There is considerable overlap in the contents of this handbook with two other translated publications in the series, both by Chizhikov and Shchastlivyi, *Tellurium and Tellurides* (1970, 320 pp.) and *Selenium and Selenides* (1968, 403 pp.).

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WINKLER (H. G. F.). *Petrogenesis of Metamorphic Rocks*. Berlin, Heidelberg, and New York (Springer-Verlag: Study Edition), 1974. xi+320 pp., 92 figs. Price DM 24·10 ($9.80); £5·10.

It is seldom that an established textbook changes its approach to a subject as fundamentally as this one has done. In the publishers' words, 'The new concept of defined metamorphic grades and isograds (isoreactiongrads) replaces the now obsolete subfacies and facies classification of previous editions and other works on the subject'. Winkler expounds this new doctrine with all the fervour showed to the old in previous editions, although in view of the rapid development of ideas in metamorphic petrology it might have been appropriate to be a little cautious. In one sense the book has not changed its theme from previous editions: it remains an account of the conditions of metamorphism of metamorphic rocks based on their mineral parageneses, a more restricted topic than the title suggests. A gain in this new version is a short chapter indicating to the student how a mineral paragenesis may be recognized from a thin section of a metamorphic rock.

The field of conditions of metamorphism is divided by approximately isothermal metamorphic reactions into four large fields which Winkler terms in order of increasing temperature: very-low grade metamorphism, low grade metamorphism, medium grade metamorphism, and high grade metamorphism. This definition of metamorphic grade conflicts with the traditional usage of field petrologists: for example a coarse-grained blueschist with glaucophane and lawsonite, found among fine-grained metamorphosed greywackes, is classified as a 'very-low grade rock'. The main section of the book traces five compositional classes of rocks (carbonates, marls, ultramafics, basic igneous rocks, and pelites) through the four metamorphic grades. The later chapters discuss 'granolite high grade' rocks, eclogites and anatexis. 'Granolite' is a new term, coined to avoid the confusion surrounding the term 'granulite'.

Although the illustrations in the book are well presented, the remark on p. 247 'Granolite is not a misprint . . .' has an unintended irony. Some of the more glaring examples are 'fledspar', 'disposide', 'shpene' and 'Pitscher' (for W. S. Pitcher in both text and bibliography, which suggests that the error was not the printers.') The style is also occasionally too cumbersome for a book intended for widespread use among undergraduate students.

Having recommended this book to students for many years, this reviewer regrets that he must exclude the new edition from undergraduate book lists because the scheme of classification used is so idiosyncratic and its exposition not lucid. Research workers and teachers, however, will continue to find Winkler's ideas stimulating, and for them it is essential to buy this new edition if they have been making extensive use of the old.

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