

Notes and News

Announcements and other items of crystallographic interest will be published under this heading at the discretion of the Editorial Board. The notes (in duplicate) should be sent to the General Secretary of the International Union of Crystallography (D. W. Smits, Rekencentrum der Rijksuniversiteit, Grote Appelstraat 11, Groningen, The Netherlands). Publication of an item in a particular issue cannot be guaranteed unless the draft is received 8 weeks before the date of publication.

The International Union of Geological Sciences

Circular letter

This *IUGS Circular Letter* contains up to date information on news of the International Union of Geological Sciences, on future international meetings, reports on recent meetings, abstracts of papers submitted to meetings, progress reports on international research projects, and reports submitted by IUGS Commissions, Committees, and affiliated organizations. The latest issue, *Circular Letter* No. 15, contains summaries of scientific papers presented to the Ottawa Meeting of the Upper Mantle Project (September 1965), a short report on the UMC/UNESCO Seminar on the East African Rift System held in Nairobi in April 1965, and summaries of papers read at the UMC Symposium on Geothermometers and Geobarometers held in Copenhagen in September 1965.

The *Circular Letter* can be ordered from Prof. W. P. van Leckwijck, Secretary General of IUGS, Mechelse steenweg 206, Antwerp, Belgium. Price: US\$5 per annum (about 4 issues).

1966 Pittsburgh Diffraction Conference

The twenty-fourth annual Pittsburgh Diffraction Conference will take place from 9 to 11 November 1966 at Mellon Institute, Pittsburgh, Pennsylvania. Papers on any aspect of diffraction, microscopy, crystallography, crystal physics, and related instrumentation will be considered; abstracts of less than 400 words should be sent before 12 September to the Program Chairman (Dr P. R. Swann, U.S. Steel Corporation, Fundamental Research Laboratory, Monroeville, Pennsylvania 15146, U.S.A.). The guest speaker will be Professor P. M. de Wolff of the Technological University of Delft, and there will be a symposium on the applications of the Mössbauer effect.

Book Reviews

Works intended for notice in this column should be sent direct to the Editor (A. J. C. Wilson, Department of Physics, The University, Birmingham 15, England). As far as practicable books will be reviewed in a country different from that of publication.

The phases of silica. By R. B. SOSMAN. Pp. x + 388. New Brunswick, New Jersey: Rutgers University Press, 1965. Price \$10.00.

The monograph by R. B. Sosman entitled *The Properties of Silica* was published by the American Chemical Society in 1927, and was out of print a few years later. A revised edition, which has been in preparation for a number of years, is in the form of two volumes; the present book *The Phases of Silica* is to be followed later by *The Properties of Silica*.

In the first volume the author describes the nature and interrelations between the various phases of silica. His interpretation of the term *phases* allows him to recognize 22 of them, not including melanophlogite which Sosman regards as of doubtful validity. Of his 22 phases, 17 are crystalline: low and high quartz, low and high cristobalite, the fibrous silica W, the high-pressure phases coesite, keatite and stishovite, and no less than nine tridymites. His amorphous 'phases' are: liquid silica, three vitreous silicas, and metamict silica (produced by irradiation). Alternative usage of the term *phase* (*viz.* Frondel) would recognize only 11 silicas even if melanophlogite were included.

The early chapters deal with fundamental chemical concepts illustrated particularly by reference to Si, O and SiO₂. Two chapters deal specifically with the displacive and reconstructive transformations for crystalline silica, and

another with the formation and reversion of amorphous phases. Further topics dealt with in considerable detail are: complex phases and defects, subdivision and twinning, microforms of silica (*e.g.* chalcedony), crystal symmetry, crystal structure, and finally the system SiO₂-H₂O. Many of the chapters include a section on experimental work and an interesting section of historical notes.

There is a fair degree of overlap with Frondel's *Silica Minerals*, which, however, is written from a mineralogist's standpoint, and gives predominant attention to quartz rather than the other forms of silica. Sosman's approach is very definitely that of a chemist, and in fact he appears at times to be using the subject of silica as a vehicle for giving his own exposition of chemical principles. Unfortunately, I feel that this is where the book goes wrong. The author ranges from sophisticated treatments of some almost esoteric topics, to a treatment of certain fundamentals as though writing for the layman. The reader who wants so much detail on silica is unlikely to want a primer on chemistry at the same time, and the student who needs to have elementary principles explained is unlikely to be helped by being thrust into the complexities of the forms of silica. Sosman expounds concisely on almost every concept mentioned, and on non-chemical matters sometimes goes rather seriously awry, as for example on crystal structure determination where we read of '... Fourier analysis of the X-ray spectrum...' and '... the intensity, frequency and