The scope of the book is wide but genetic indeed. Both field and laboratory data are involved in the interpretation of the problems raised, the original ideas of the authors being laid down side by side with ideas put forward by other scientists. The result is twofold: first, one gets a clear picture about the wealth of data behind the 'ontogeny' of minerals, and next, one is stirred towards fruitful thinking. Not less important for mineralogists and petrologists is the driving rule that emerges after one closes the final pages of the book to be more precise about the whole description of minerals both before and after they have been picked up from their natural position. I. KOSTOV

ERNST (W.G.), Editor. *Metamorphism and Plate Tectonic Regimes* (Benchmark Papers in Geology). Stroudsburg, Pennsylvania (Dowden, Hutchinson, and Ross, Inc.; distributed by Halsted Press: John Wiley & Sons, Inc.), 1975. xiv + 440 pp., 148 figs., 1 pl. Price £13·90.

The collection of papers reprinted here attempts to place metamorphic belts and the process of recrystallization (caused by chiefly physiochemical changes) in a plate tectonic framework. Five main topics are covered, one subdivided into three sections, and the papers presented in each of these are introduced briefly by the Editor, supplying a commentary and emphasizing the particular role of each contribution in the growth of the field, and giving further references; a brief summary constitutes the last chapter.

The concept of metamorphic belts in time and space is first presented, with the classic paper by Miyashiro [M.A. **15**–483] on their evolution and that by Zwart (*Geol. en Mijnbouw*, **46**, 283–309, 1967) on the duality of orogenic belts. Thermal regimes computed for divergent and convergent plate margins are then examined with the aid of two papers by Oxburgh and Turcotte, and the relationship of metamorphism to such tectonic environments is considered with papers by Miyashiro on ocean-floor metamorphism and Coleman on blueschist metamorphism. Eclogites, the ophiolite suite, and blueschists all present petrological problems. The problems posed by eclogites are illustrated with papers by Coleman *et al.* [M.A. **19**–159] on their differences and similarities, Ringwood and Green [M.A. **18**–256] on the experimental study of the gabbro-eclogite transformation, Banno (*Phys. Earth Planet Interiors*, **3**, 405–21, 1970) on their classification in terms of physical conditions of their origin, and Fry and Fyfe [M.A. **72**–2412] on the occurrence of eclogites versus amphibolites.

One of the first clear suggestions that alpine-type peridotites represent mantle material was that by de Roever (*Geol. Rundschau*, **46**, 137–46, 1957). This paper is followed by two providing mineralogical, petrological, chemical, and tectonic data on the material interpreted as constituting the basal portions of the oceanic crust and the mantle material immediately beneath the Mohorovičić discontinuity, and by papers describing examples of ophiolite suites from California and Cyprus and a work dealing with the mode of emplacement of alpine-type peridotite complexes [Coleman, M.A. **71**–3129]. The question of whether blueschists result from overpressure of tectonic origin or deep metamorphism is posed by de Roever in a paper here usefully

translated by the author from the original Dutch; their origin by the reaction of protoliths with a chemically active pore solution is argued in the paper by Gresens [M.A. **70**–2847]. The various genetic hypotheses for blueschists, including that of recrystallization at relatively high pressures and low temperatures, are set forth in the last paper of this section, by Ernst [M.A. **74**–743].

A short section on the evolution of metamorphic facies-types with time presents an early paper by de Roever *Some Differences between Post-Palaeozoic and Older Regional Metamorphism* (*Geol. Mijnbouw*, **18e**, 123–27, 1956) and a fairly recent paper by Ernst discussing the evolution of blueschist belts with time [M.A. **76**–1119] before the concluding summary in which it is argued that the spatial distribution of rocks representing the various metamorphic facies is clearly a function of lithospheric plate dynamics.

Once again the Benchmark Series has produced a useful and timely compendium volume with a comprehensive selection of papers, not all of which are to be readily found in departmental libraries and which enable the specialist in a narrow field to appreciate the advances that have been made on an overlapping but broader front. Since the majority of the book is a facsimile reprint of the original articles the price seems on the high side, but even those libraries fortunate enough to have all the original journals may find it convenient to have these papers bound together and readily available. R. A. HOWIE

WILSON (J. L.). *Carbonate Facies in Geologic History*. Berlin, Heidelberg, and New York (Springer-Verlag), 1975. xiv + 471 pp., 183 figs., 30 pls. Price DM 90.00 ($36.90).

This is an expensive tome on certain aspects of applied stratigraphy and basinal analysis by a former member of 'Shell'. It is therefore endowed with the usual strengths and deficiencies that ensue from this syndicate. In a panoramic sense it is good, but limited to selected well-known examples: in detail it is less good. It makes no pretence at being stratigraphically or sedimentologically up to date, while its palaeoecological aspects are almost archaic. Petrographically, despite the inclusion of 1950–60s oil company classifications, it remains reminiscent of Cayeaux's 1930s productions. Chemically its longest formula is $CaCO_3$. The strengths of the volume lie in its exposure of oil company thought processes. The twelve chapters concern good simplistic models for basinal analysis of warm-water carbonate products and their analysis under the nine customary facies headings: this is all conveniently summarized in Chapter 12, pp. 348–79. J. A. E. B. H.