BOOK REVIEW

DAS AUSBLÜHEN DER SALZE (efflorescence of salts) by KARL SCHULTZE, 99 pp., 36 figs. Dresden and Leipzig, Th. Steinkopf, 1936. (RM. 4.00).

An astonishingly large amount of information is to be found in this booklet which appeared as a separate from the *Kolloid-Beihefte*, vol. **44**, H. 1–4, 1936. Nor does it treat only of salts proper, but considers also the migration of sesquioxides and silica, as in laterites, the development of desert crusts ascribed to manganese dioxide, and even characteristic crust formations in ice.

The first five chapters (60 pages) contain a critical review of the phenomena as they have been described in the widely scattered literature, and of the theories so far proposed for the explanation of their formation. The last two chapters give a summary of the author's own experimental investigations, carried out during the last fifteen years, which have led him to develop the capillary theory. A list of more than 200 references to the literature is added, besides a topical index.

M. W. SENSTIUS

PROCEEDINGS OF SOCIETIES

MINERALOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND

Meeting January 28, 1937

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

(1) *The potash-soda felspars.* By DR. EDMONDSON SPENCER.

Optical properties and chemical composition of 26 potash-soda felspars have been determined. In the orthoclase-microperthites there is almost linear relation between specific gravity and optical properties and Ab-content. Specimens were heated (a) to near melting for a short period, and (b) for several days at 1075°C. Refractive indices decrease on heating between 400° and 850°C., and *d* also decreases. Heating to 1120° produces little further change. Very slow cooling from 800° to 350° restores the schiller and the lost refractive index and sp.gr. It appears that perthite can be dissolved and re-precipitated more readily than has been thought possible.

A structural explanation of the formation of perthite lamellae is offered.

A new equilibrium diagram for temperatures down to 800°C. is given. It is argued therefrom that residual granite magma at about 800°, in presence of much water and free silica, splits gradually into a soda-rich and a potash-rich fraction. The occurrence of potash-felspar crystals in xenoliths, the origin of the microcline of pegmatites, of 'vein' perthite, and of quartz-microcline intergrowths are other points discussed.

(2) *Paragenesis of cookeite, hydromuscovite and free gold from Ogofau, Carmarthenshire.* By DR. A. BRAMMALL, MR. J. G. C. LEECH, and MR. F. A. BANNISTER.

Cookeite, not hitherto recorded as a British species, is associated with hydromuscovite, auriferous pyrite and mispickel, blende, galena, quartz and free gold at the Roman Deep Mine, Ogofau, where, at depth, cookeite-deposition overlaps a mica-zone. The spectrograph of the mixed sulphides reveals (inter alia) tin, boron, antimony and bismuth.

Cookeite is probably monoclinic (pseudo-hexagonal) with cell-sides: $a=5.13$, $b=8.93$, $c=28.30$ Å, β near 90°. The unit cell contains 4 $LiAl_4Si_3AlO_{10}(OH)_8$ and the crystal-structure is akin to the chlorite rather than to the mica type.

In the hydromuscovite the usual $(OH)_4K_2$-group takes the form $(OH)_{4+x}K_{2-y}$.

(3) *Note on an optically-positive hypersthene from Manchuria.* By Dr. K. Tsuru and Mr. N. F. M. Henry.

The most iron-rich member of the orthorhombic pyroxenes yet discovered, 88% $(Fe, Mn)SiO_3$. The name 'orthoferrosilite' is proposed.

(4) *A note on an interesting occurrence of lawsonite in glaucophane-bearing rocks from New Caledonia.* By Dr. Germaine A. Joplin.

Lawsonite occurs replacing feldspar, associated with glaucophane and original augite. It appears that glaucophane-schists may be derived from calcic rocks, to which the lawsonite-glaucophane assemblage may stand in the same relation as does the well-known epidote-albite assemblage.

(5) *An occurence of the mineral pumpellyite in the Lake Wakatipu region, western Otago, New Zealand.* By Mr. C. Osborne Hutton.

Pumpellyite has been recognized as an important constituent of some schists, and schistose greywackes. It appears to be formed concomitantly with albitization of plagioclase under conditions of low grade dynamo-thermal metamorphism.

(6) *The tektite problem.* By Dr. L. J. Spencer.

Fused material on surface of meteorites is ablated as quickly as formed, leaving only a film to solidify as glass. Tektites could, therefore, not have been completely fused and shaped in the Earth's atmosphere.

NEW YORK MINERALOGICAL CLUB

American Museum of Natural History, New York City, Jan. 20, 1937

With President B. T. Butler presiding, the meeting was called to order with 48 members and guests present. In the business meeting, plans were made for the Club exhibition to be held in the Museum on the afternoon and evening of March 13th, and open to the public.

The speaker of the evening was Dr. Cornelius S. Hurlbut, Jr., of Harvard University, who addressed the Club upon "Pegmatitic Phosphates from Arizona," describing a new locality which he had worked to obtain specimens of minerals which were later found to be new.

The pegmatites were found by a prospector in the vicinity of the Bagdad Copper Mine, near Hillside, Arizona; in a very hot and extremely arid country. They lie in an area of granite somewhat west of the central part of the state.

