

in initiating an exceedingly important series of geological texts, have allowed the publication of this translation without the benefit of an edition by an English-speaking editor. N. R.

STEVENSON (J. S.), editor. *The tectonics of the Canadian Shield*. Royal Society of Canada Special Publication no. 4. Toronto (University Press) and London (Oxford University Press). 1962. 180 pp., 45 figs.

The volume is a report of a symposium on the subject of the tectonics of the Canadian Shield. Some twenty-one academic and commercial geologists have contributed fourteen papers. In addition there is an introduction by J. S. Stevenson. As is normally the case with such symposia, the standard of contributions is unequal, but taken as a whole the lack of application of modern structural techniques is rather noticeable. Nevertheless, if one remembers that much of the field work in the shield areas is still of a reconnaissance type, the contributions in this symposium appear on the whole better than those frequently read and published on other great shield areas of the world. The editor in particular must be complimented on an unusually orderly arrangement of the articles in the volume, starting from general description of the large-scale subdivisions of the shield and ending with a review of new orogenic theories by J. T. Wilson.

The volume has a large number of small-scale geological maps. Unfortunately neither the printing nor the symbols are standardized and vary from paper to paper. In many cases structural notions are confused. For instance in fig. 1, p. 31, fold axes and axial traces are given the same symbol under the title of fold axes. In fig. 1, p. 41, the difference between entire and dashed lines representing faults is not explained. What are the symbols + and - on fig. 2, p. 43, supposed to represent? Fig. 4, p. 64, which is a rose diagram analysis of trend lines, uses unsuitable technique for statistical representation of planes since their traces on the surface (the trend lines) are a complex function of true axial trend and axial plunge. Fig. 1, p. 77, lacks any indication of geographical directions and to the east (?) of L. Agnew uses two different symbols for the bottom of the Huronian. In any case the significance of the simple dashed line is unexplained and it is ambiguous in the central part of the map. The alleged boundaries of the Huronian basin do not seem to have any recognizable relationship to the present-day distribution of the Huronian on the map. The paper by J. C. Sproule contains figs. 4, 5, and 6, but not 1, 2, and 3. On the academic side it must be recorded that there is only one map—p. 116—that at all accepts lineations as an

important feature of metamorphic rocks. It is perhaps unfortunate that the author who produced it still refers to the pitch of folding (p. 105). There is no index.

The numerous isotope-dates scattered throughout the book help one in understanding the gross geology of Canada and can be appreciated without any reservation.

N. R.

MACGILLAVRY (C. H.) and RIECK (G. D.), Editors. *International tables for X-ray crystallography*. Vol. 3: *Physical and chemical tables*. Birmingham, England (Kynoch Press for the International Union of Crystallography), 1962, xvi+362 pp., 44 figs. Price 115s.; working crystallographers may obtain a reduced price copy on application to the publishers.

This is the third of a series of volumes produced by the Editorial Committee of the International Union of Crystallography: volume 1, *Symmetry groups*, was published in 1952, and volume 2, *Mathematical tables*, in 1959.

As with the other volumes, volume 3 contains a good deal more than its title implies, since not only are physical and chemical data tabulated but there are excellent succinct accounts of the techniques employed in the study of crystals both by X-rays and by ancillary methods. Furthermore there is space devoted to the basic theory concerning the methods and data that are presented. For example, associated with 35 pages of tables of absorption coefficients there are 8 pages concerned with their definition, explanation, and methods of use. Explanatory matter must obviously be restricted in a book of this kind but this is compensated for by the presence, at the end of each section, and sometimes sub-section, of a useful list of references to the literature.

There are five main sections: 1. Examination and Preparation of Specimens, including specimen mounting, and crystal setting by X-rays. 2. X-rays and their Interaction with Crystals, including production and wavelengths of X-rays, filter and monochromator techniques, and thermal expansion. 3. Measurement and Interpretation of Intensities, including photographic and counter techniques, absorption, and atomic scattering factors. 4. Interatomic and Interionic Distances. 5. Texture and Line Broadening Analysis. Small-Angle Scattering, including the textures of polycrystalline materials, and particle size analysis.

In addition there is a section on the protection against radiation injury