

rahedrite has been found. The crystals project into cavities or vugs in the huge replacement bodies of massive sulfides. The speaker exhibited a pentagonal dodecahedron of pyrite over 15 cm. in diameter. Sometimes also crystallized galenite is met with.

Dr. Kemp mentioned also the curious hydrated aluminium-iron silicate which has been called, by Prof. Alex. N. Winchell, "racewinite" from the cable address (*Racewin*) of H. V. Winchell, the discoverer. He described the occurrence and quoted an analysis of this rare silicate, remarking that one would think it a variety of serpentine whereas it consists chiefly of silica, alumina and water, with very minor iron and lime and almost no magnesia. He also noted that molybdenite occurs in occasional flakes. During the latter portion of his address Dr. Kemp showed a number of highly interesting lantern slides illustrating the various mines and the general topography of the district.

On a motion by Mr. Ashby a vote of thanks was tendered to Prof. Kemp for his interesting and valuable paper. The meeting adjourned at 9.30 P.M.

HERBERT P. WHITLOCK, *Recording Secretary*.

### ABSTRACTS—CRYSTALLOGRAPHY

THE EPIDOTE OF MONTE BIANCO, WITH SPECIAL REFERENCE TO THE TERM CLINOZOISITE. TERESA SILIPRANDI. *Riv. min. crist. Ital.*, 47, 61-78, 1916.

The crystallography of the mineral is described in detail, many forms new to the locality being noted. Determinations of specific gravity gave 3.375 to 3.385, and of refractive index  $\beta$  1.713 to 1.717. These properties indicate the material to be really clinozoisite, probably containing not over 2 per cent. of ferric oxide.

E. T. W.

THE APPLICATION OF THE HEAPING-UP METHOD TO TWO-CIRCLE CRYSTAL MEASUREMENT. T. J. WOYNO. Zurich, Switzerland. *Centr. Min. Geol.* 1918, 107-120, 142-152.

Crystals with curved or otherwise imperfect faces often yield images of the goniometer signal in other than the correct positions. By making a sufficient number of observations, and plotting the results in graphic diagrams, the true position of the forms concerned can be determined. Altho originally suggested for one circle measurement [original article not yet accessible in America. ABSTR.] it is especially adapted for use with the 2-circle method, since in this crystals can be studied which would be hopeless for one-circle zone measurement. The author gives a series of formulas for interpreting the results obtained, and illustrates the method by data on some rounded crystals of sphalerite from Tiffin, Ohio.

E. T. W.

CERTAIN RELATIONS BETWEEN CRYSTALLINE FORM, CHEMICAL CONSTITUTION AND OPTICAL PROPERTIES IN ORGANIC COMPOUNDS. EDGAR T. WHERRY. *J. Wash. Acad. Sci.*, 8, 277-285, 319-327, 1918.

By calculating the refractivities corresponding to the refractive indices  $\omega$  and  $\epsilon$  in some tetragonal organic compounds, it is shown that the ratio between them is in many cases inversely proportional to the ratio between the corresponding crystallographic axes  $a$  and  $c$ . The probable arrangements of the atoms in some of the compounds are deduced from these relations.

E. T. W.

THE APPLICATION OF OPTICAL METHODS OF IDENTIFICATION TO ALKALOIDS AND OTHER ORGANIC COMPOUNDS. EDGAR T. WHERRY. *U. S. Dept. Agr. Bull.* 679, 9 pages, 1918.

An outline of the optical methods useful in determining crystalline substances, with special reference to the modifications of the general procedures necessary when organic compounds are under study. E. T. W.

THE IDENTIFICATION OF THE CINCHONA ALKALOIDS BY OPTICAL-CRYSTALLOGRAPHIC MEASUREMENTS. EDGAR T. WHERRY AND ELIAS YANOVSKY. *J. Am. Chem. Soc.*, 40 (7), 1063-1074, (and 1955-1956), 1918.

The optical properties of these substances are described in detail, and their applicability to identification pointed out. E. T. W.

CRYSTALLOGRAPHY AND OPTICAL PROPERTIES OF THREE ALDOPENTOSEs. EDGAR T. WHERRY. *J. Am. Chem. Soc.*, 40 (12), 1852-1858, 1918.

The crystals were measured on the 2-circle goniometer, and are described, with figures. Optical data were determined in light of different wave-lengths, and their application to the identification of the substances is outlined.

