PROCEEDINGS OF SOCIETIES

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, September 3, 1931

A stated meeting of the Philadelphia Mineralogical Society was held on September 3, with Mr. Toothaker presiding. Thirty-two members and twelve visitors were present. Mr. Stephen Varni was preposed for active membership.

The subject of the evening was *Reports of Summer Trips*. Dr. Alfred C. Hawkins described a visit to western North Carolina, and exhibited cyanite, beryl, emerald, almandite, actinolite, cassiterite, bornite, chalcopyrite, hyalite, uraninite, gummite, clarkeite, cyrtolite, and inclusions of zoisite in muscovite.

Mr. Biernbaum described a trip taken with Messrs. Toothaker, Broadbelt, and Gordon to various localities in the Watchung Mountains of northern New Jersey, Bedford, and Tilly Foster, New York. The principal finds were: titanite crystals at Griggstown, pectolite at Paterson, jasper and copper at Somerville, pyrite in clay iron-stone at South River, pyrite and marcasite at Sayreville, stilbite at Summit. rose quartz at Bedford, and actinolite and talc at Mahopac. Dr. Oldach reported visits to the Wissahickon, and to the mines at Warwick, Hopewell, Dillsburg, and Boyertown. Mr. Flack spoke briefly of a visit to the Canadian Rockies. Mr. Knabe reported little success in working over the dumps of Wood's chrome mine. Mr. Toothaker reported on a trip with Mr. Boyle to Blue Hill and Brinton's quarries.

W. H. FLACK, *Secretary*

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, October 1, 1931

A stated meeting of the Philadelphia Mineralogical Society was held on the above date, with Mr. Toothaker presiding. Thirty-four members and sixteen visitors were present. Upon favorable recommendation of the Council, Messrs. Stephen Varni and William Wimer were elected members.

Mr. Toothaker spoke on *Collecting in New England*, descriptive of a trip taken during the summer with Mrs. Toothaker, and Messrs. Boyle and Gordon. The localities visited included the Trumbull tungsten mine, Connecticut, quarries near Portland and Middletown, Connecticut, the limestone quarries near Canaan, Connecticut, the emery mine at Chester, Massachusetts, the Westfield, Massachusetts, trap quarries, the Cumington, Massachusetts rhodonite mine, the marble quarries at Rutland, Vermont, the granite quarries at Barre, Vermont, the iron mines at Mineville, the garnet mine on Mt. Gore, and the graphite mine near Ticonderoga, in the Adirondacks, Ausable Chasm, Herkimer, New York, and Easton, Pennsylvania. Beautiful specimens of beryl, tremolite, garnet, rhodonite, quartz crystals, and datolite—an extraordinary mass of fine large crystals—were exhibited.

The following officers were elected: President, Dr. Florian Cajori; vice-president, Mr. Charles R. Toothaker; secretary, Mr. Wiley H. Flack; treasurer, Mr. Albert Hallowell; and councilor, Mr. William C. Knabe.

W. H. FLACK, *Secretary*

MINERALOGICAL SOCIETY OF SOUTHERN CALIFORNIA

The Mineralogical Society of Southern California was formed recently and held its first meeting on June 23 at the Pasadena Library, with an attendance of 175. The following were elected to hold office until June, 1932: President, Mr. John A. Renshaw; vice president, Mr. W. S. Morton; secretary, Mr. Edwin Van Amringe; treasurer, Miss Helen Fowler.

MINERALOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

MINERALOGICAL SOCIETY, *Nov. 4*, ANNIVERSARY MEETING.

DR. F. C. PHILLIPS: *On crystals of brookite tabular parallel to the basal plane.* Small yellow-brown rectangular plates in heavy residues from Middle Jurassic sandstones of northeast Yorkshire are shown by optical and x-ray examination to be brookite of normal optic orientation, but unusual crystallographic habit, being tabular parallel to the basal plane. They are associated in the residues with brookite of normal habit, abundant anatase, and rutile.

PROF. T. ITO AND T. SHIGA: *On Scorodite from Kiura Mine, Bungo, Kiushiu, Japan.* The mineral occurs as small dark brown and green crystals associated with vivianite, fluorite, and quartz in druses in veins of arsenopyrite intruded into limestone. Chemical analysis on carefully selected material gives a result consistent with the formula $FeAsO_4.2H_2O$. Forms present are (001), (100), (011), (120), (111), (201), (211), and (322). The crystals are orthorhombic with $a:b:c=0.865:1:0.972$. The habit is pyramidal equidimensional. The (111) faces show abundant vicinal faces belonging to two principal zones $[01\bar{1}]$ and $[10\bar{1}]$.

