

complex and the cone-sheets cut the eucrite. The pyroxenes of the two rocks may therefore possibly represent a pyroxene trend of crystallization, the eucrite pyroxene being the earliest member. This being so it is interesting that the cone-sheet pyroxene was the first to be affected by thermal metamorphism for it commonly happens that in progressive thermal metamorphism the minerals of basic igneous rocks are affected in the reverse order of their magmatic crystallization (Harker, 1939, p. 109). It seems most likely that some such effect has expressed itself in the different stabilities of the two pyroxenes described. In this case, however, two members of one isomorphous series are involved, not, as Harker apparently only had in mind, members of different mineral groups.

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## CORRESPONDENCE

### “HUTTON'S UNCONFORMITY”

SIR,—I have read with interest Dr. S. I. Tomkeieff's careful re-description of “Hutton's Unconformity”, Isle of Arran.

It is to be regretted, however, that Dr. Tomkeieff has overlooked, no doubt inadvertently, the section of the unconformity which the writer published in 1944, as part of a general account of the Dalradian rocks of Arran.

It was then made clear that the unconformity does, in fact, lie in the position in which it is shown by Dr. Tomkeieff and that underneath the unconformity there are four feet of calcitized grit forming part of the Dalradian schists.

That Geikie's interpretation of Hutton's description required this modification has, indeed, been known to the author since 1939, and has been accepted by several parties who have visited Arran since the publication of the writer's paper. Further references to this paper were given by the writer in 1947, and by Dr. J. E. Richey in 1948.

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## REVIEWS

GEOLOGIE DER SCHWEIZER ALPEN. By J. CADISCH (2nd ed.). pp. x + 480, with 59 figs. and 2 plates. Wepf and Co., Basle, 1953. SFR. 42.30 (approx. 75s.).

Since Heim's monumental volumes, the first edition of this treatise by Cadisch has been the principal alternative general description of the geology of Switzerland; both these have now been out of print for some time so that the appearance of a substantial modern work is much needed.

The pattern of the second edition continues essentially as before with much revision, new material, and a hundred extra pages. After an introduction to the tectonic ideas involved, Part II is a study of the igneous, metamorphic, and sedimentary rocks and processes. The first two of these are now written and expanded with petrogenetic emphasis by E. Niggli. Then Cadisch, after discussing general aspects of sedimentation and climates, treats the stratigraphy of each of the principal tectonic groups. This comprises more than a quarter of the book and within each tectonic group there is a systematic description of the stratigraphy, and many successions within individual nappes are represented in tabular form. Part II concludes with some pages on the mode of formation of the Alps which with the introduction will be the most interesting general reading. We find here, for instance, that the Jura mountains have for some time been assumed to be deeply folded. In these few pages many aspects of Alpine theory are summarized.

Part III is a survey of the Alps in nine regions (Niggli writing on the Gotthard and Tavetch Massifs). Most of these are sectors taken from west to east and bounded by the main rivers cutting across the strike of the Alps. The principal structural features are outlined and illustrated by tables, diagrammatic sections, and sketch maps. Without access to the excellent sheets of the official atlas and special sheets with tectonic *précis* insets the foreign reader will find himself wishing for folding maps illustrating most of the structures and places referred to in the book. Perhaps, however, the chief value of this part is not so much as a detailed guide to the ground but rather to the latest research on the region with ample references to recent publications. This is conveniently followed by a bibliography including most original work published since 1920. Finally there is an index of place-names. There is a very full table of contents at the beginning but no other