

PROCEEDINGS OF SOCIETIES

MINERALOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

Anniversary Meeting, November 5th, 1936

The following were elected officers and members of Council: *President*, DR. L. J. SPENCER C.B.E., F.R.S.; *Vice-Presidents*, PROF. P. G. H. BOSWELL, AND MR. T. CROOK; *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*: PROF. A. BRAMMALL, MR. C. W. MATHEWS, DR. T. C. PHEMISTER, MR. A. BROUGHTON EDGE, PROF. H. H. READ, MR. ARTHUR RUSSELL, MR. R. C. SPILLER, DR. GILBERT WILSON, DR. A. F. HALLIMOND, PROF. C. E. TILLEY, MR. B. W. ANDERSON, MR. M. H. HEY.

DR. L. J. SPENCER, PRESIDENT, IN THE CHAIR

Prof. C. E. Tilley exhibited pyroxmangite- and rhodinite-bearing schists from the Lewisian of Glenelg; and Dr. A. T. Dollar an integrating stage for micrometric analysis.

(1) *Demonstrations in petrogenesis from Kiloran Bay, Colonsay. 1. The transfusion of quartzite.* By Miss D. L. REYNOLDS. (With analyses by Lady Agnes Gibbs and others.)

The hornblende of three small composite intrusions is thickly sprinkled with blocks of white quartzite, most of which exhibit various stages of replacement by micropegmatite, syenite, and appinite. The syntectic rock types, which present an igneous appearance, occur in individual xenoliths either separately or in concentric zones. In the latter case micropegmatite or syenite adjoins the centrally placed residual core of quartzite. The boundaries between the residual quartzite and its replaced portion and between successive replacement zones are always sharp. Completely replaced xenoliths are represented by felspathic patches and schlieren. By study of successive replacement zones and chemical analysis, it is found that the process of replacement involved the differential diffusion of various magmatic constituents (possibly ionic) into the quartzite, some constituents having actually become concentrated in the metasomatic rocks.

Finally, the process of transfusion gave rise to syntectic magma of syenitic and appinitic composition, now represented by veins which emerge from metasomatized quartzite.

(2) *Transfusion of quartz xenoliths in alkali basic and ultrabasic lavas, south-west Uganda.* By Professor ARTHUR HOLMES. (With microchemical analyses by Dr. Hecht.)

Many of the lavas of south-west Uganda contain augite-rimmed xenoliths of transfused quartz. Transfusion begins with the development of intergranular channels of glass and continues until only isolated relics of quartz remain. Refractive indices: glass from various xenoliths, 1.472 to 1.497: pure silica-glass, 1.458. In order to ascertain what constituents migrated from magma to quartz, Dr. F. Hecht has made microchemical analyses of three samples of glass from pure quartzite or vein-quartz occurring in two murambites and a katungite from the Bufumbira district.

Analyses of these new rock-types are presented. Murambite is melanocratic leucite-absarokite. Katungite is potash-rich pyroxene-free olivine-melilitite. The results show that in all three rocks the glass has the composition of silica-rich potassic obsidian. The constituents introduced were mainly Al_2O_3 , K_2O , and H_2O , accompanied by smaller amounts of Na_2O , TiO_2 , P_2O_5 , MnO , and the calcemic oxides. SO_2 was a notable contribution from murambite and CO_2 from katungite.

- (3) *An occurrence of greenalite-chert in the Ordovician rocks of the southern uplands of Scotland.* By Mr. W. Q. KENNEDY.

A dark-green to black cherty rock from the Arenig outcrop near Glenluce, Wigtownshire, is found to consist of rounded or irregular granules of a greenish, isotropic, amorphous mineral embedded in a fine-grained base of cherty silica. The optical properties, nature of the alteration, and composition of the rock indicate that the mineral is a pure hydrated ferrous silicate identical with the greenalite occurring in the Biwabik iron formation of Minnesota.

- (4) *The composition and paragenesis of the biotites of the Carsphairn igneous complex.* By Mr. W. A. DEER (communicated by Prof. C. E. Tilley).

Three biotites have been analysed from the granites, tonalite, and hornblende hybrid of the Carsphairn intrusion. Their compositions are closely related to the enclosing rock when the mineral has crystallized under normal magmatic conditions. During the hybridization process this relationship is less strong due to changing equilibrium conditions. Their structural formulae, derived from partial *x*-ray analysis, have been calculated, and the formula suggested by Pauling is accepted in preference to Mauguin's. The X_n group (coordination number 6) varies from $n=2.5$ to 3. In biotites from the intermediate rocks n approaches 3, and the mica becomes richer in the phlogopitic molecule. The biotites are related as members within a single intrusion and show characteristic features distinguishing them from biotites of other complexes.

