

ticular, the water content needs study, especially as to the rate of loss both below and above 100°. E. T. W.]

DISCREDITED SPECIES: "Collbranite"; see page 86.

ABSTRACTS—CRYSTALLOGRAPHY

THE PROBLEM OF CHEMICAL AFFINITY IN CRYSTALS AND THE VELOCITY OF CRYSTALLIZATION. M. PADOA. *Atti accad. Lincei*, 27, II, 59-65; *Gazz. chim. Ital.* 48, II, 139-147, 1918.

For abstract of this mathematical paper see *Chem. Abstr.* 13, 1963-1964, 1919. E. T. W.

THE OPTICAL BEHAVIOR OF WATER OF HYDRATION. K. BRIEGER. *Ann. Physik*, 57, 287-320, 1918.

For abstract of this physical paper see *Sci. Abstr.* 22a, 111; *Chem. Abstr.* 13, 3076-3077, 1919. E. T. W.

METHOD OF OBTAINING AN OPTICAL STUDY OF CRYSTALS OF SODIUM CHROMATE TETRAHYDRATE. LUCIEN DELHAYE. *Bull. soc. franc. min.* 41, 80-92, 1918.

Directions are given for crystallizing this salt. Its optical properties have been determined in detail. E. T. W.

DISTRIBUTION OF TWO KINDS OF ATOMS IN THE REGULAR FRANKENHEIM-BRAVAIS SPACE LATTICES. G. TAMMANN. *Nachr. Ges. Wiss. Göttingen*, 1918, 190-234.

ATOMIC STRUCTURES OF NON-METALLIC MIXED CRYSTALS. The same, pp. 296-318.

ISOMERIC ALLOYS. pp. 332-350.

ALTERATION IN THE CHEMICAL BEHAVIOR OF METALS AND THEIR MIXED CRYSTALS BY MECHANICAL WORKING. pp. 351-361.

For abstracts of these papers on crystal structure see *Chem. Abstr.*, 14 (6), 668-671, 1920. E. T. W.

PYROMORPHITE FROM HORCAJO, CIUDAD-REAL, SPAIN. F. PARDILLÓ AND F. GIL. *Mem. R. Soc. españ. Hist. Nat.*, 10, No. 6a, 30 pp. and 5 plates, 1916; thru *Rev. Géol.*, 1 (3), 75, 1920.

The specimens are among the most beautiful minerals of Spain. The forms found on 51 crystals are described, of which the following are new: (6057), (905.10), (6055), (9057), (4043), (7075), (3032), (8085), (5053) and (7074); many rare, doubtful, and vicinal forms were also present. Three new twinning laws were observed. E. T. W.

STUDIES ON THE GROUPINGS OF BORAX. M. SAN MIGUEL and M. DE J. NARANJO Y VEGA. *Publ. Secc. Cienc. Nat. Univ. Barcelona*, 1918, 21-34, 14 figs.; thru *Rev. Géol.*, 1 (3), 75, 1920.

Two new twinning laws, on (221) and (331), as well as several groupings, are described. These are discussed in accordance with the Goldschmidt theories. E. T. W.

USE OF PLATES NORMAL TO THE MEAN INDEX AND TO AN OPTIC AXIS IN THE DETERMINATION OF PLAGIOCLASES. G. CÉSARO. *Bull. soc. franc. min.* 39, 30-63, 1916.

CERUSSITE FROM SALMO, B. C. A. LEDOUX and T. L. WALKER. *Ottawa Naturalist*, 32, 7-8 (1918); thru *Min. Abstr.*, 19, 6 (1920).

Occasionally clear crystals of cerussite are found with the oxidized zinc ores of the H. B. mine. Twenty-four crystal forms were noted, including two new brachydomes, (092) and (0.12.1). Twinning was also noted parallel to the prisms (110) and (130).
W. F. HUNT

THE CRYSTAL STRUCTURE OF CARBORUNDUM. A. W. HULL. *Phys. Rev.*, 13, 292-295, 1919.

Discussion of paper by Burdick and Owen, abstd. in *Am. Min.*, 4 (11), 148, 1919. A different arrangement of the atoms and electrons is suggested.
E. T. W.

A CRYSTALLOGRAPHIC STUDY OF CALCITE AND BARITE FROM LÅNGBANSHYTTAN. G. AMINOFF. *Geol. För. Förh.*, 40, 273-446, 1918; APPENDIX 1, FLUORITE, 436-440; APPENDIX 2, TILASITE, 441-444; thru *Min. Abstr.*, 1, 71, 1920.

Sixteen types of calcite crystals showed 78 forms, of which 24 are new. The minerals associated with each type and order of crystallization, curvature of faces, corrosion and growth phenomena, and influence of original solution on the habit of crystals are also discussed. The barite crystals were of 7 types. Two new forms, (520), (1.1.11) were recorded, among the 31 forms present. On fluorite 8 forms were noted, of which three, (119), (1.3.14), (043) are new. The tilasite occurs as bundles of small tabular crystals, all twinned on (100). The forms are (010), ($\bar{1}$ 10), ($\bar{1}$ 31), ($\bar{1}$ 12), ($\bar{1}$ 1 $\bar{1}$), ($\bar{1}$ 01), the last three being new.
W. F. HUNT

INVESTIGATIONS BY MEANS OF X-RAYS OF THE CRYSTAL STRUCTURE OF WHITE AND GRAY TIN. A. J. BIJL AND N. H. KOLKMEIJER. *Proc. Acad. Sci. Amsterdam*, 21, 494-504, 1919; thru *Chem. Abstr.*, 13 (21), 2635, 1919.

Continuation of work abstd. in *Am. Min.* 5 (1), 19, 1920. E. T. W.

MAGNESIUM POTASSIUM CHROMATE HEXAHYDRATE. A. DUFFOUR. *Compt. rend.*, 169, 73-76, 1919.

This salt is monoclinic. Its preparation and properties are given in detail.
E. T. W.

ADVANTAGES OF THE THEODOLITE GONIOMETER. PEDRO FERRANDO-MAS. *Bol. Soc. españ. Hist. Nat.*, 18, 97-100, 1918; thru *Rev. Géol.*, 1 (9), 331, 1920.

The principles, features, and advantages of the two-circle goniometer are in this paper called to the attention of Spanish crystallographers. E. T. W.

CELLULAR SOLIDIFICATION. C. DAUZÈRE. *Ann. phys.*, 12, 5-106, 1919.

For abstract see *Chem. Abstr.*, 13 (20), 2472, 1919.