courses. Gaps in the Carboniferous escarpment indicate the deserted valleys of many of these streams.

The relation of the headwaters of the Eden drainage to those of the Derwent, Ure and Lune are discussed, particular attention being given to the extraordinary sequence of events by which the northerly drainage of the Howgill Fells and some of the north-easterly drainage of the Lake District was diverted to a southward course through the Howgill Fell—Lake District axis.

M. Chatterjee: "The Accessory Minerals in the Bodmin Moor Granite."

The paper describes the typical assemblage of accessory minerals characteristic of the Bodmin Moor granite mass, as a whole. The features of this assemblage, though in general agreement with those of other West of England granites (particularly the Dartmoor and Falmouth masses), prove to be distinctive in detail. The comparative results for the three granite masses dealt with are offered in the hope that they may be found applicable to provenance problems raised by sediments in the South and South-West of England.

OBITUARY

Thomas Owen Bosworth, M.A. (Camb.), D.Sc. (Lond.), F.G.S.

BORN 28TH MARCH, 1882. DIED 18TH JANUARY, 1929.

T. O. Bosworth was born at Spratton, Northamptonshire, and became a Scholar of St. John's College, Cambridge, in 1902. He was placed in the first class of the Natural Sciences Tripos (Part 1, 1905; Part 2, 1907) and was awarded the Harkness Scholarship. From 1904 to 1911 Bosworth devoted his spare time to the study of the Keuper Marls of Leicestershire and the results of his investigations were published in *The Keuper Marls around Charnwood* (Leicester, 1912), in which after describing the physical character, stratigraphy and petrology of the marls he discusses their mode of origin. In the years 1908 and 1909 Bosworth was on the staff of the Geological Survey of Scotland and mapped part of Mull under the direction of C. T. Clough. After leaving the Survey the greater part of his life was spent abroad as an oilfield geologist, working in Galicia, Italy, Trinidad, Barbados, Peru, Venezuela, Ecuador, Texas, the United States and Canada to within the Arctic circle. Although his professional work was economic his primary interest was in pure geology, but owing to want of time and other restrictions much that he did remains unrecorded. He will, however, be long remembered by his great work on the *Geology of the Tertiary and Quaternary Periods in the North-west Part of Peru* (London, 1922). Scarcely anything was previously known of the geology of this region and the investigations, extending over several years, were carried out

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under the trying conditions of a desert climate and a rugged country. Of this work one reviewer wrote: "The story revealed is of enthralling interest, most clearly presented by Dr. Bosworth, but worthy of the pen of a Lyell, a Suess, or a Geikie." His other publications include *Geology of the Mid Continent Oilfields—Kansas, Oklahoma and North Texas* (New York, 1920) and several papers in the GEOLOGICAL MAGAZINE: "Wind Erosion on the Coast of Mull" (1910), "Outlines of Oilfield Geology" (1912), "Heavy Mineral Grains in the Scottish Carboniferous" (1912), "Semi-Arid Conditions in Southern Texas" (1913). He was awarded the Wollaston Fund in 1921.

For several years Bosworth had suffered from ill health, but with characteristic pertinacity he stuck to his work until it was no longer possible. As recently as last August he left England for Ecuador, intending to stay a year, but by November he became seriously ill and was compelled to return. He arrived in London in January and died a week later.

CORRESPONDENCE.

THE MOON AND RADIOACTIVITY.

Mr. V. S. Forbes' contribution to the February number of the GEOLOGICAL MAGAZINE on the "Moon and Radioactivity" is very timely.

The naked surface of our satellite, being free from either denudation or sedimentation, provides a good medium on which some of the modern terrestrial geological theories may be tested.

The igneous histories of the two spheres should be somewhat similar and as geological cycles are now recognized for the earth, they may be expected on the moon.

It is important to ascertain whether these events are in phase in both globes, for if such be the case an exterior force may be expected to be in control, while if out of phase, processes within each sphere should be in command. Joly's radioactivity theory, which should apply to the moon as well as the earth, relies on a process acting within the sphere itself. Owing to differences of both mass and composition, the periods of fusion by radioactive heat cannot be expected to coincide in the two spheres.

Mr. Forbes produces considerable data to show that the moon, like the earth, has geologically recently passed through an igneous revolution.

The evidence available to date favours the idea that the geological cycles in the two spheres are in phase. To produce the simultaneous migration of magmas in both the earth and its satellite, an exterior or tidal force may be looked for.

LESLIE H. OWER.

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