

been added in which the data on the important mineral groups have been assembled. The new edition will therefore entirely supersede the earlier one and will be a necessary reference work for all those who have occasion to identify minerals.

PROCEEDINGS OF SOCIETIES

MINERALOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

MINERALOGICAL SOCIETY, *March 15*, MR. ARTHUR RUSSELL, Vice-President, in the chair.

MR. ARTHUR RUSSELL: *Baryte crystals from the Manvers Main Colliery, Wath upon Dearne, near Rotherham, Yorkshire.* A cavity containing exceedingly beautiful colourless crystals of baryte was discovered in the roof of the Parkgate Seam of this colliery in 1930, and the occurrence was briefly described by Mr. C. P. Finn in the same year. Two distinct habits of crystals occurred, prismatic and tabular. The crystals are attached to small coloured rhombohedra of dolomite which form a coating on the grey sandstone, both baryte and dolomite being for the most part more or less thickly sprinkled with small bright twinned crystals of chalcopyrite. The crystal forms present are listed and drawings of the crystals are given.

DR. W. Q. KENNEDY: *The conditions for the crystallization of hornblende in igneous rocks.* By means of a statistical study of the MgO-CaO-FeO ratios of igneous hornblendes it is shown that the latter occupy an intermediate position between the diopsidic pyroxenes and the magnesia-rich, lime-poor monoclinic and orthorhombic pyroxenes. It is concluded, therefore, that (1) pressure and the concentration of the volatile constituents are not the sole determining factors in the crystallization of pyroxene and hornblende from a magma but that the original proportions of the constituent oxides play an equally important part; (2) a magma which, under physical conditions tending towards the retention of the volatile constituents, will produce hornblende as its ferromagnesian constituent will, under effusive conditions, produce diopsidic pyroxene plus hypersthene or enstatite-augite. Thus hornblende = diopsidic pyroxene + orthorhombic pyroxene or enstatite-augite (pigeonite).

MR. ARTHUR RUSSELL: *An account of British mineral collectors and dealers in the 17th, 18th, and 19th centuries (continued).* John Williams of Scorrier House, Cornwall, mine agent and adventurer, copper and tin smelter and banker, born September 23, 1753, died April 17, 1841. The collection of Cornish minerals which he had formed at Scorrier in conjunction with his son John, born August 3, 1777, died August 11, 1849, was greatly added to by the latter. The collection which contained about 10,000 specimens was one of the three finest in Cornwall. In 1893 Mr. John Charles Williams disposed of the collection by presentation between the British Museum, The Royal Institution of Cornwall, Truro Museum and the Robert Hunt Memorial Museum, Redruth. In addition to a memoir of both the Williams, a general account of the collection and its outstanding specimens is given.

M. H. HEY: *On the advantages of the face-adjustment for two-circle goniometry.* The statement often made that an accurate projection cannot be so quickly prepared from two-circle measurements made with the face-adjustment as from measurements made with the zone-adjustment is shown to be incorrect, and a construction for the preparation of a projection is described. The face adjustment has several decided advantages over the zone-adjustment.

The following papers were taken as read:

M. H. HEY: *An improved method of crystallographic computations.* A system for the computation of the elements of a crystal from two-circle goniometric measurements is described in which due weight is given to each measured angle in accordance with its estimated probable accuracy.

M. H. HEY: *On face- and zone-symbols referred to hexagonal axes: a correction.* The system of four-index hexagonal zone-symbols described by L. Weber is correct, and that formerly described by the author is abandoned. The derivation of Weber's symbols from a gnomonic or linear projection is described, and their relation to the "three-index" symbols noted.

PHILADELPHIA MINERALOGICAL SOCIETY

The Academy of Natural Sciences of Philadelphia, March 1st, 1934

President Gillson called to order a stated meeting of the Society, 38 members and 27 visitors being present.

