussed in the paper (*loc. cit.*, p. 19). There is at each locality evidence of considerable age, so that Gregory suggested in each case that the flows might be Upper Cretaceous, and Sikes emphasized that the phonolites of the Nairobi district had been denuded before the later (partly Pleistocene) flows were extruded. In the intermediate area of Tindaret, which is on the edge of the main rift valley volcanic area opposite to Nairobi, there is strong indirect evidence that the phonolite is post-early Miocene. It would be expected that accumulations of similar lavas would be practically contemporaneous on opposite sides of the same lava field, and hence that the Nairobi Phonolites are late Lower Miocene or early Middle Miocene, as are those of Tindaret and a large part of the flows of the Kisumu region.

The occurrence of phonolite above as well as below the Lower Miocene basalts at Elgon agrees with the succession of Lake Rudolf and Nairobi (*loc. cit.*, p. 24), and Dr. Pulfrey's work indicates a somewhat similar state at Uyoma. It would be unwise, however, to assume precise contemporaneity between these various beds, and as Dr. Pulfrey suggests there may be much more alternation of types than has yet been recognized.

The identity of the N.E.–S.W. Lambwe fault with the East–West southern rift fault seems somewhat questionable to the writer. The boundary fault of the rift appears to die out as it approaches Kendu, and there seems to be no evidence of any important fault in the fifteen miles between there and Homa Bay. The Lambwe fault appears as a medium-sized displacement south of Homa Bay, and increases south-westwards. The two breaks may be genetically connected, but the writer is inclined to regard Lambwe the easternmost member of an independent group of N.E.–S.W. fractures (*Geogr. Journ.*, c. 1942, p. 26). Confirmation that the northern fault continues westwards through Asembo as a belt of shearing is, however, of considerable interest and importance.

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