

BOOK REVIEWS

KLOCKMANN'S LEHRBUCH DER MINERALOGIE, Thirteenth Edition, revised by PAUL RAMDOHR. Octavo, XII+674 pp., with 606 text figures and one fold-in table. Ferdinand Enke Verlag, Stuttgart, Germany, 1948.

This widely used German text book first appeared in 1892. Due to its popularity, there have been frequent revisions. Professor Klockmann was the sole author of the first ten editions. Klockmann was professor of mineralogy and petrography at the Claustahl School of Mines (1887-1899) and at the Technische Hochschule in Aachen (1899-1924). The eleventh edition, issued in 1936, was revised by Dr. Ramdohr, professor of mineralogy at the University of Berlin, who had earlier been on the staffs of the institutions in Claustahl and Aachen. Subsequent editions were also revised by Ramdohr.

That the study of mineralogy still makes a strong appeal in war-stricken Germany is clearly shown by the fact that the twelfth edition appeared during the war, in 1941, and the present edition in the difficult post-war period, in 1948.

The earlier editions of the Klockmann mineralogy were in the main like other German texts, such as, Naumann-Zirkel, Bauer, and Tschermak-Becke. Mineral associations and the important occurrences and economic uses of minerals were, however, always stressed. Under the authorship of Professor Ramdohr, the book has been expanded and much of the material given a modern treatment. The mineral classification followed in the twelfth and thirteenth editions is essentially that used by H. Strunz in his *Mineralogische Tabellen* (Leipzig, 1941).* It is to be regretted that the excellent tables for the determination of minerals by means of their physical properties, which were an important feature of the Klockmann editions, are no longer included. In its present form the Klockmann-Ramdohr *Lehrbuch der Mineralogie* is the best text designed to meet the needs of students of mineralogy, chemistry, geology, and mining, and of mineral collectors and laymen, which has been published in Germany in the last decade.

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* Reviewed by A. F. Rogers, *Am. Mineral.*, **33**, 95-96 (1948).

FESTSCHRIFT FOR PAUL NIGGLI

On June 26, 1948, Paul Niggli, world-renowned Swiss mineralogist, crystallographer, geologist, and educator, celebrated his sixtieth birthday. In his honor for that occasion there has been published a notable series of scientific papers by his "students, coworkers, and Swiss colleagues." The collection, which numbers forty-seven articles, under fifty-one authors, appears as volume 28 of the *Schweizerische mineralogische und petrographische Mitteilungen*. The articles embrace the subjects, crystallography, crystal structure, petroleum geology, geochemistry, petrography, petrogenesis, economic geology, metamorphic geology, paleontology, geophysics, structural geology, descriptive mineralogy, paragenesis, chemical mineralogy, optical mineralogy, and glacial geology. To enumerate a few titles of papers, we may select the following: L. Weber: "Die Verzerrungen des Oktaeders"; L. Déverin: "Oolithes ferrugineuses des Alpes et du Jura"; W. Q. Kennedy: "Crustal layers and the origin of ore deposits"; R. Staub: "Aktuelle Fragen im alpinen Grundgebirge"; R. L. Parker: "Zur Kristallographie von Tinzenit"; and M. de Quervain: "Das Korngefüge von Schnee." Most articles are in German, but others are in French, Italian, and English. The titles reflect, in their wide variety, the manifold interests and accomplishments of Professor Niggli, whose publications are enumerated at the close of the work. This impressive tabulation, which lists his first paper in 1908, contains a total of 247 titles, of which

more than a dozen are books and many others are complete volumes of investigations published by the Geological Commission of Switzerland.

This memorable tribute to the scientific endeavors and achievements of Professor Niggli comes at a fitting time. Long widely known in Europe as an outstanding scholar of the earth sciences and allied fields, and as an inspiring teacher who has personally guided the doctoral dissertations of forty-two students from all over the world, Professor Niggli received formal recognition of the esteem of American mineralogists in 1947 when he was awarded the Col. Washington A. Roebling medal of the Mineralogical Society of America. On this occasion, the sixtieth year of Paul Niggli and the fortieth of his career, his American friends join in expressing their congratulations and well wishes.

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NEW MINERAL NAMES

Bredigite

C. E. TILLEY AND H. C. G. VINCENT, The occurrence of an orthorhombic high-temperature form of Ca_2SiO_4 (bredigite) in the Scawt Hill contact-zone and as a constituent of slags: *Mineralog. Mag.*, **28**, 255-271 (1948).

The pseudo-hexagonal orthorhombic form of Ca_2SiO_4 , designated as $\alpha^1\text{-Ca}_2\text{SiO}_4$, has been found at Scawt Hill, Antrim Co., Ireland, associated with larnite, gehlenite, and spurrite in one assemblage, with melilite, larnite, perovskite, and magnetite in another. Also observed in the limestone contact zone of the island of Muck, Inverness-shire, and in a spiegeleisen slag that contained melilite, monticellite solid solution, CaS, and glass. An analysis of a sample separated from the slag is given. It contained a little sulfide and glass and had G. 3.42. The analysis, recalculated after deducting impurities, shows good agreement with Ca_2SiO_4 , with 3.4% MnO, 6.9% BaO, and 6.8% MgO. Bredigite is optically positive with $\gamma=c$, $\alpha=b$, $\beta=a$, $2V$ 30° , but variable down to 10° ; indices: $\alpha=1.712$, $\beta=1.716$, $\gamma=1.725$; $\alpha=1.725$, $\beta=1.728$, $\gamma=1.740$ (from melilite-magnetite assemblage, probably contains Fe); $\alpha=1.713$, $\beta=1.717$, $\gamma=1.732$ (from slag). Basal sections have hexagonal outlines in cross-section and show simple and cyclic twinning and traces of prismatic cleavage.

Some samples showed partial inversion to $\gamma\text{-Ca}_2\text{SiO}_4$. Bredigite dissolves readily in the weakest acids, leaving a silica pseudomorph.

Named for M. A. Bredig, physical chemist, for his studies of the polymorphism of Ca_2SiO_4 (see *Am. Mineral.*, **28**, 594 (1943)).

MICHAEL FLEISCHER

Rashleighite

ARTHUR RUSSELL, On rashleighite, a new mineral from Cornwall, intermediate between turquoise and chalcosiderite. *Mineralog. Mag.*, **28**, 353-358 (1948).

The name rashleighite is given to a mineral of the turquoise-chalcosiderite series. Two complete analyses are given; they show Al_2O_3 21.63, 20.84; Fe_2O_3 20.29, 21.29; $\text{Al}_2\text{O}_3/\text{Fe}_2\text{O}_3$ 1.69, 1.53. Two occurrences are described. At the Bunny tin-tungsten mine, St. Austell, Cornwall, it occurs in ore veinlets in greisen, associated with quartz, kaolinite, tourmaline, fluorite, topaz, cassiterite, and wolframite. At the Castel-an-dinas tungsten mine, St. Columb Major, Cornwall, it occurs with quartz, wolframite, wavellite, and lithiamica. The name is for Phillip Rashleigh, 1729-1811, Cornish mineralogist.

DISCUSSION: An unnecessary name for ferrian turquoise.

M.F.