In his address Sir A. Geikie gave a picturesque outline of the geological features of the surrounding district, and referred to the work of the pioneers—Faujas de Saint-Fond, the first geologist to set foot on Staffa; James Hutton (the father of modern physical geology), whose observations in Arran demonstrated the intrusive nature of the granite and the whinstone dykes; and John Macculloch, famed for his researches on the Western Isles. Ami Boué, again, was mentioned as the author of the *Essai Géologique sur l'Écosse*, published in 1820, and A. C. Ramsay, who wrote an early account of the geology of Arran.

Among those who had conspired to raise in Glasgow an interest in geology, Sir A. Geikie was disposed to give the foremost place to James Smith, of Jordan Hill, who first called attention to the general lowering of the temperature in the Pleistocene period by his observations on the boreal mollusca of the Clyde Beds. He thus paved the way for subsequent researches on the records of the Glacial period, to which the members of the Glasgow Geological Society have so largely contributed. Indeed, on this subject they have rendered their most important services to geological science.

II.—Gold: its geological occurrence and geographical distribution. By J. Malcolm Maclaren, D.Sc., F.G.S., F.R.G.S., M.I.M.M., late Mining Specialist, Government of India, formerly Assistant Government Geologist, Queensland, etc. pp. xxiii + 687, with one coloured plate and 278 illustrations. London: *The Mining Journal*, 1908. Price 25*s*. net.

FROM the very earliest time gold has, on account of its magnificent colour and its durability, been highly prized for ornamental purposes, and as the recognized medium for the exchange of commodities throughout the civilized world it is at the present day in ever increasing demand. The literature concerning it is immense. The quest for it has carried men to the heat of the tropics and the chill of arctic regions. Prospectors are constantly searching for new fields, and the observations of individuals are supplemented by the careful studies of skilled geologists. Consequently the data relating to the occurrence of the precious metal steadily grows. Apart from the extreme importance of the matter from the economic point of view, the distribution of such well-defined minerals as gold and its compounds serves to throw light upon the origin of ore-deposits.

In the preface to the book Dr. Maclaren tenders something in the nature of an apology for adding to the literature of ore-deposits; but surely none would be demanded by the most captious of critics. It is, indeed, from the pen of one who has had occasion to visit many of the principal mining regions and who has had the knowledge and the energy to enable him to take advantage of the opportunities afforded him that a work such as this is welcome. The slight inequality that may be detected here and there in the treatment is almost inevitable in a book, the writing of which has extended over a number of years, and can well be excused.

The book is divided into two main parts. The first of them deals

with the general relations of auriferous deposits. After a brief introductory chapter upon the processes which have led to ore-deposits, the author proceeds to describe carefully and fully the crystalline characters of gold and its native alloys and compounds. The text is accompanied by numerous excellent drawings of typical crystals, and good illustrations of various well-crystallized nuggets are given on plates, the frontispiece being a coloured picture, natural size, of the fine nugget—the "Latrobe"—which is treasured in the British Museum collection. The statement on p. 29 regarding the telluride of gold, calaverite, that "such crystallized specimens as have been found have been too imperfect to admit of the determination of the crystallographic system", was probably penned prior to the discovery some ten years ago of numerous brilliant many-faced crystals at Cripple Creek. The precise system is, indeed, still in doubt on account of the extraordinary complexity of the crystallization. The number of forms that have been observed on the rare mineral krennerite is considerably larger than that given on p. 33. The next chapter is concerned with the classification of auriferous deposits. Dr. Maclaren dismisses all systems which are based upon considerations of the form of the deposits and the nature of the association as useless from either a scientific or an economic point of view. Gold has often been found in the last place that might have been expected from the theoretical considerations put forward by various writers. Upon this still debatable point the author is not dogmatic, but thinks that the gold-bearing regions may conveniently, if empirically, be grouped according to a combination of geographical and geological data as follows: primary, (*a*) connected with the extrusion of intermediate or basic igneous rocks (andesites or diabases), (*b*) connected with the extrusion of acid rocks of granodioritic type; secondary, (*a*) deposits produced or modified by chemical agencies, (*b*) deposits produced by mechanical agencies. The primary group is defined to include gold which has had apparently "no prior state of combination and no former locus in space"; the metal in the secondary group is "obviously or presumably derived from sulphide or telluride ores, or from gold-quartz". Such a classification clearly cannot be considered very hard and fast, but pending further research it serves the purpose. Typical examples of the various sub-groups in different parts of the world are briefly described. Many important questions are discussed in this chapter, such as the formation of nuggets, about which there has been so much controversy, and the deposition and concentration of gold.

The second part, which occupies nearly three-quarters of the book, comprises full descriptions with great wealth of detail of all the known occurrences, arranged geographically — Europe, Asia, Australasia, Africa, America—and furnishing most fascinating reading. So far as possible, the author gives for each district the history of the mines, the geological features, the methods of working, and statistics of the output. The text is accompanied by many admirable illustrations, both plans and reproductions of photographs of various districts. Adequate discussion of this part is beyond the limits of a review; we can but commend the reading of it.

At the end of the book will be found copious and carefully compiled indices, of which the geographical index especially will be of great use for the determination of the locality of some little known mine.

The printing and appearance of the book are beyond reproach. We may safely predict that Dr. Maclaren's treatise is destined to fill a high position in the literature of gold.

III.—Brief Notices.

Vertebrate Remains in Asphalt.—Mr. J. C. Merriam, Associate Professor of Palæontology and Historical Geology in the University of California, has contributed an interesting article on the vertebrate remains obtained in an asphalt deposit a few miles west of the city of Los Angeles, in California (*Sunset*, San Francisco, October, 1908). Quite recently the occurrence of many extinct animals in this deposit has been brought to notice. Among the remains are those of gigantic wolves, the sabre-toothed tiger, camel, elephant, and large sloths. Many birds and other remains were also obtained. Of the *Machærodus* Professor Merriam remarks: "At one locality eighteen complete skulls, and at least one complete skeleton, were found within an area of less than two square yards." In other places certain layers of the asphalt proved to be nearly barren of fossil remains. The deposits appear to have been formed "from the slow accumulation of bituminous material around tar springs". In time a large pool of the material would have collected, and become more or less hardened, but in warm weather the surface would be rendered soft, and thus act "as a trap for unwary animals", which would be entombed in successive accumulations of the asphalt.

Burning Cliffs at Lyme Regis.—Since the note by Mr. Cameron was received, our attention has been called to a paper on "The Burning Cliff and the Landslip of Lyme Regis", by Mr. A. J. Jukes-Browne, published in the Proceedings of the Dorset Natural History and Antiquarian Field Club, 1908, vol. xxix, p. 153. He gives a view of the burning mound at Lyme, and has reproduced a view of the burning cliff at Holworth, Dorset, 1827.

Tsetse Fly in the Miocene.—Mr. T. D. A. Cockerell reports the discovery of another fossil tsetse fly in the Miocene shales of Florissant, Colorado. He proposes to give the name *Glossina osborni* to this new species. (*Nature*, April 1, 1909.)

The Devonian Fishes of Iowa.—These form the subject of a memoir by Mr. Charles R. Eastman, published by the Iowa Geological Survey, 1908, vol. xviii. The author gives an interesting introduction on the "Aim and general outlook of palæontological inquiry, and relations of palæichthyology to biology". He observes that detached teeth and other fragmentary fish-remains occur somewhat sparsely in the Middle Devonian of Iowa, while in the Upper Devonian they occur in remarkable abundance and locally constitute veritable fish-beds. The local strata consist of limestones and shales. The title of the memoir should have been the Devonian fishes of North