in industry has been Grodzinski's *Diamant-Werkzeuge*, which was published in Berlin in 1936. As is easily understandable, this volume has had little circulation in this country. However, Grodzinski's new text, *Diamond and Gem Stone Industrial Production*, which has been prepared to meet the increasing demand for authoritative information in this important field, undoubtedly will be used extensively. This should be the case in Great Britain and the United States where the enormous defense programs call for greatly increased production of diamond-set tools and wire drawing diamond dies, especially since the principal source of the latter was formerly France and the Low Countries.

The book contains fourteen chapters, the first eight dealing with general methods while the last six discuss special manufacturing methods. There are also three appendixes containing very helpful tables, and a short selected bibliography. While the main emphasis is on the diamond, the cutting and polishing of other gem stones receive some attention.

The treatment is general in character and does not assume an extensive background as far as the crystallography and mineralogy of the diamond are concerned, or considerable experience in the cutting processes. In some instances the descriptions of the construction and the functioning of the machines which are illustrated are too concise and are not clear. It is to be regretted that more care was not exercised in orienting properly the various crystal drawings. This applies especially to Figs. 6, 11, 86, 87, and 88A.

The N. A. G. Press, Ltd., London, is to be congratulated in bringing out this useful volume during this very critical war period.

EDWARD H. KRAUS

PROCEEDINGS OF SOCIETIES

PHILADELPHIA MINERALOGICAL SOCIETY

The Academy of Natural Sciences of Philadelphia, November 6, 1941

Dr. W. Hersey Thomas presided, with 83 members and visitors present. Mr. Charles R. Toothaker, Curator of the Commercial Museum, addressed the society on "Curious Uses of Minerals."

December 4, 1941

Dr. W. Hersey Thomas presided with 73 members and visitors present.

Dr. E. G. Zies of the Geophysical Laboratory addressed the society on "Volcanos and Fumaroles."

January 8, 1942

Dr. W. Hersey Thomas presided with 43 members and visitors present. President Thomas introduced the speaker of the evening, Dr. Joseph Gillson, who spoke on "The Relation of Ilmenite Sands of Brazil to the Physiography of Brazil" Dr. Gillson gave a review of his experiences and geologic discoveries on a recent trip to the eastern coast of Brazil. His account covered the region along the coast from Rio de Janeiro northward about 700 miles.

The history of the land surface development and the relation of the land to the sea has been the critical factor in the development of the ilmenite deposits. At the end of the Cretaceous period there was a deep soil zone on the land. With the uplift, the first erosion carried this soil down to the sea so that the bottom of the Tertiary sedimentary deposits is formed of the material from this soil zone. It is in these bottom layers that the ilmenite was first deposited. Reuplift and erosion of the Tertiary sands caused a reworking of the sands by the waves and by off-shore currents. Being heavy the ilmenite was deposited on the beaches where waves were attacking the Tertiary cliffs, or it was concentrated in off-shore bars that were being built up across the mouths of the estuaries. The latest uplift has

raised these old beaches and bars above the sea. The best deposits are found in these old estuaries.

The "ilmenite" of Brazil is really arizonite and not ilmenite, as is also the well known "ilmenite" of India. The formula for arizonite is $Fe_2O_3 \cdot 3TiO_2$ and that of ilmenite $FeO \cdot TiO_2$.

The lecture was illustrated by the use of excellent kodachrome slides.

Mr. Toothaker made some interesting remarks concerning the precious metals and gems that are located on this plateau in Brazil. These minerals are also found in the river gravels that traverse the Tertiary deposits and probably have been eroded from the pegmatite dikes that traverse the gneissic mountain formations.

FORREST L. LENKER, *Secretary*

NEW MINERAL NAMES

Brodrickite

H. C. DAKE: Brodrickite—a new mineral. *The Mineralogist* **9**, No. 12, 443–444 (1941). With microscopic study by E. E. Fairbanks, U. S. Bureau of Mines, College Park, Md.

NAME: For John H. Brodrick, who collected the mineral.

CHEMICAL PROPERTIES: "Quantitative study by means of the spectroscope proved the new mineral to be essentially a magnesium aluminum silicate with K_2O 1.0–2.0, Fe_2O_3 1.5, Rb_2O 0.1–0.2, Li_2O 0.1%, CaO trace, Na, Cs, Cr, none."

PHYSICAL AND OPTICAL PROPERTIES: "Cleavage micaceous excellent, with cleavage flakes inelastic and greenish-yellow in color. Optically biaxial negative, with an optic axial angle of approximately 12–15°. The refractive indices of gamma and beta are slightly greater than 1.560. Both are less than 1.565 and are nonpleochroic."

X-RAY DATA: The powder diffraction pattern spacings are given. "The pattern differs from that of the chlorites, phlogopite or vermiculite. Enough similarity with phlogopite does exist to suggest a somewhat similar although less well defined or altered structure."

OCCURRENCE: Found in the old limestone quarry, Boston, Mass.

DISCUSSION: The micas and their alteration products are already overburdened with names based on insufficient data. A mineral worthy of a new name is certainly worth a chemical analysis. Brodrickite may possibly be closely related to pholidolite.

MICHAEL FLEISCHER

TEACHING FELLOWSHIP IN MINERALOGY

A teaching fellowship in mineralogy has been established at Stanford University. The fellowship is open to graduate students who intend to specialize in mineralogy, and preference will be given to those who have had one or two years of graduate work. The chief duty of the fellow is to assist in laboratory instruction. Not more than eight or nine hours a week will be required. The amount of the fellowship is $750.

Application for the year 1942–43, supported by testimonial letters, should be made to Professor Austin F. Rogers, Box 87, Stanford University, California.