which appears at the lower right of the diagram is a titanium-rich variety from Kuusamo, analyzed and described by O. Zedlitz.[2]

B. E. Warren and D. I. Modell[3] have demonstrated the structural similarities of garnet and idocrase and this compilation shows the chemical similarities. The most apparent difference in the compositions is the relatively greater abundance of (Ca,Mg,Mn,Fe,K_2,Na_2)O in idocrase.

[2] *Ibid.*, Abt. A, p. 73, **1935.**
[3] *Zeits. Krist.*, vol. **78,** pp. 422–432, 1931.

Dr. A. E. Alexander, for the past three years ceramic engineer with the Electric Auto-Lite Company of Toledo, Ohio, has resigned to accept an Industrial Fellowship in mineralogy and petrography at the Mellon Institute of Industrial Research, Pittsburgh, Pa.

PROCEEDINGS OF SOCIETIES

MINERALOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

Thursday, November 3rd, 1938.

ANNIVERSARY MEETING. Dr. L. J. Spencer in the Chair.

The following papers were read:—

(1) *On an example of α-quartz showing good cleavages parallel to the three prism faces.* By DR. J. DRUGMAN.

(2) *On an example of α-quartz crystals with a steep rhombohedron as predominant form.* By DR. J. DRUGMAN.

(3). *The relation of stellerite and epidesmine to stiblite.* By DR. A. PABST (communicated by MR. F. A. BANNISTER).

It is shown that stellerite and epidesmine are varieties of stilbite which, though truly monoclinic, are both optically and morphologically pseudo-orthorhombic. A new analysis of stellerite-like stilbite is reported.

(4). *The Adinoles of Dinas Head, Cornwall.* By MR. S. O. AGRELL.

Adinoles associated with spilosites and spotted slates occur at the contact of an albite-dolerite intrusion with black limestone-bearing slates of Upper Devonian age. Four main types are recognized.

1. Normal adinoles—grading into rocks composed essentially of dravite.
2. Adinoles with pseudomorphs, probably after andalusite.
3. Adinoles with globular masses of ankerite showing concentric structures.
4. Polygonal and spherulitic adinoles.

Chemically, the adinoles resemble quartz-keratophyres and their tuffs but the evidence at Dinas Head shows that they are due to the effect of the intrusion on the sedimentary rocks. The first change was purely thermal and was followed by albitization and then by carbonatization, the metasomatizing fluids coming from the dolerite.

(5) *On three australites of unusual form.* By MR. F. A. SINGLETON (communicated by the General Secretary).

The paper describes a Tasmanian button form with an exceptionally broad translucent flange; a New South Wales aberrant canoe form in which the normal sculptures of the two surfaces are not differentiated; and a South Australian button core which is hollow and translucent.

(6) *Merosymmetry versus Merohedrism.* By Prof. AUSTIN F. ROGERS.

It is often convenient to refer to classes with varying degrees of symmetry within a crystal system and for this purpose the terms holohedral, merohedral, etc., are usually employed. Reasons are given for preferring the suffix-symmetric to the suffix-hedral, thus giving holosymmetric, merosymmetric, etc. These terms were introduced by Story-Maskelyne in 1875, but his nomenclature was unnecessarily complicated.

A simple set of names based upon merosymmetry is presented as a list supplementary to the class names based upon general forms. Since there are only six crystal systems, if we employ that term in the usual sense of a series of closely related classes with geometrical and physical properties in common, there are only six holosymmetric classes.

(7). *Zoned olivines and their petrogenetic significance.* By DR. S. I. TOMKEIEFF.

The composition of zoned olivines as determined by measurements of the optic axial angle shows a relation between the olivines and the composition of the parent rocks. Within the olivines the variation is from a Mg-rich centre to an Fe-enriched margin.

(8). *The crystallography of sartorite.* By MR. F. A. BANNISTER, DR. A. PABST and MR. GEORGE VAUX.

The complex forms of this mineral like those of calaverite have in the past been indexed by various expedients not mutually consistent. Laue and rotation photographs reveal that sartorite is monoclinic, $\beta=90°$ with $a=58.38$, $b=7.79$, $c=83.3$ Å, containing 240 $PbAs_2S_4$ and that it possesses a well-marked orthorhombic pseudo-cell with $a=19.46$, $b=7.78$, $c=4.17$ Å. The abundant measurements made by previous crystallographers can be interpreted satisfactorily on the basis of our x-ray measurements.

NEWARK MINERALOGICAL SOCIETY

The 179th meeting of the Newark Mineralogical Society was held at their new meeting place, 468 Orange Street, Newark, N.J., on Sunday November 6th. Fifteen members and two guests were present.

The topic for discussion was "Unusual Specimens of the Rarer Minerals." The following crystals were exhibited: tellurium; thorite from Easton, Pa.; arsenopyrite from Stirling Hill, N.J.; carnotite ($1\frac{1}{4}$ in.); kainite ($1\frac{1}{2}$ in.); ellsworthite; samarskite and betafite. A crystal of witherite ($2\frac{1}{2}$ in.), showing pseudohexagonal development, from England, and parsonite and phosphuranylite from Bavaria, were also on exhibition.

At the close of the meeting the following officers were elected: President, Mr. R. P. Milburn; Vice-President, Mr. V. Giordano; Secretary, Mr. H. L. Thowless; Treasurer, Wm. H. Broadwell.

WM. H. BROADWELL, *Treasurer*

BOOK REVIEW

A DESCRIPTIVE PETROGRAPHY OF THE IGNEOUS ROCKS, VOLUME IV—THE FELDSPATHOID ROCKS AND THE PERIDOTITES AND PERKNITES. ALBERT JOHANNSEN. Pp. 524. The University of Chicago Press, *Chicago*, **1938**, Price $4.50.

This is the fourth and last volume of Johannsen's great work on descriptive petrography.

The first volume discusses the constituents and textures of igneous rocks and gives outlines of the many classifications that have been proposed, especially of the newer quantitative classifications, both those based on mineral and on chemical compositions. The final section outlines the author's own quantitative mineralogical classification. The very valuable appendices include a table on miscellaneous definitions, one on textural terms, and tables for the calculation of norms and modes.