leptons (atoms, ions, or molecules) in the layers parallel to the faces of this form. The closer the packing, it is supposed, the slower the growth-rate of a form; then, since slow-growing faces are the ones which persist the longest and become the largest as the crystal grows, the dominant faces on a given crystal are taken to be those of greatest reticular density.

The fallacy of this view is clearly shown by the results reported here: (a) In the isomorphous series of double salts, the reticular densities of different forms must be relatively the same from one member to another. Yet it is found that the relative growth-rates of different forms vary widely among the different salts, the form r ($\bar{2}01$) being actually the fastest-growing form on one substance and the slowest-growing on another in the same series. (b) Even more significant is the finding that the forms situated at opposite ends of a polar axis, which must necessarily possess the same reticular density, nevertheless grow at markedly dissimilar rates. Crystal growth and crystal habit are, accordingly, not merely a matter of the geometrical relations involved in the packing of leptons; they express the result of oriented attractions on the part of the leptons lying at the surface of the crystal.

E.T.W.

PROCEEDINGS OF SOCIETIES

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, November 3, 1927.

A stated meeting of the Philadelphia Mineralogical Society was held on the above date with the Vice-president, Mr. Clay, presiding. Twenty-five members and seven visitors were present.

Mr. Charles R. Toothaker of the Commercial Museum was elected to membership.

Mr. Clay spoke of the recent death of the Society's President, George Vaux, Jr., and the loss to the Society of his friendship and leadership. A resolution expressing the sympathy of the Society to his family was unanimously adopted.

The Society then heard a very interesting address by Mr. Charles R. Toothaker who spoke on: "Rambles through Brazil: Diamonds, Gems, Iron and Manganese." The speaker described his visits to the gem regions of Brazil, the manganese mines at Lafayette and the iron deposits at Burnier. Of special interest was his account of the diamond diggings along the Jequitinhonha river in Minas Geraes, the topaz at Ouro Preto, the quartz from Goyaz and the agate localities along the Uruguay border. The address was profusely illustrated with colored lantern slides and by means of specimens of Brazilian gems and other minerals.

Mr. Biernbaum described a trip to Paterson, N. J., Mr. Oldach spoke of trips to Franklin, N. J. and French Creek, Pa. and Mr. Cienkowski of a trip to Moores and Stockton, N. J.

F. A. Cajori, *Secretary*

NEW MINERAL NAMES

L. L. Fermor: Composition of some Indian garnets. *Records Geol. Surv. India,* **59,** 191–207 (1926).

Skiagite

NAME: From the locality, Glen *Skiag*, Scotland.

CHEMICAL PROPERTIES: The ferrous-ferric garnet molecule, $3FeO \cdot Fe_2O_3 \cdot 3SiO_2$ is present in the garnets of Nautan, Barampur (3.45%), Garbham, Vizagapatam (5.40%) and Katkamsandi (19.50%). Also in the garnet from Glen Skiag, Scotland (Dana, spessartite No. 14).

Blythite

NAME: In honor of Mr. T. R. *Blythe*, late assistant curator to the Geological Survey of India.

CHEMICAL PROPERTIES: Contains the manganous-manganic garnet molecule, $3MnO \cdot Mn_2O_3 \cdot 3SiO_2$. Found in the Chargon, Nagpur garnet (34.72%).

Calderite

NAME: (The garnet rock from Hazáribágh has been called *calderite*. Undoubtedly the mineral name is taken from this rock name).

CHEMICAL PROPERTIES: Contains the manganous-ferric garnet molecule, $3MnO \cdot Fe_2O_3 \cdot 3SiO_2$. Found in the Chargon, Nagpur (12.81%), Garbham, Vizagapatam (17.02%) and Katkamsandi, Hazáribágh (68.56%) garnets.

Ferro-Calderite

The Katkamsandi, Hazáribágh garnet is called *ferro-calderite*. It contains 25.34% skiagite and 68.56% calderite.

Magnesioblythite

The Chargon, Nagpur garnet is called *magnesio-blythite*. It contains 5.40% MgO. Color orange red to orange.

(Other new terms used are *Mangan-almandite, Ferro-spessartite, Calc-spessartite and Mangan-grandite*).

