

collapse on the part of modern men of science? The explanation offered is simple; it is merely that they have learned their method from "that unfortunate being J. S. Mill. I consider the authority of J. S. Mill, and the fact that his 'Logic' and 'Political Economy' were and still are text-books in the University of Oxford, to be a national disaster, and almost equivalent to destroying English intelligence in the germ." Most of the opinions here advanced are of equal weight with the foregoing.

We have let the author of this elegantly printed booklet speak for himself. He abounds in humour both of the conscious and unconscious variety, the latter predominating.

F. A. D.

*Bray and Environs.* (Bray, Ireland: Published and Sold by Arthur L. Doran, 1903.) Price 1s. net.

MR. DORAN has produced a cheerful and original little guide to the gateway of the Wicklow highlands, and devotes five pages to the botany, geology, and ornithology of the district. In the botanical part he relies on the careful work of Mr. R. Lloyd Praeger ("Irish Topographical Botany"), published by the Royal Irish Academy, but he does not seem to have utilised the admirable new memoir to the Dublin area, prepared by Mr. Lamplugh and his colleagues, when drawing up his geological notes. This Geological Survey publication, including Killiney and many of the places mentioned, should be referred to in the next edition. Messrs. Ussher and Warren may then also appear as authorities in the section on the Irish birds.

But the present book is distinctly attractive, and full of quaintly expressed ideas. Anyone who reads the quotations from the Venerable Bede and Dr. Raverty, the medical superintendent officer of health, set in juxtaposition on p. 5, cannot fail to seek further, confident that he is in pleasant hands. Some of the references owe their sparkle to a touch of irony, such as the unkind mention on p. 11 of Mr. Evans and his votive offerings. Apropos of this, the holy well in Mr. Barrington's land in co. Dublin, with its twentieth century offerings of rags, is mentioned quite naturally on p. 35. Archæologists will note a profound significance in the very simplicity of Mr. Doran's words, and will, it is to be hoped, visit the old-world valley with no other feeling than respect. The present writer was once guided there in the gathering dusk, when Dublin, ten miles distant, seemed to lie, by another measure, thirty centuries away.

The mention of this obscure well, and of the little used but singularly picturesque route round Carrickgollogan (p. 89), will serve to show the perceptive spirit in which Mr. Doran has written for the tourist.

G. A. J. C.

*Senior Country Reader.* III. By H. B. M. Buchanan, B.A. Pp. viii+293; with 143 illustrations. (London: Macmillan and Co., Ltd., 1904.) Price 2s.

AN enthusiastic reception may be predicted for this volume on the part of boys and girls in rural schools who have studied Mr. Buchanan's previous books in this series. There is a surprising amount of information provided, but it is generally presented in a sufficiently interesting manner to avoid weariness on the part of the young reader. The subjects treated—such as manuring, crops, cottage gardens, pigs and poultry—are just those which engage the practical attention of the children out of school, and about which they must know something after leaving school. It is clear from the beginning that Mr. Buchanan writes from personal experience in agricultural pursuits, and this fact will inspire the confidence of the student, while the numerous good illustrations will make quite clear what is being described.

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## LETTERS TO THE EDITOR.

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### A New Mineral from Ceylon.

SINCE writing last week, I have made further experiments on the cubical mineral, and have myself carefully examined the earth constituents. The statement made last week, that there is only an insignificant amount of thorium present, must be modified. On re-determining the equivalent of the crude oxalate, prepared after the yttrium metals had been separated by treatment with potassium sulphate, it has come out higher than I expected; indeed, assuming the metal present to be a tetrad, its atomic weight is even higher than that of thorium—about 240, as the mean of two closely concordant determinations. The lower equivalents mentioned in the previous letter were determined as fractions of the double potassium sulphate, prepared on a large scale. This high atomic weight points to the presence of unknown elements of higher atomic weight than thorium; indeed, the mineral appears to be of very complex composition. It may be incidentally remarked that the crude oxalate mentioned above must have contained all the cerium group, and if any considerable proportion of the elements of this group is present, the amount of the element with higher atomic weight than that of thorium would have to be proportionately increased. The high radio-activity would point to the presence of the elements obtained from thorium residues mentioned by Prof. Baskerville, which he states to be radio-active.

The equivalent was determined by comparing the weight of oxide from a known weight of oxalate with the percentage of oxalic acid, as determined by titration of another sample of the same preparation.

WILLIAM RAMSAY.

THE letter dealing with the composition of a new mineral from Ceylon contributed by Sir W. Ramsay to NATURE of April 7 (p. 533) reveals certain discrepancies between the analytical results obtained with this material at University College and those of the Scientific and Technical Department of the Imperial Institute recorded in Prof. Dunstan's letter on this subject (March 31, p. 510). Sir W. Ramsay's results indicate that this mineral is practically free from thoria, whereas those recorded by Prof. Dunstan show that it is particularly rich in this oxide. As Prof. Dunstan is at present abroad, and therefore unable at the moment to comment on Sir W. Ramsay's letter, I may be permitted to direct attention to two observations mentioned by Sir W. Ramsay, which appear to be open to question.

He states that the oxalate obtained from a solution of the mineral is soluble in excess of a solution of ammonium oxalate, and that this reaction excludes the presence of thorium or metals of the cerium group, and points to the presence of zirconium. This inference is not in harmony with the observation recorded by Bahr (*Annalen*, 1864, 132, 231), that thorium oxalate is soluble in excess of ammonium oxalate, a fact since confirmed by Bunsen and by Brauner (*Journ. Chem. Soc.*, 1898, 73, 951). Further, the solubility of the thorium salt in excess of ammonium oxalate has been used by Hintz and Weber (*Zeit. Anal. Chem.*, 1897, 36, 27) and by Glaser (*ibid.*, p. 213) as a method of separating thoria from monazite and similar minerals. It would appear, therefore, that the principal evidence brought forward by Sir W. Ramsay in support of his conclusion that the mineral contains no thoria in reality supports Prof. Dunstan's statement that it is rich in this oxide. It may be added that the solubility of the oxalate obtained from the mineral in ammonium oxalate had already been observed in this Department.

Sir W. Ramsay appears to be of opinion that the principal constituent of the mineral is the oxide of a new tetravalent element with an equivalent of about 44.7. If this were the case the specific gravity of the mineral would probably be less than 8.2, whereas the determinations of this constant