ABSTRACTS—CRYSTALLOGRAPHY

A STUDENTS' GONIOMETER. G. F. HERBERT SMITH. *Mineral. Mag.*, **18**, 366–368, 1919.

A goniometer of moderate cost designed for students of elementary crystallography. The direction of reference is given by the reflection of a distant object in a small plane mirror without optical aid and the axis of the graduated circle is horizontal. The instrument was constructed by Messrs. J. H. Steward, Ltd., 406 Strand, London, W. C. 2. W. F. H.

CRYSTALLOGRAPHIC STUDIES OF NICKEL DICHROMATE WITH ETHYLENEDIAMINE. GUISEPPINA CHIAVARINA. Univ. Torino. *Riv. min. crist. Ital.*, **48**, 82–85, 1917.

The formula is $NiCr_2O_7.3C_2H_4(NH_2)_2$. The crystallization is monoclinic. E. T. W.

A STUDY OF THE DEHYDRATION FIGURES ON THE SURFACES OF CRYSTALS. CHRISTOPHE GAUDEFROY. *Bull. soc. franc. min.*, **42**, 284–380, 1919.

Dehydration figures obtained upon crystals of 50 salts were studied. These figures fall into 3 classes, those whose form is dependent upon the structure of: (1) the original salt; (2) the salt formed by the dehydration; and (3) neither of these; the last comprise elliptical figures without definite orientation.

C. B. SLAWSON.

CONTRIBUTIONS TO OUR KNOWLEDGE OF BOLÉITE AND CUMENGITE. ASSAR HADDING. *Geol. Fören. Förh.*, **41**, 175–193, 1919.

The anomalies in boléite can best be explained by variation in composition between the central and outer portions. The outer portions pass into cumengite. Boléite then is a mixed crystal. The n for boléite 2.081; for cumengite $\omega = 2.040$, $\epsilon = 1.926$. The Laue diagram for boléite shows it to be isometric.

W. F. FOSHAG.

CRYSTAL STRUCTURE OF PYROCHROITE. G. AMINOFF. Stockholm. *Geol. Fören. Förh.*, **41**, 407–433, 1919.

Pyrochroite is ditrigonal scalenohedral. The Laue diagrams show nearly hexagonal symmetry, for in almost all cases the points are present in the plus as well as the minus sextants. The hexagonal elementary parallelopiped has the dimensions $c = 4.68 \times 10^{-8}$ cm., $a = 3.34 \times 10^{-8}$ cm. Preliminary tests show brucite to be similar to pyrochroite, except that the difference in intensity of some of the points is greater in brucite. $c = 4.75 \times 10^{-8}$ cm., $a = 3.13 \times 10^{-8}$ cm. Natural pseudomorphs of pyrochroite, artificial pseudomorphs of brucite, and crystals of both subjected to pressure give instead of the point diagram, a ray diagram of the same symmetry. W. F. FOSHAG.

THE LINEAR FORCE OF GROWING CRYSTALS. (ABSTRACT). J. C. HOSTETTER. *J. Wash. Acad. Sci.*, **7**, 195–196, 1917.

Experiments with loaded crystals of potassium alum show that these crystals will lift their load if unloaded crystals are present in the same solution. Two hypotheses as to the nature and cause of this force are offered but owing to experimental difficulties no conclusion could be definitely arrived at.

C. B. S., W. F. H.