Prof. Paul F. Kerr of Columbia University addressed the Society on the "Mill City, Nevada, Tungsten Deposits." Prospecting for commercial tungsten deposits was greatly encouraged during the War and some 25 prospects were located in the 300 odd Mountain ranges of Nevada. The principal ores are scheelite and huebnerite. Mill City in the Eugene Range is the largest producing center in the United States at present, the annual production being 1000 tons of concentrates. These 300 odd Mountain ranges represent different mineralized fault blocks, and the Eugene Range yields mercury, molybdenum, silver, tungsten and gold. Mill City, Silver Dike and Paradise Range represent three different types of tungsten deposits, and the Betty O'Neal Mine in the Paradise Range is estimated to contain 5,000,000 tons of brucite, in which are located pockets of scheelite. Three important mines are located at Mill City, the Humboldt, Springer and Stank, which represent a concentration of tungsten in a vein-like deposit 6 to 8 feet wide and 800 feet deep. The rocks are Triassic in age and younger. Quartz, garnet, calcite and epidote are associated with the scheelite. The deposit is a typical contact metamorphic deposit. Owing to the great similarity of the appearance of the scheelite and the associated quartz, iron arcs have recently been installed above and below ground for determining the scheelite by fluorescence.

In the discussion which followed it was shown that it would not be practical to explore the granodiorite which underlies the ore deposit irregularly, by geophysical methods, but would be much simpler to drill. Prof. Kerr's talk was splendidly illustrated with lantern slides. The Society gave him a rising vote of thanks.

W. H. FLACK, *Secretary*

The Academy of Natural Sciences of Philadelphia, Pa., April 5, 1934

President Gillson presided at a stated meeting of the Philadelphia Mineralogical Society with 39 members and 32 visitors present. Mr. Wm. Van Horn was elected to senior membership.

President Gillson opened the discussion of the evening, a "Symposium on the Tri-State Lead-Zinc District" with an account of the geology and economic importance of the region, which covers parts of Missouri, Kansas and Oklahoma.

Mr. Arndt, in the absence of Mr. Chas. R. Toothaker, read of Mr. Toothaker's personal collecting experiences in the district. He described one cavity in the mines which contained a scalenohedron of calcite $2\frac{1}{2}$ feet across and over 5 feet long. Fully 18 inches of the tip was broken off, and floor, walls and ceiling of the cavity were covered with calcite, marcasite, dolomite and galena.

Mr. J. R. Frorer described one of his frequent trips into this region, exhibiting a number of very fine specimens of crystallized galena, sphalerite, marcasite, barite, calcite twins, calcite enclosing bitumen, and ruby blende.

Mr. Cienkowski exhibited six large specimens of crystallized galena, coxcomb marcasite and calcite, and a golden calcite on pink dolomite, and described their collection.

W. H. FLACK, *Secretary*

LEHIGH VALLEY ROCK AND MINERALS CLUB

There has recently been organized in the Lehigh Valley a Rocks and Minerals Club. The plan is to arrange for occasional trips during the spring, summer and fall to places of mineralogical and geological interest, and especially to localities favorable for collecting. During the winter months, there will be occasional evening programs.

Dr. Donald M. Fraser of Lehigh University is chairman of the Club. The other members of the executive committee are Mr. Floyd R. Faux, of Bethlehem, secretary; Professor Charles Cabeen, of Lafayette College, Easton, Pa.; Professor Albert Fasig, of Muhlenberg College, Allentown, Pa.; and Mr. John McNeal, of Easton, Pa.

NEW HAVEN MINERAL CLUB

The fourth meeting of the New Haven Mineral Club proved a most successful one, with almost all of the members in attendance. Mr. Edward Leith of Yale University gave an interesting, illustrated talk on "Fossil Collecting" showing slides of some of the specimens. He also spoke of the Yale expedition to Nova Scotia which gave the club members a good idea of the geology of that country.

The club also had an unexpected guest in Mr. John Grenzig of Brooklyn who is a very enthusiastic mineral collector. Mr. Grenzig gave an impromptu talk on the "Zeolites of Paterson, New Jersey."

The club has about 45 members at the present time and is seeking new recruits. Some of the members have taken up the cutting and polishing of specimens and semi-precious stones and it is hoped that this activity will become very popular.

LILLIAN M. OTERSEN, *Vice-President*