rocks it might easily have been overlooked in the study of thin sections, unless suspected, because of its similarity in general appearance to quartz. There is some suggestion that this cordierite may be related to the sulphide mineralization since the grains of megascopic size are associated with the sulphides.

In addition to cordierite-bearing specimens the writer also collected one piece of green microcline from the same locality. It may also be mentioned that tourmaline was found in the pegmatite dikes that cut the gneisses. Cordierite, green microcline, and tourmaline have not been mentioned in the previous descriptions of the rocks from this locality.

PROCEEDINGS OF SOCIETIES

MINERALOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

MINERALOGICAL SOCIETY, MARCH 26TH, 1936. SIR THOMAS H. HOLLAND, PRESIDENT, IN THE CHAIR.

(1) *Two new meteoric stones from South Australia—Lake Labyrinth and Kappakoola.* By Dr. L. J. SPENCER.

These two meteorites have recently been recovered by Mr. R. Bedford of the Kyancutta Museum, South Australia. The first was seen to fall and was located by a half-cast aboriginal in 1924 at a spot (30°20′S., 134°45′E.) about 27 miles N.W. of Lake Labyrinth. Broken and weathered fragments with a total weight of 57 lb. were collected in 1934, and the original weight of the mass is estimated at 75 lb. It is a light grey chondritic stone with very little metallic nickel-iron and troilite. The second meteorite was found in 1929 on a sand-hill at about 33°20′S., 135°30′E. in the hundred of Kappakoola, county Le Hunte, Eyre Peninsula. It is a small, completely crusted stone weighing 392.5 grams and of unusual shape, having the form of a right triangular prism with flat base and domed top. It is a minutely brecciated olivine-chondrite with a medium amount of nickel-iron and some troilite. A list is given of thirteen South Australian meteorites, for some of which information is not yet available.

(2) *Some Malvernian hornblendes: their genetic relationships.* By Prof. A. BRAMMALL and Mr. J. G. C. LEECH.

Analyses of twelve hornblendes from "appinitic" types, together with optical, spectroscopic, and assay data, confirm field evidence that the rocks themselves are syntectics of (a) hornblendite-pyroxenite terms and/or (b) amphibolites, epidiorites, etc., with (c) granitic, plagioclasic and other magmatic fluids, (including emanations)—acting singly, successively, or in oscillation. In any one rock-type, the amphibole is polyvarietal: *e.g.*, in the Hollybush "gabbrodiorite" (yielding water-worn zircons, etc.), tremolite—actinolite—green hornblende—blue-green hornblende. The (OH) = 2 of the standard *x*-ray amphibole constitution is not sustained: *n* varies between 1.2 and 2.9 independently of the other groups and of the Al—Si relationship.

(3) *The effects of heat on the optical orientation of plagioclase felspars.* By Dr. C. T. BARBER (Communicated by Prof. C. E. TILLEY).

In 1931, T. W. Barth described a change of 6° in the optical orientation of labradorite due to heat treatment at 1000°C. for 300 hours. The experiments now described were

undertaken to ascertain the amount and variability, both in direction and magnitude, of the displacement of the indicatrix under the influence of heat. The author has been unable to reproduce Barth's results, and as a result of twelve experiments on albite, andesine, labradorite, and anorthite, concludes that the change in the optical orientation is so slight as not to permit of accurate determination by the Fedorov method.

(4) *X-ray studies on psilomelane, pyrolusite, and hollandite.* By Mr. GEORGE VAUX.

Specimens of polianite originally described by Dana and Penfield from Platten, Bohemia, are identical with pyrolusite (Haidinger 1827). Therefore the name pyrolusite should be used both for fibrous specimens and for those exhibiting well-formed tetragonal crystals. Botryoidal formations encrusted with minute crystals of so called "polianite" from Schneeberg, Saxony, contain 16% BaO and have the same chemical composition as material from the same locality originally described and named psilomelane by Haidinger. Polished sections and x-ray photographs show that the compact psilomelane and the minute crystals from Schneeberg have the same crystal structure. The unit-cell dimensions of psilomelane, hollandite, manganite, etc., are found to be simply related to those of pyrolusite.

