forays, the Muruts, when not thus engaged, struck the author as being exceedingly gentle and extraordinarily peaceful in their home life, so much so, indeed, that during the whole of her sojourn among them not a single "family jar" was witnessed. Although, like most Malays (in the wider sense of that term), the Muruts are somewhat indolent in their nature, yet they collect considerable quantities of camphor, and grow such agricultural and garden produce as is required for all their wants, inclusive of material for clothes, while they are accomplished hunters and fishermen.

We have directed special attention to the account of the Muruts, as being the most interesting in the volume; but all the chapters, including those relating to the west coast of Africa, are well worthy of perusal, and the book may be heartily commended to all our readers. R. L.

REPORT OF THE GEOLOGICAL SURVEY.[1]

WE are glad to welcome the annual report of the director of the Geological Survey upon the work carried on by his staff and himself during the year 1904. It gives not only an account of the areas surveyed and the maps issued, but affords an insight into the new methods of research rendered possible and necessary by the advance of scientific knowledge. It is clear that, although maps showing the distribution of the rocks over the whole of the British Isles have been published, the survey is by no means complete, nor do we see that it can ever be considered as complete until all the resources of scientific investigation can be pronounced to be at an end. With regard to the maps themselves, much of the earlier work was put upon maps published as far back as 1819. Chemistry and physics, the appliances at the disposal of the petrologist, and the knowledge acquired by the palæontologist are all advancing with rapid strides, and we see on reading such a work as the annual report of the director of the Geological Survey how they are all brought to bear upon the economically important questions of identification of strata and utilisation of the resources buried in the earth.

One cannot often walk over the ground and detect at once what is of value in it, but a knowledge of the association of minerals may tell one that a certain vein may lead to a metalliferous lode. Hard earned experience and a well trained eye recognise a band of rock containing certain varieties of plants or animals. It may be itself of no use commercially, but yet be of the greatest value economically if it has been ascertained that it occurs in constant relation to some other stratum which is of value. Thus we find on p. 5 of the summary that "the search for coal beneath the Triassic rocks of the Midlands which has been going on for many years and is likely to continue, has brought into great prominence the importance of an accurate knowledge of the subdivisions of the upper unproductive measures"; and again, p. 11, "A seam of coking coal has been worked to the south-east of Alton. The depth and other details have not yet been ascertained, but fossils, similar to those got by Mr. Wedd in the brickpits at Bullbridge, Ambergate, have been obtained from the tip heap, and it is hoped that their distinctive character may enable this seam to be traced over a considerable area."

When we bear in mind that the discovery of one good seam of coal would probably repay the country the cost of maintaining the survey for many years, let us hope that it will be one of the last institutions affected by any policy of retrenchment.

The first object in founding the survey, and the school and museum then wisely connected with it, was the promotion of scientific research with a direct aim at economic and practical results, and every page of the report before us tells how admirably this object is being carried out. The surveyors note the occurrence and character of the various building materials met with—the stone, brick, and cement produced in various localities; they record where road metal may be procured and discuss the sources of water supply, a subject which, having regard to its importance, might well have a strong staff told off for its investigation.

We find in the text or in an appendix useful analyses of various rocks and minerals, descriptions of methods of dressing ores, and a discussion of the conditions which affect the search for coal-bearing strata which are covered over by immense deposits of later date and irregular occurrence.

It is clear that no one can tell beforehand what will be directly productive of economic results in such investigations as lie before the geologist, and the country demands the encouragement of scientific research and the pursuit of knowledge even where no one could foresee any practical results. We find that the survey does take cognisance of the physical geography of each district examined, its ancient lines of drainage, its raised beaches, and also investigates many difficult questions of chemical, thermal, and mechanical metamorphism, and the petrology and palæontology of rocks not obviously productive of anything of commercial value. The treatment of all these questions is arranged first of all geographically, so that anyone may turn to the description of his own district, and then stratigraphically, and the names of those who are responsible for the different statements are given in the margin. When we realise that this is the report of one year's work, we may look forward to the development of the summary into valuable treatises of great practical and scientific value.

[1] "Summary of Progress of the Geological Survey of the United Kingdom and Museum of Practical Geology for 1904." (London: Printed for H.M. Stationery Office by Wyman and Sons.) Price 1s.

NOTES.

AT a meeting of the Röntgen Society on Thursday next, January 4, Prof. F. Soddy will deliver the presidential address upon "The Present Position of Radio-activity."

THE death is announced of Mr. F. W. Burbidge, curator of the botanical gardens of Trinity College, Dublin. From a short obituary notice in Wednesday's *Times* we learn that Mr. Burbidge was born in Leicestershire in 1847, and, after studying horticulture at Chiswick and at Kew, afterwards combined a good deal of experience as a practical gardener with some adventurous journeys to Borneo and the East Indies as a collector of birds and orchids. He was appointed in 1879 to be the curator of the gardens at Lansdowne Road, Dublin, which belong to the Board of Trinity College, and are attached to the scientific side of the college. He filled his office with distinguished success, and made many important contributions to the literature of his subject, on which he was a recognised authority. He was a member of the Royal Dublin Society and of the Royal Horticultural Society, and in 1889 the University of Dublin conferred upon him the degree of Master of Arts, *honoris causa*. In addition to many articles in periodicals, Mr. Burbidge was the author of several books upon horticultural subjects.

AT a recent meeting of the Wellington Philosophical Society, as reported in the Wellington *Evening News* of November 4, an important discussion took place with re-