

majority of visitors gather their impressions of Madeira from a limited halt in the Bay of Funchal, or from a winter sojourn on its south side, yet fine as its coast line and peaks are seen to be, they are no more comparable to the grandeur of the northern side than the cultivated banks of the Rhine are to the gorges of the Yosemite. The south side is almost destitute of forest growth, except the introduced sweet chestnut, oak, and maritime pine, for the native juniper and dragon trees are almost extinct, but in crossing the dividing ridge another world is entered. Here all but the highest peaks are clothed with densest virgin forest. The naturalist may penetrate at will the wildest gorges, for the only paths into their recesses are the beds of half dried torrents.

The common distinctive feature of all these gorges is the precipitous nature of their sides, which time seems not yet to have weathered into angles of repose. The verticality is everywhere appalling, yet giant evergreens cling to every nook and crowd on every terrace. Some of the laurel tribe reach immense girth, and are quite inaccessible to the woodman's axe, rotting as they stand, and forming soil for carpets of Killarney, filmy, and hares-foot ferns. The warm, moist, and shady valleys form a paradise for ferns, the Dicksonia, Woodwardia, and Asplenium rivaling each other in size. The botany of the island is of great interest, especially in its relations to that of Europe and Africa; but the visible fauna, except Mollusca, is meagre, and the comparative absence of birds and butterflies is felt. Beyond the foreground of vast walls of red and brown rock, often 3000 to 4000 feet high, clothed and softened by dark green foliage, are peaks weathered into most fantastic forms, and rising to 6000 feet. But if this grand scenery could become monotonous, there are English moorlands on the Paül da Serra, barren tracts of rock at the extremities of the island, cultivated country with lanes hedged by fuchsias and hydrangeas at Camacha. The coast-line is magnificent in the extreme, one headland on the south presenting a vertical cliff to the sea of 2000 feet, and another, a mountain clothed with myrtle on the north, being scarcely inferior to it. The ascent of some of the peaks might tax even an experienced Alpine climber's nerves; but the effect of ocean rising to the skies like a blue wall all round is very striking when seen for the first time from a lofty island peak. In summer the heat is not oppressive among the mountains, and now that the fares are no longer unreasonable, one with an overtaxed brain seeking rest might make a worse choice than Madeira for a ramble. To him Miss Taylor's exhaustive book is inexhaustible, and the itineraries in it, sketched by Mr. Charles Cossart, invaluable.

No mention of Madeira is complete without allusion to its staple produce—wine. The export seems never to have exceeded 20,000 pipes annually, and though this was reached as early as 1750, yet this is far below the producing power of the island. The vines, destroyed by Oideum, have again severely suffered from Phylloxera, but the shipments, owing chiefly to the persistent efforts of Messrs. Cossart Gordon, are steadily recovering. It cannot be too widely known that Madeira is a pure wine, for at the price of grapes there, there is no incentive to use anything but grape juice in its production, though Madeira is exported to other wine countries, presumably for manufacture into sherry. The retail price is only artificially maintained by a pretended scarcity.

J. STARKIE GARDNER

Tschermak's Lehrbuch der Mineralogie. Part II. (Vienna: Alfred Hölder.)

IN this part of Prof. Tschermak's text-book the discussion of the optical and physical characters of minerals is continued and concluded in a manner more scanty than was perhaps to be anticipated from the first part. The results of many of the most recent additions to our knowledge of the structure of mimetic and twin-crystals, such

as milarite, microcline, &c., as shown by their optical properties, are, however, included. In the chemical introduction which follows, too much space is devoted to the exposition of the fundamental principles of chemistry, such as those of equivalents, atoms, and the theory of types; as also to the principal simple tests for the various elements. A fair knowledge of chemistry is absolutely necessary to the mineralogist, and Prof. Tschermak might well have expected his students to bring such a knowledge with them. In this case his exposition is unnecessary, while if the student is ignorant of chemistry, it is hardly likely to be adequate, and it undoubtedly diminishes the space available for the principles of isomorphism and polymorphism.

Considerable space is given to the description of the situations in which minerals are found, and of their associations in beds and veins. Another chapter is devoted to mineral genesis and to the decompositions and transformations which minerals are liable to under the action of natural agencies. These subjects, common to the mineralogist and geologist, are apt to suffer through being relegated by each to the other, and we are glad to see the importance attached to them by Prof. Tschermak.

The systematic description of the principal minerals is to occupy the whole of the third part. This volume extends as far as the elements and sulphides, and gives us a foretaste of what is to come. The descriptions are well done, and give much more information than the ordinary text-books do. This information is, moreover, given in general language, and the different forms are better and more fully illustrated than is usually the case. The minerals discussed are those of importance either from their utility, the frequency of their occurrence, or their scientific value; and the selection, from this point of view, is well made.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to ensure the appearance even of communications containing interesting and novel facts.]

Scientific Exploration in Egypt

NOW that we have embarked in a war in Egypt, it is to be hoped that steps will be taken to have a proper staff of scientific explorers attached to the army with facilities for conducting their investigations. There are periods of rest in a campaign during which soldiers and others may be usefully employed in conducting excavations at comparatively slight cost; and difficulties in the way of investigation, arising from the requirements of trade and industry, disappear in time of war. The deposits of the Delta require to be examined. The gravels of the Nile Valley have to be connected with their animal remains. Much has to be done for the earliest and best period of Egyptian art, and the Stone Age of Egypt has to be fixed with certainty, the importance of which cannot be over estimated in connection with the earliest civilisation of the world.

I trust also that we shall not rob Egypt of her antiquities to any great extent. It may be useful to complete our typical series to a limited extent, but if Boulak should be happily preserved, I hope it will be preserved for Egypt, and not brought home. Nothing would serve more to prove that we go there to civilise and not to rob. The means of communication are now so easy that all who are interested in Egyptology can see it there. Steam and railways have materially altered the requirements of education in this respect. Humanity, and British humanity in particular, now pours through all the great arteries of the world,