(5) *Biographical notices of mineralogists recently deceased. (Sixth series).* By Dr. L. J. SPENCER.

Thirty-five obituaries with sixteen portraits are presented for the period 1933–36. Ages range from 57 to 89 with an average of 71.4 years. In the six numbers of this series since 1919 there has been a gradual and steady increase in the average age from 63.6 to 71.4 years.

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, February 6, 1936

A stated meeting of the society was held on this date with President Arndt in the chair, 46 members and 25 visitors were present.

Dr. Edward H. Watson of Bryn Mawr College addressed the society on "The Gabbros of Eastern Pennsylvania." Lantern slides and specimens emphasized the thorough injection of these gabbros by later granites.

Exhibits included "black" sulfur from Hillburn, N.Y., by Edwin Roedder; and calcite, datolite, and amethyst from Prospect Park, Paterson, N.J., by Leonard Morgan.

February 27, 1936

A special meeting was called to order in the lecture hall of the Academy by President Arndt to hear an address by Dr. Hugh S. Spence of the Canada Department of Mines on "Mining for Radium in Canada's Subarctic." The deposits at LaBine Point, Echo Bay on Great Bear Lake were described in detail, with lantern slide illustrations and an exhibit of many specimens of pitchblende and its alteration products, native silver, etc. About 140 members and visitors were present.

March 5, 1936

A stated meeting was held on this date with President Arndt in the chair, and an attendance of 34 members and 21 visitors. Dr. Philip Krieger of Columbia University spoke on "Some Mining and Mineral Localities of Northern Mexico." Alluded to were the history, geology, mineralogy and economic importance of a number of mines studied by Dr. Krieger. The talk was illustrated with lantern slides and specimens.

W. H. FLACK, *Secretary.*

NEW YORK MINERALOGICAL CLUB

The regular monthly meeting of the New York Mineralogical Club was held in the American Museum of Natural History, Wednesday, April 15, 1936, with President Gilman S. Stanton presiding; sixty-eight members and guests were present. Bedford, N.Y. was selected for the annual Memorial Day field trip, and the officers for the following year were elected.

Dr. J. B. Taylor, of the General Electric Company, Schenectady, N.Y., was the speaker of the evening. He addressed the club upon the "Effect of the Alkali Metals and Selenium in the Light Control of Electric Circuits." Various types of photo-electric cells were exhibited and interesting demonstrations of the uses of the "electric eye" made. Photo-electric cells were made to turn switches on and off and to regulate current intensities. Audible reproduction of variable light intensities was shown, and the speaker closed with a demonstration of the apparatus by means of which he had talked thirty miles over a beam of light.

At the close of the address, the newly elected officers were installed. They are:

President: Professor B. T. Butler
First Vice-President: Dr. Olaf Andersen
Second Vice-President: Mr. H. R. Lee
Treasurer: Mr. James A. Taylor
Secretary: Dr. F. H. Pough

F. H. POUGH, *Secretary*

SUPPLEMENTARY NOTE ON THE "CLEAVAGE OF IONIC MINERALS"

M. D. SHAPPELL

In my paper on the "Cleavage of Ionic Minerals," *Am. Mineral.*, vol. **21**, pp. 75–102, 1936, the indication of the charges as shown in Fig. 1 on page 83 is incorrect.[1] The chief interest is in the distribution of negative ions about the central positive ion which is shown correctly; the positive and negative charges should, of course, alternate throughout the configuration.

To the statement on page 83 that the normal component is equal to "$s \cos \theta$," it may be well to add explicitly "where θ is the angle between the bond directions and the cleavage normal." The values given for θ were obtained with a protractor from structure models and should be approximately correct.

[1] My attention was kindly called to this error by a written communication from Professor Fisher, University of Chicago.