radiation (36 kV, 20 mA), a PW 1050 goniometer ($\frac{1}{2}°$ 2θ per minute) and a Geiger counter (1650 V).

The results are shown in fig. 1. The lower pattern was obtained from a pressed powder and the upper pattern, under identical instrumental conditions, from the same rock in the form of a ground chip. The improvement in intensity using the chip is evident, particularly for the basal reflections in the region 14 to 10 Å. A 'sedimented' powder of the rock was run but gave negligible improvement in intensity over the pressed powder method.

Examination of several rocks with the present method has shown that many 'degraded' peaks represented in the powdered samples are not evident when the rock chip is used as sample. Powdering and crushing processes must be largely the reason for these differences.

The method appears to be a useful one for obtaining rapid qualitative mineralogical data and to problems of orientation. Work is in progress for the application of the technique to quantitative clay mineral analyses.

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BOOK REVIEWS

Dybek (J.). *Zur Geochemie und Lagerstättenkunde des Urans.* Clausthaler Heft zur Lagerstättenkunde und Geochemie der mineralische Rohstoffe (ed. H. Borchert), vol. I. Berlin (Borntraeger), 1962. xi+163 pp., 24 figs, 33 tables. Price (paper bound) DM 50.

The Clausthal periodicals on the economic geology and geochemistry of mineral raw materials, Professor Borchert states in a foreword, will discuss ore deposits particularly from the genetic point of view. It is intended that each volume will concentrate on one element or on a type of deposit of that element. In this first volume, Dr. Dybek presents a broad review of the geochemistry and economic geology of uranium without dealing in detail with individual deposits or becoming embroiled in controversy. The main chapters are on the following topics: (1) The physical and chemical properties of uranium, particular attention being paid to the solubility of uranium in water and to its precipitation and adsorption from aqueous solution (28 pp.). (2) Uranium minerals (8 pp.). (3) The distribution of uranium in meteorites and tektites, and in the

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 70*s*.

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