

the charge of which I was intrusted with by Mr. Hartley, one of the Commissioners.

I regret that my evidence on the co-relation of the Shropshire and Staffordshire Coal-fields is not published in detail in vol. ii. Prof. Ramsay has given an importance to it by his remarks (p. 121, vol. i. Coal Commission Report) which it might not otherwise have enjoyed. I hope shortly to arrange for its appearance in print, so that the reader may judge for himself of the reasonableness of my arguments.

ALBRIGHTON, NEAR WOLVERHAMPTON,  
November 8, 1871.

DANIEL JONES.

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#### RELATIVE AGES OF IGNEOUS ROCKS.

SIR,—On my return from Italy a few days since, I had the pleasure of reading Mr. Allport's article, "On the Relative Ages of Igneous Rocks," in the *GEOL. MAG.* for October, p. 448. I am obliged to him for directing my attention to an error into which I was led by quoting from my impression of the results of Mr. Forbes's researches on the microscopical structure of basalts, and if I have incorrectly represented them, I sincerely apologize.

I am glad, however, that I have correctly stated the result of Mr. Allport's own observations, with which I was well acquainted through the valuable papers he has contributed to this *MAGAZINE*, and I take this opportunity of thanking him for the ready assistance he afforded myself when commencing the microscopical examination of rocks. As he has shown, olivine, which was once considered as characteristic of Tertiary or modern basalts, is present either in its primary form or by its pseudomorphs in melaphyres, dolerites, and basalts of various geological epochs; and with reference to Dr. Zirkel, whose name I ventured also to quote, I have it on very good authority that he has arrived at a similar conclusion.

My own observations on the microscopical structure of basalts and dolerites are not sufficiently extended to enable me to come to any certain conclusion as regards the presence of olivine, or the structural peculiarities of rocks of different ages. It is, in the first place, often quite impossible to determine to what geological period or epoch a trap-dyke may be referable. In the case of the Mourne Mountains we have an unusual means for the determination of the relative ages of two sets of basaltic or doleritic dykes, owing to their relations to the granite; and we cannot be far wrong in assuming that the dykes more recent than the granite are referable to the Tertiary epoch, and that those more ancient than the granite are of Upper Carboniferous, or possibly Permian, age. Now, on referring to my notes of the few specimens I have been able to examine microscopically from this district, I find that the crystalline grains of olivine, or its pseudomorphs, are (as far as I can determine) only present in the more recent dykes. The number of specimens is, however, quite insufficient for any general conclusions to be founded on them.

In conclusion, allow me to express a hope that Mr. Allport will not be content with publishing a few papers on the interesting

branch of inquiry which he has been pursuing for some years back. Since the publication of Zirkel's work on the microscopical structure of basalt, with figures and descriptions of the crystalline forms of sliced specimens of minerals, students have been placed at a great advantage as regards the augitic group of rocks. We are now much in need of similar hand-books of reference for diorites, diabasic rocks, felstones, and lavas, with their varieties. As Mr. Allport has, I believe, submitted several hundred specimens to examination, I feel sure he has the materials at hand for a valuable work.

ROYAL COLLEGE OF SCIENCE,  
STEPHEN'S GREEN, DUBLIN, Nov. 8, 1871.

EDWARD HULL.

#### SILICIFIED CORAL ON THE COAST OF SUSSEX, ETC.

SIR,—The specimens of silicified wood occurring on the beach at Hove, near Brighton, are, no doubt, derived from the Upper Greensand, and will at once be recognized by those familiar with that occurring on the coast near Axmouth, in South Devon.

The semi-chalcedonic chert composing the specimens of silicified coral is more characteristic of the Upper Greensand than the Oolite; that found at Hove exhibits a boring lined with chalcedony, such as may be seen in the Greensand silicified wood. Their greater abundance at Sandown than elsewhere, in which neighbourhood the Greensand is exposed, would be corroborative of such an origin; though specifically they would be assigned to the Oolite. The specimens I have seen vary in quality, and would appear to be derived from distinct localities. I have seen numberless specimens of the Tisbury coral in collections at Salisbury and elsewhere, so am able to judge of the comparative appearance of the specimens.

November 13th, 1871.

S. G. PERCEVAL.

#### MISCELLANEOUS.

COAL DISCOVERY.—An important discovery of coal has been made at Halesowen, a village on the East Worcestershire side of the Black Country, and within a few miles of Birmingham. Mr. J. S. Dawes has been sinking trial shafts and exploring in this neighbourhood for the last seven years and at length, after an expenditure of £20,000, his enterprise has been rewarded by the discovery of a seam of coal, 14 feet thick and of excellent quality. It is believed, from the position and general features of the measure, that its thickness will be found to increase as the work progresses. Enough has, however, already been proved to controvert the theories hitherto held as to the boundary of the coal-field in this direction, and the impending exhaustion of the Black Country fuel supply. The coal lies at a depth of about 420 yards, a headway of 1,005 yards having been driven from the bottom of one of the trial shafts. Mr. Dawes intends to continue his lateral excavations 1,000 yards further, through the property of Lord Lyttelton.—*The Times*, 24th November.

ERRATA.—Page 505, last line, for "H. B. W." read "H. W. B." Page 501, line 22 from top, for "bends" read "bend."