Metamilarite

FRIEDRICH RINNE: Milarite und metamilarite. *Centr. Min.*, 1–14, **1927.**

An artificially dehydrated milarite.

W. F. FOSHAG

REDEFINITION OF SPECIES

Phosphoferrite

ORIGINAL DESCRIPTION: H. LAUBMANN AND H. STEINMETZ. *Z. Kryst.*, **55,** 569–570, 1920. (See. *Am. Mineralogist* **6,** 67, 1921).

NEW DATA: H. Steinmetz: *Z. Kryst.*, **64,** 407–412 (1926).

CHEMICAL PROPERTIES: A hydrous phosphate of iron and manganese, $3(Fe, Mn)O \cdot P_2O_5 \cdot 3H_2O$. New analysis: FeO 37.52, MnO 13.63, CaO 1.20, P_2O_5 34.39, H_2O 13.31. Sum 100.06.

CRYSTALLOGRAPHIC PROPERTIES: Orthorhombic bipyramidal. $a:b:c=0.8629:1:0.9418$. Several habits are present but usually the crystals are tabular parallel to *b*. Rarely pyramidal. Nineteen forms were noted. Cleavage *b*, good.

OPTICAL AND PHYSICAL PROPERTIES: Color green. Biaxial positive. Plane of the optic axes (010), $Bx_a=c$. Sp. Gr. 2.96–3.10.

Discussion: Steinmetz considers phosphoferrite as an iron rich reddingite. (Inasmuch as iron greatly predominates over manganese phosphoferrite can well be considered as its iron analogue and hence a distinct species.

Reddingite $3MnO \cdot P_2O_5 \cdot 3H_2O$
Phosphoferrite $3FeO \cdot P_2O_5 \cdot 3H_2O$.)

W. F. F.

Phosphophyllite

Original Description: H. Laubmann and H. Steinmetz: *Z. Kryst.*, **55**, 523, 1920 (See, *Am. Mineralogist*, **6**, 65, 1921).

New Data: H. Steinmetz: *Z. Kryst.*, **64**, 405–407 (1926).

Chemical Properties: A hydrous phosphate of zinc, iron and manganese, $3(Zn, Fe, Mn)O \cdot P_2O_5 \cdot 4H_2O$. New analysis: FeO 12.24, MnO 4.96, ZnO 34.26, P_2O_5 32.51, H_2O 16.52. Sum 100.49.

Optical Properties: $\alpha = 1.595$, $\beta = 1.606$, $\gamma = 1.617$.

Occurrence: Found as a secondary mineral derived from primary iron-manganese phosphates and sphalerite.

Discussion: The original analysis by Spengel is erroneous. The mineral is essentially a zinc phosphate similar to hopeite but differing from it in being monoclinic instead of orthorhombic.

W. F. F.

DISCREDITED SPECIES

Carrollite

Earl V. Shannon: The identity of carrollite with linnaeite. *Am. Jour. Sci.*, **11**, 489–93 (1926).

Samples of carrollite from all available sources proved upon metallographic examination and chemical analysis to be either linnaeite without copper or a mixture of linnaeite and secondary chalcocite.

W. F. F.

Prolectite

Per Geijer: Notes on the crystals described as prolectite. *Geol. För. Förh. Stockholm*, **(1926)**, pp. 86–89.

A re-examination of Sjögren's original specimens showed $\alpha_{Na} = 1.623$, $\beta_{Na} = 1.637$. These and the properties given by Sjögren are very near the chondrodite associated with the mineral. Further the composition assigned to prolectite (no analysis was made) is the same as that determined by Geijer for the new mineral norbergite which, however, has different optical properties. Prolectite is apparently only chondrodite.

W. F. F.

Arsenolamprite

H. Jung: Über arsen und phosphor. (Concerning Arsenic and Phosphorus). *Centr. Min. Geol.*, No. 4, **(1926)**, p. 111.

An X-ray examination of columnar, platy arsenolamprite from Copiapo, Chile, and Marienberg gave many lines identical with those of rhombohedral arsenic so that arsenolamprite probably represents only an impure arsenic.

W. F. F.