

original eastern mass, which has met a similar fate, was a stack, the fact (more than once recorded in our notes) that the flint bands in it were fairly horizontal and those in the other sharply curved, was, to say the least of it, singular, for it would require the axis of flexure to have taken a very abnormal course. But if (A) and (C) form parts of one stack the position of the tunnel (B) is hardly less singular, for, instead of looking in the teeth of the waves, it takes a sheltered course more nearly parallel with the coastline. It is therefore highly improbable that any other mass than (A) can be a stack, and if so, it is curiously environed by great boulders. But if it be, what becomes of Mr. Reid's hypothesis? Did the advancing ice-sheet first 'ruck' up the chalk, then retreat to allow the sea to carve out a stack (and make a tunnel if (B) and (C) form one mass), and return to wrap it up in boulder-clay? Or was a pre-Glacial stack mercifully spared by the ice-sheet? In fact, the sea-stack hypothesis involves so many difficulties that Mr. Woodward must pardon us for suggesting the possibility of his having been misled in regard to the chalk in the headland being one mass with that in the platform. In a material like chalk, as we found at the arch, it is difficult to determine continuity or discontinuity, and equally so to trace bands of interrupted flints. But be this as it may, Mr. Woodward has discarded Mr. Clement Reid's hypothesis, and in so doing indirectly justifies our remark that it was out of place in a Survey memoir. To this we adhere, though it may cause "some surprise" to "students of East Anglian geology" (are they a zonal variety?). This is our reason: A Survey memoir is an official publication, which is inevitably invested with authority. It is also published, as the work is done, at the cost of the nation. We therefore hold that it should be a record of facts, not of hypotheses of a more or less tentative or dubious character: these find a proper home in the ordinary scientific periodicals. Thus no one could object to the appearance of Mr. Reid's hypothesis in this Magazine, but in the Cromer Memoir a mention of it with a reference would have sufficed.

T. G. BONNEY.

E. HILL.

 THE TRIMMINGHAM CHALK.

SIR,—May I suggest a small innovation in your usual practice, which would be very grateful to your subscribers, namely, the reprinting of Mr. Brydone's remarkable paper in the GEOLOGICAL MAGAZINE. This paper, to which Mr. B. B. Woodward has called timely notice, has virtually only been privately published, and the fact of its not being quoted by Professor Bonney and Mr. Hill may perhaps be thus explained, although it has been out for *five years*, and is specially quoted and utilized in so accessible a monograph as the partly Survey Memoir on the Cretaceous Rocks of Great Britain, published a year ago (*op. cit.*, pp. 260–264), which also seems to have escaped the notice of the two authors just cited.

[I have procured a copy of Mr. R. M. Brydone's paper, dated August, 1900. It is a pamphlet of 16 pages, and was published separately by Dulau & Co. (price 1s.)]

I may add that in regard to Mr. C. Reid's argument and conclusion as to the Trimmingham bluffs and their explanation, it is many years since, I think, I conclusively showed the impossibility of his theory, a fact also overlooked by the authors of the much criticized paper in your September number.

30, COLLINGHAM PLACE, EARLS COURT.
October 4th, 1905.

HENRY H. HOWORTH.

OBITUARY.

PROFESSOR BARON FERDINAND VON RICHTHOFEN.

BORN MAY 5, 1833.

DIED OCTOBER 6, 1905.

It is with much regret that we record the death of Baron Ferdinand von Richthofen, Professor of Geography in the Berlin University, and eminent alike as a geologist and geographer; who for the last seventeen years taught in that city, and of whom it has been said that there are few among living German geographers who are not proud to call themselves his pupils.

Born at Karlsruhe, Silesia, on 5th May, 1833, he studied first at Breslau, and afterwards at Berlin (1850-6), graduating in 1856. His first geological work was performed in the South Tyrol.

In 1860, with the rank of a Legation secretary, he joined Count Eulenburg's Prussian expedition as geologist, visiting Japan, China, and Siam; he then left the expedition at Siam and continued his travels in Java, Manila, the Philippines, Celebes, and Burma, spending some time in California and Nevada. In 1868 he went to Shanghai and explored for four years a large part of China, returning to Europe in 1872, to work out the results of his travels. The University of Bonn, after electing him to the Chair of Geography in 1875, allowed him to complete the first part of his great work on China before taking up his post in 1879. From Bonn he was transferred to Leipsic in 1883, and to Berlin in 1886, where he continued to lecture until the time of his death. It was by his advice that the German Government selected Kiao-chau as its naval base in the Far East, and have subsequently devoted themselves to the special development and exploration of the province of Shantung.

Baron Richthofen took an active part in the International Geological Congress held in London, September 17th, 1887. In the following year he was elected a Foreign Member of the Geological Society of London, and in 1892 he received the award of the Wollaston Medal from the Council of that Society. On the occasion of its presentation Sir A. Geikie, the President, said of Baron Richthofen's great work on the geology of China, "The massive volumes and splendid atlas which contain his account of China form one of the most important contributions ever made to geological literature" (*GEOL. MAG.*, 1892, p. 183). His lectures and writings amply testify to the intimate connection which exists between the sciences of geography and geology, and one is led to wonder how they were ever separated.