The first of the pegmatites visited was on a hillside near the 7U7 Ranch and shows a prominent quartz ledge. It is composed of milky quartz and is lens-shaped, about 30 by 20 feet, and is more of a segregation than a true pegmatite dike. Unfortunately, for the hopes of the collectors, only about three specimens of the material taken from the original pocket, about 18 by 20 inches, remained on the site. Blasting was resorted to, and a second smaller knot was discovered. It was about 8 inches in diameter and connected with the first by a narrow stringer. In this pocket more of the original triplite was found with the unusual composition described by Dr. Hurlbut, and in cracks and fissures in this material were the small crystals of six new minerals, among them, the bermanite. Torbernite was the only known mineral present, all the rest were new, but only bermanite was present in sufficient quantity for an analysis. The others were shown qualitatively to be phosphates with manganese and possibly other elements.

The prospector who had found this locality knew of three other spots where a similar mineral occurred, and in the two following days, these were visited. A pegmatite on Mt. Loma produced large quantities of triplite with feldspar, quartz and beryl, but none of

the interesting alteration products. The second locality seen on this eighteen mile trip through the desert was similarly unproductive.

The fourth deposit was visited on the next day, passing on the way an interesting deposit of bismuth oxide and a second deposit of uranium minerals. The last of the occurrence was likewise a quartz pegmatite, resembling the first. This, however, was about one hundred feet in diameter and formed a conical hill, apparently similar to the phosphate-bearing pegmatite at Pleystein, where the outcrop forms a prominent elevation. In the exact center of the cone, a two foot pocket of triplite was found, with a series of smaller ones running down the hill and connected by stringers. Purple and green fluorite, a brown vermiculite, and a green mica were associated with the triplite at this locality. None of the the alteration products were found at this place, so all of the new minerals available came from the very first pocket uncovered. The triplite from all of the three last visited pegmatites was quite normal in appearance and composition, and did not show the anomalous properties of the original material.

F. H. POUGH, *Secretary*

American Museum of Natural History, New York City, Feb. 17, 1937

With President B. T. Butler presiding, the largest regular meeting to date was called to order with 105 members and guests present. The death of Professor A. H. Phillips, one of our most distinguished members, was noted with regret.

The principal business of the meeting was concerned with the public exhibition to be held in the Museum on the afternoon and evening of March 13th. Locality suites, fluorescence, new discoveries, equipment, and cutting and polishing machinery will be shown.

The first speaker of the evening, Mr. D. J. Atkins, was then introduced. He has been in the mineral business in New York for a great many years and was formerly connected with Mr. English, and later went into the monazite business. While with Mr. English he became acquainted with many of the old collectors, such as Roebling, Canfield, Burrage and Bement. He had many fascinating stories to tell of probable treasures still hidden away in unknown warehouses in New York City, waiting for some collector to bring them to light; fine collections which disappeared upon the death of the owner and which have never been seen since.

Names of old collectors and dealers were recalled, Hopping, who distributed the Tasmanian crocoites and first Spanish aragonite crystals; Hidden of North Carolina fame. Some are still living, Hopping is in California, as is English, and H. S. Williams is now in Arizona. Lazard Cahn, who still makes infrequent visits to New York, was recalled in a number of anecdotes.

Most of the collectors of the type of Roebling and Bement have now died and there are few new ones today to take their places. Their collections have been of inestimable value, however, forming, as they do, the nuclei of the great collections owned by the public museums of today. Without collectors of their type, the dealers of the last century and early part of this would have been seriously handicapped, and the collectors of today would not have the splendid reference collections now available for study.

Following Mr. Atkin's talk, F. H. Pough showed some colored slides of mineral specimens, photographed directly on Kodachrome film. In some the color reproductions were excellent, but correct exposure is difficult to determine. Best results and truest rendition were obtained in the objects photographed in direct sunlight. Very definite possibilities in the use of Kodachrome film in the mineral field are assured, for no particular equipment or technique is required and the film is available for any 35 mm. camera. With a small easily transported projector they are ideal for lecture purposes.

F. H. POUGH, *Secretary*

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, November 5, 1936

A stated meeting of the society was called to order by President Harold W. Arndt, with 41 members and 33 visitors present.

Mr. Arthur Montgomery addressed the society on "Collecting Epidote on Prince of Wales Island, Alsaka." He described the experiences of a party, which was accompanied by Charles B. Ferguson, who had discovered the localities on Copper Mountain and Green Monster Mountain 36 years ago. The talk was illustrated with lantern slides, and fine specimens of epidote, twinned quartz, uralite, and limonite pseudomorphs after pyrite.

Trips were reported by Charles W. Hoadley; Louis Moyd to Bridgeport, Penna. (sphalerite, rutile, feldspar), Easton, Penna. (eastonite, pitchblende, uranophane, etc.), Prospect Park, N. J. (chalcopyrite); Albert Jehle to Easton and Franklin, N. J.; Leonard Morgan to Perkiomenville (stilbite); G. Earle Thompson to Gap Nickel Mine; Alexander Fleming, Jr. to Jug Hollow mine.

Academy of Natural Sciences of Philadelphia, December 3, 1936

Mr. Arndt presided at a stated meeting of the society, 43 members and 21 visitors being present.

Dr. Lester W. Strock related "Some Mineralogical Experiences in Europe." Dr. F. F. T. Berliner described crystals of halite and sylvite, and discussed the blue color of some salt crystals from the Polish salt mines.

W. H. FLACK, *Secretary*

Editor's note. Present plans call for a very large and unusual issue for the May number of *The American Mineralogist.* Due to its enlarged size and character some delay may be experienced in releasing this issue on time, but every effort will be made to adhere to our regular schedule.