seen something in Notts., gave rise in early Survey days to the interpretation of certain sections of strata so juxtaposed as faulted beds. Viewed as delta-bedded deposits the faults disappear, and such instances can perfectly well be illustrated on a map just as the discontinuous bedding.

(16) Rocks polished by wind-action occur at various points at Mount Sorrel, Croft, and elsewhere. These older pre-Triassic rocks are at practically the same level as O.D., and the Trias was laid down just as we now find it, with a slight dip, allowing for subsidence. It is merely a *petitio principii* to say cases for observing wind-polishing are very exceptional. But it is very damaging evidence for the desert theory to show that this action occurs only where red marl abuts against older rocks *and along a single horizontal line*. This illustrates the local (littoral or marginal) character of desert action in Triassic times.

(20) A reference to Professor Hull's Survey memoirs and Professor Bonney's papers will give Mr. Wright the information he desires.

(21) The nature of the heavy minerals of the Bunter, Keuper, and the Nile indicates that they have a common character and in their several areas a common origin to a great extent. It is known that the Nile delta deposits are mechanically altered, owing to their having been, in part, derived from a contiguous desert. In the Nile the water is free from those chemical agents which ordinary river- or rain-water contain, so that chemical action is absent. In the Trias river and rain have acted in such a way during the past that the marls of the Upper Keuper exhibit their effect. This point is another corroborative of the aqueous origin and, together with other indications, of the delta origin of the Trias.

A. R. Horwood.

Leicester Museum.
November 14, 1910.

OBITUARY.

JOHN ROCHE DAKYNS, M.A.

Born January 31, 1836. Died September 27, 1910.

J. R. Dakyns, the eldest son of Dr. Thomas Henry Dakyns, was born in the island of St. Vincent, West Indies. In 1845 the family removed to England, and settled at Rugby, where J. R. Dakyns received his early education. In 1855 he proceeded to Trinity College, Cambridge; four years later he gained the position of twenty-seventh Wrangler in the Mathematical Tripos; and during the next two years he was engaged in teaching. Mathematics was a subject at all times of great interest to him, but Physical Geography likewise had its attractions. Hills and mountains exerted a magnetic influence on him, and the contemplation of these great features probably led him to the study of Geology. Eventually he found a congenial outdoor profession on the staff of the Geological Survey. He joined as an Assistant Geologist on January 16, 1862, and was promoted to the rank of Geologist on January 1, 1868.

In the course of his field-work he was principally occupied in the West Riding of Yorkshire and bordering tracts of Derbyshire, Lancashire, and Westmorland, and for a few years in the East

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Riding. The results of his labours are given on the Geological Survey maps, and (as part author) in the memoirs on North Derbyshire (1869), the Yorkshire Coal-field (1869 and 1878), Leeds and Tadcaster (1870), Dewsbury, Huddersfield, and Halifax (1871), the Burnley Coal-field (1875), Bradford and Skipton (1879), Bridlington Bay (1885), York and Hull (1886), Driffield (1886), Kendal and Sedbergh (2nd ed., 1888), Ingleborough (1890), Mallerstang (1891), and Appleby (1897). On the mountains and uplands of the Lower Carboniferous rocks Dakyns was in his element, whereas when surveying for a time in the lowlands of Holderness he was by no means so buoyant in spirits. On the completion of the 1 inch geological map of England and Wales in 1884 he was transferred to the Scottish branch of the Geological Survey, and was engaged for ten years in mapping parts of the Forest of Athole, the country westwards to the borders of Argyllshire, and that around Loch Lomond in the counties of Stirling and Dumbarton. So far as mountain scenery was concerned Dakyns was in a kind of paradise, but the uncertainties of the geology sorely taxed him, and he was heard on one occasion to remark that hell was paved with Highland schists.

In conjunction with Dr. Teall he communicated to the Geological Society in 1892 an important paper "On the Plutonic Rocks of Garabal Hill and Meall Breac".

In 1894 Dakyns was transferred to South Wales to take part in the re-survey, on the 6 inch scale, of the Coal-field and bordering rocks. There he rejoiced in mapping the hilly ground of Old Red Sandstone and Lower Carboniferous rocks around Abergavenny, and he contributed to the memoir on that area, which was published in 1900.

He retired from the Geological Survey on April 30, 1896, soon after attaining the age of 60, and took up his residence at Snowdon View, Beddgelert, where he spent a pleasant and happy time geologizing in that mountain region. He re-mapped on the 6 inch scale the greater part of Snowdon, together with much of the adjacent country; and his maps and notes embody important revisions and additions to the knowledge of the district. It is much to be desired that this work should see the light; and as one of his intimate friends is, we understand, about to complete the parts left unfinished, we may hope that this will be accomplished before long. Through the results of a chill his active life was terminated after a brief illness, in his 75th year.

Although he never became a Fellow of the Geological Society, Dakyns communicated to that Society in 1872 a paper "On the Glacial Phenomena of the Yorkshire Uplands"; he was a frequent contributor to the Geological Magazine, on subjects relating more especially to Carboniferous and Igneous rocks, to Glacial Phenomena and Cave-deposits, and he was author also of papers published by the Yorkshire Geological and Polytechnic Society. Extremely original in character, and very widely read, intercourse with him possessed unusual fascinations; moreover, being full of sympathy for all living beings, and a staunch friend, he was endeared to all who had the privilege of his acquaintance.

H. B. W. & E. G.

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