NEW YORK MINERALOGICAL CLUB

50th Anniversary Celebration Banquet, November 18, 1936

The Club celebrated the 50th Anniversary of its existence with a large dinner, held in the "Birds of the World Hall," in the American Museum of Natural History on Nov. 18, 1936. Over 125 members and guests were present.

After the dinner and the President's address of welcome, Professor A. H. Phillips presided as toastmaster and introduced the speakers. Prof. B. T. Butler first spoke of the present club membership and their contributions in the field of mineralogy, despite their primary interests in other fields. The names of many distinguished men may be found upon the club's roster.

Mr. Gilman S. Stanton then continued speaking in the same vein, telling of some of the founders of the club and their places in the history of mineralogy in this country. The names of many of the members and all but one of the honorary members are perpetuated in mineral names.

Mr. H. P. Whitlock then spoke of some of the minerals which have been named for members of the club, notably bementite, canfieldite, roebblingite, kempite, hiddenite and kunzite. The most famous of our American mineralogists and one who assuredly deserves to have a mineral named for him, Edward Salisbury Dana, long an honorary member, has never been so memorialized, and Mr. Whitlock proposed that his middle name be used in this way.

Mr. E. N. Cameron, speaking for Prof. Paul F. Kerr, then demonstrated by projection, some very fine interference phenomena produced by orientated sections cut through different minerals. The unusual appearance of the brookite figure was shown. A final demonstration was made with a gypsum plate which was heated until it became uniaxial, reverting to its original large 2V on cooling.

The final speaker of the evening was Mr. O. Ivan Lee who demonstrated his discovery of the reversible photosensitivity of hackmanite, making the first public announcement of

this discovery. The demonstration was very startling and impressive, and Mr. Lee's explanation of the cause was received with interest.

F. H. POUGH, *Secretary*

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, October 1, 1936

Mr. Harold W. Arndt presided at a stated meeting, 48 members and 30 visitors being present. The following officers were elected: *President*: HAROLD W. ARNDT; *Vice-President*: DR. JOSEPH L. GILLSON; *Secretary*: WYLIE H. FLACK; *Treasurer*: MORRELL G. BALDWIN; and *Councillor*: CHARLES R. TOOTHAKER.

Mr. A. Wm. Postel of the Department of Geology of the University of Pennsylvania gave an illustrated talk on "The Geology of Southern California."

Trips were reported by: Samuel G. Gordon (Perkiomenville) exhibiting stilbite; Harry W. Trudell (Bernardville, N. J., Tilly Foster, N. Y., Westfield, Mass., and Portland, Conn.) collecting beryl, tourmaline, albite, apatite, and fluorite; Lawrence Weagle (Nova Scotia); Arnold Morris (Beatty Road) beryl and ilmenite; Adolph E. Meier (quarry below Crum Creek Falls) molybdenite and beryl; Louis Moyd (Easton and Boyertown) molybdenite, hematite; G. Earle Thompson (Bridgeport, Penn.) malachite, calcite, quartz; Leonard Morgan (Prospect Park, Paterson, N. J.), agate, quartz, and datolite; Edwin Roedder (Hillburn, N. Y.) pyrite; Charles R. Toothaker (Judds Bridge, Conn.) cyanite; Constantine Challis (Phoenixville, Penn.) pyromorphite and wulfenite, (Leiperville) beryl and garnet.

W. H. FLACK, *Secretary*

NEW MINERAL NAMES

Parawollastonite

M. A. PEACOCK: On wollastonite and parawollastonite. *Am. Jour. Sci.*, [5] vol. 30, pp. 495-529, 1935. Peacock distinguishes two forms of wollastonite with the following properties:

	Wollastonite	Parawollastonite
	Triclinic	Monoclinic
$a:b:c$	1.0816:1:0.9649	1.0524:1:0.9649
	$\alpha=90^\circ$	$\beta=95^\circ 24\frac{1}{2}'$
	$\beta=95^\circ 16'$	
	$\gamma=103^\circ 22'$	
p_0	0.9169	0.9169
q_0	0.9874	0.9606
	$\mu=84^\circ 35\frac{1}{2}'$	$\lambda=88^\circ 45'$
	$\nu=76^\circ 34\frac{1}{2}'$	$\mu=84^\circ 35\frac{1}{2}'$
X	1.620	1.620
Y	1.632	1.631
Z	1.634	1.633
$X \wedge c$	$31\frac{1}{2}^\circ \pm 3^\circ$	$34^\circ \pm 3^\circ$
$Y \wedge b$	$4^\circ \pm 1^\circ$	0
2V	$39^\circ \pm 3^\circ$	$44^\circ \pm 3^\circ$
Occurrence	Contact metamorphic	In ejected blocks.

W. F. FOSHAG