MR. W. CAMPBELL SMITH: *On a new meteoric stone from Suwahib, Arabia.* The stone was found on the sand near Buwah, in Suwahib, by one of the Arabs accompanying Mr. Bertram Thomas on his journey across the Rub'al Khali. As found it weighed just over 238½ grams. It is coated with limonite and shows no definite crust. It is a black chondrite belonging to Prior's Cronstad type, with over 10 per cent of nickel-iron. The density is 3.52.

DR. EDWARD S. SIMPSON AND MR. D. C. MURRAY: *A new siderolite from Bencubbin, Western Australia.* A mass weighing 119½ lb. (54 kg.) was found in 1930 near Bencubbin, about 150 miles northeast of Perth. It consists of a skeleton of nickel-iron (68.8%) with enclosed crystals up to 1 cm. across, of greyish-white enstatite (13.5%) and dark olivine (12.5%). In the metallic portion Fe:Ni=15:1. The meteorite is classed as a mesosiderite with an unusually high proportion of nickel-iron.

DR. A. R. ALDERMAN: *The meteorite craters at Henbury, Central Australia.* The locality is known locally as the Double Punch-bowl, from the two largest adjoining craters. It is situated 7 miles W.S.W. of Henbury cattle station on the dry Finke river, and about 50 miles south of the McDonnell Ranges in the very center of Australia. Within an area of 500 by 500 yards thirteen craters are mapped. The largest is oval in outline, measuring 220 by 120 yards across, and with a depth of 50 to 60 feet. The other craters are roughly circular with diameters ranging from 10 to 80 yards. The walls consist of powdered rock and shattered blocks of Ordovician sandstone and slaty rock. Owing to the craters acting as collecting pans for rain-water in this arid region, the spots are prominently marked by the growth of mulga trees, acacias, and course grass. Scattered around the craters are numerous pieces of metal-

lic iron, usually angular in shape, and ranging from a fraction of an ounce to 52½ lb. in weight. In one arc of 6 by 6 feet over a hundred fragments were collected. Only two masses (one of 13 lb.) were found within the crater walls; and in one of the smaller craters a bore-hole to a depth of 8 feet through fine silt down to coarse rock fragments yielded no mass of iron. Fragments of iron rust are also abundant; and some glassy material, suggesting fusion of the country-rock, was found. These craters, which are very similar, were evidently formed by the impact of a shower of meteoric irons at some remote period.

ANNIVERSARY MEETING, *November 3rd.*, 1931. The following were elected officers and members of the Council: President, Sir John S. Flett; vice-presidents, Dr. G. F. Herbert Smith, Prof. C. Gilbert Cullis; treasurer, Mr. F. N. Ashcroft; general secretary, Mr. W. Campbell Smith; foreign secretary, Prof. A. Hutchinson; editor of the journal, Dr. L. J. Spencer; Ordinary members of council, Dr. A. Brammal, Mr. G. McDonald Davies, Prof. W. C. Fearnsides, Miss M. W. Porter, Mr. A. F. Hallimond, Dr. F. H. Hatch, Sir Albert E. Kitson, Prof. W. L. Bragg, Mr. F. A. Bannister, Prof. H. H. Read, Mr. Arthur Russell, and Prof. C. E. Tilley.

BOOK REVIEWS

THE EXAMINATION OF FRAGMENTAL ROCKS, FREDERICK G. TICKELL. Stanford University Press, **1931.** 122pp., 35 figs. and 2 pls. Price, $5.00.

The examination of mineral fragments has proven to be a valuable procedure in petroleum geology, mining geology, hydrology, ceramics, metallurgy and in chemical engineering. Contributions to the science of mineralogy are being derived from each of these subjects. Prof. Tickell has endeavored to assemble some of the best methods from published contributions of each of these technologies. This material is presented in an unusually brief, compact form thus the errors of omission exceed those of commission. If, as the author states, the treatment is not one for elementary students, certain omissions become even more serious.

"Electric wind" effects are not mentioned under dielectric separation although such effects are vitally important. The maximum dielectric constants given in table 10 are meaningless without at least reference to temperatures at which they were obtained. More surprising is the omission of all methods for feldspar determination accept those of Tsuboi and Schmidt. Surely advanced students are entitled to more than one page and one diagram on the fundamental conception of the triaxial ellipsoid. Mineralogists will be surprised to find the mixtures, leucoxene and limonite accorded full rank along with apatite and microcline as mineral species.

The chapters on size analysis and porosity and permeability are an excellent summary of the literature.

The book offers an elementary presentation to students of petrography even though it may be, as the author states, of advanced character to other students. Its chief value lies in the inclusion between two covers of material not otherwise to be found except by reference to many publications.

ERNEST E. FAIRBANKS

THE STUDY OF ROCKS. S. J. SHAND. xi+224 pages. Thomas Murby and Co., London, **1931.** Price, 6 shillings. D. Van Nostrand Co. *New York.*

The author, who is professor of geology and mineralogy at the University of Stellenbosch, South Africa, quotes J. J. H. Teall upon the confusion in petrographic