E. T. W.

#### ABSTRACTS—MINERALOGY

A REMARKABLE OCCURRENCE OF CHROMIUM-TOURMALINE AND RUTILE IN THE BARBERTON DISTRICT. A. L. HALL. *Trans. Geol. Soc. S. Africa*, 20, 51-52, 1918.

Green chromium-tourmaline occurs with pink rutile in talc, associated with talc schist and serpentine near intrusive granitic rocks. S. G. G.

SPECTRUM-PHENOMENA IN THE CHROMIUM COMPOUNDS. JAMES MOIR. *Trans. Royal Soc. S. Africa*, 7 (2), 129-130, 1918.

A description of experiments made to endeavor to reproduce the absorption spectra shown by ruby and emerald. Chromium compounds were dissolved in concentrated acids, especially sulfuric and phosphoric. The resulting solutions gave spectra most similar to that of emerald, tho suggesting that of ruby in certain respects. E. T. W.

WOLLASTONITE,  $\text{CaO.SiO}_2$ , AND RELATED SOLID SOLUTIONS IN THE TERNARY SYSTEM LIME-MAGNESIA-SILICA. J. B. FERGUSON and H. E. MERWIN. *Geophys. Lab. Am. J. Sci.*, [4], 48, 165-189, 1919.

By fusing the constituents and studying the products optically, the existence of several types of solid solution and of one new compound have been discovered. Diopside, oakermanite, and the new compound  $5\text{CaO.2MgO.6SiO}_2$  all form solid solutions in wollastonite and in pseudowollastonite.

E. T. W.

THE MINES AND MINERALS OF LEADHILLS. ROBERT BROWN. Dumfriesshire and Galloway Nat. Hist. and Antiquarian Soc., *Trans. and J. of Proc.* [3], 6, 124-137, 1919.

THE PRODUCTION OF PLATINUM FOR THE YEAR 1918. GEORGE F. KUNZ. *Min. Ind.*, 27, 569-581, 1919.

In addition to statistics, this paper includes notes on occurrences of platinum in Alaska, Australia, Canada, Colombia, Madagascar, and Rhodesia as well as on the discrediting of certain reports of its occurrence in Arizona and Idaho.

E. T. W.

THE PRODUCTION OF PRECIOUS STONES FOR THE YEAR 1918. GEORGE F. KUNZ. *Min. Ind.*, 27, 604-628, 1919.

Contains data on: diamonds in South Africa, including the record of the finding of an exceptionally fine blue-white diamond weighing 388.25 carats at the Jagersfontein mine; diamonds in Arkansas, reporting the finding of some very fine stones, the largest being a yellow octahedron weighing 17.85 carats; opal in the northern part of Humboldt Co., Nevada, in large masses up to over \$5000 in value; and a number of other less important occurrences.

E. T. W.

A METHOD FOR THE QUICK DETERMINATION OF THE APPROXIMATE AMOUNT AND COMPOSITION OF THE NICKEL-IFEROUS IRON IN METEORITES; AND ITS APPLICATION TO SEVENTEEN METEORIC STONES. G. T. PRIOR. *Mineral. Mag.*, 18, 349-354, 1919.

A convenient classification of meteorites is one based on the ratio of iron to nickel in the nickeliferous iron they contain. The author outlines a simple chemical method which consists of separating the attracted portion by means of a magnetic comb. The adhering impurities are removed and the metal dissolved in aqua regia. From the amount of sulfur present, the quantity of troilite is computed. The nickel is precipitated with dimethyl glyoxime and the iron determined by difference. The application of this method gave perfectly reliable results.

W. F. H.

THE ORIGIN OF METEORITES. STANISLAS MEUNIER. *Bull. soc. geol. franc.*, 4, 202-213, 1918.

The writer finds volcanic and metamorphic types of meteorites to exist. The source of meteorites is thought to be the dismemberment of a globe similar to ours.

C. B. SLAWSON.

SOME RECENT FALLS OF AEROLITES IN INDIA. H. WALKER. *Proc. Asiatic Soc. Bengal*, 15, cxcvii, 1919.

The falls of the following aerolites are noted: July 10, 1916, at Sultanpur, Bolla district, five fragments recovered aggregating 1,710.57 grams; November 21, 1916, at Rampurhat, Birbhum district, a nearly complete specimen weighing 99.93 grams; February 20, 1917, at Ranchapar, Sonthal Parganas, 4 pieces recovered totaling 366.87 grams; July 3, 1917, at Cranganore in Cochin State, 6 fragments aggregating 1,460.24 grams were recovered.

S. G. GORDON.