

earth as a whole (6 pp.). (4) Uranium in igneous rocks, including pegmatites and vein deposits (29 pp.). (5) The behaviour of uranium during weathering; uranium in sediments, with particular reference to black shales, to phosphorites, to coals and oil shales, and to petroleum and asphalt; uranium in the hydrosphere (59 pp.). (6) Uranium during metamorphism (3 pp.). The text concludes with an admirable summary in clear English, which contrasts with the obscurity of the English version of the editorial foreword. There are some 485 references, mostly to papers published in English.

J. E. T. H.

GOGUEL (J.). *Tectonics*. A translation by H. E. Thalmann of *Traité de Tectonique*. W. H. Freeman & Co., San Francisco & London, 1962. 384 pp., 210 figs. Price 70s.

Traditionally, despite protestations to the contrary, the influence of German meticulous and pedagogic learning has been strong in Anglo-Saxon countries. French publications, research monographs, and ideas have been consistently mistrusted and often neglected. Thus, in Britain as well as in the U.S.A., modern structural geology and the allied field of petrotectonics are largely dominated by the German-Austrian school. This translation at least partly redresses the balance.

The present volume is a slightly modified version of the 1952 French edition. Printing and some of the diagrams are an improvement on the original French version, although it is not clear why the majority of the diagrams have not been redrawn by a qualified draughtsman. Much of the information and many of the examples in the book are based on data from the Alpine orogenic belts of Europe and as such are very useful to the English-speaking reader. Each of the twenty-two chapters has numerous references and useful annotations. The clarity of the concepts employed by the author is such that the original French edition is already considered a classic.

It is highly unfortunate that the translation of the book suffers from grievous errors in usage, punctuation, and syntax. The result is that the rather precise French used by Goguel becomes converted into circuitous and pompous English of the present translation. As an example of such English, one can quote (p. 224): 'A homogeneous mass, to which it is impossible to assimilate the non-stratified basement except in a first approximation, may react either through homogeneous deformation or through the action of breaks when subjected to exterior force.' It is a pity that the publishers, who must be congratulated on their enterprise

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