

spectrometry; details of gamma-sensitive instruments without energy discrimination together with geological applications of such equipments; related and collaborative techniques such as neutron activation analysis; and case histories including geochronology and heat flow. The statement (two pages) on economic considerations is brief to the extent of being tantalizing, but not contributing anything material of value to the student or specialist reader.

The detailed information given in the form of tables and figures is relatively up to date and would be useful for anyone setting up a gamma-spectrometry laboratory. However, much of the information both on laboratory and field instrumentation is of limited use because it is dated and restricted largely to what is available on the North American market.

Literature coverage is considerable, but North American publications are unduly favoured.

S. H. U. BOWIE

PICHLER (H.). *Italienische Vulkan-Gebiete I* (xiii+258 pp., 48 text figs., 9 tables, 9 pls. including 5 folding maps), and *II* (x+186 pp., 50 text figs., 8 tables, 6 pls. including 4 folding maps). *Sammlung Geologischer Führer 51 and 52*, Gebrüder Borntraeger, Berlin and Stuttgart, 1970. Price: I (No. 51) DM 37.50; II (No. 52) DM 34.

These extremely valuable little volumes form Nos. 51 and 52 of a series of geological excursion guidebooks published by Borntraeger and mostly dealing with regions of Germany, Austria, and the Alps. The two present guides cover the Italian volcanic districts as far south as Naples and Ischia; a third, not yet to hand, will deal with Sicily (including Etna) and the Aeolian Islands.

The volumes can be highly recommended as the only convenient source of up-to-date information about a region of great geological significance and fascination. Some useful, but very brief pamphlets were prepared for the field excursions organized in connection with the 1961 International Association of Volcanology symposium in Italy, but these were never widely available; much of their contents has, however, recently been summarized in Rutten's 'Geology of Western Europe'.

But the present volumes are more than just excursion guides. The author, from the Institute of Mineralogy and Petrology at the University of Tübingen, spent two years with Professor Rittmann at the International Institute of Volcanology at Catania, and has made himself familiar with all recent research done in the region by the Italian geologists and others. He has taken the opportunity to summarize not only the field geology but ideas as well; a great deal of scattered work, largely published in the Italian journals, is collated and summarized.

The first volume begins with a Foreword, which includes an outline of Streckeisen's classificatory scheme for the igneous rocks, used throughout the work, followed by a 41-page section summarizing the general geology, structure, and tectonics in relation to volcanicity, and the nature and origins of the various magmas represented, stressing their probably largely anatectic nature. The remainder of the volume is divided into three principal sections: A—the Tuscan province (S. Vincenzo and Larderello, 10 pp.; Roccastrada, 4 pp.; Mte. Amiata, 13 pp.; Radicofani, 3 pp.); B—the Roman province

(Mti. Vulsini and Lake Bolsena, 14 pp.; Mti. Cimini and Lake Vico, 16 pp.; Mti. Sabatini, 7 pp.; Colli Albani, 16 pp.); C—Mte. Somma and Vesuvius, 94 pp. The description of each district begins with an outline of its volcanic history and petrology, illustrated by abundant clear sketch maps (some folding), sections, petrogenetic diagrams, and chemical analyses and modes of representative rocks. This is followed by suggestions for individual excursions, well set out with sufficient details of the best exposures to enable them to be followed easily and profitably. Vesuvius, with its 94 pages, is given admirably full and detailed treatment. Volume I ends with a general bibliography and bibliographies for each individual volcanic province treated in the volume; a glossary of obsolete rock names encountered in the older literature, with *Streckeisen* equivalents; and subject and locality indices.

Volume II follows the same plan. An outline of *Streckeisen's* rock classification is given again, the rest of the volume being devoted to the remainder of the Campanian province (Vesuvius having been dealt with in Volume I): Roccamonfina, 13 pp.; Campi Flegrei and Pròcida-Vivara, 79 pp.; Ischia, 58 pp.; the Ponza islands, 14 pp. Bibliographies and indices follow the same pattern, and the volume ends with a folding geological sketch-map of the Phlegraean Fields with a red-printed overlay showing the volcano-tectonic features.

The whole work is most praiseworthy and valuable, providing for the first time an accessible, detailed, and up-to-date guide to the Italian volcanic districts. Its existence may stimulate more geological visits to classic but too little-known territory. English-speaking visitors might perhaps wish that a British or American geologist had been sufficiently stimulated to do what Dr. Pichler has done, but his contribution is outstanding and he lays all interested in the Italian volcanoes under a deep debt of gratitude. His German is straightforward and easy to read, helped by well-chosen illustrations and maps. The volumes are produced in a useful format, 19.5 × 13.5 cm, with linen cloth covers. Printing and layout are above reproach. Doubtless the final volume, when it appears, will reach the same high standard.

E. A. VINCENT

SANDER (B.). *An introduction to the study of fabrics of geological bodies*. Transl. from the German by F. C. Phillips and G. Windsor. London and New York (Pergamon Press), 1970. xvii+641 pp., 319 figs., 8 pls. (4 in colour). Price £12.00 (\$32.00).

This translation of the original two-volume work 'Einführung in die Gefügekunder Geologischen Körper' will be welcomed by all of those interested in the fabrics of rocks. This classic work must be one of the most quoted titles in reference lists, and although many structural geologists have used it as their 'bible' probably most of those who refer to the original book, the reviewer included, have never been able to face the formidable task of reading the original from cover to cover. The original book was written in the accepted German literary style that developed between the wars, a style that was based on the ideas first that the world was a difficult and complex place and discussions of it must be likewise, and second that the written word must be impressive and that simple statements are less impressive to a reader than complex