NON-EXISTENCE OF ECHELLITE

N. L. BOWEN, *Geophysical Laboratory.*

In 1920 I described as a new mineral, to which the name echellite was given, a crystalline substance coming from Sextant Portage on the Abitibi River, Ontario. (This Journal, **5,** 1–2, 1920.) Professor T. L. Walker now describes (*University of Toronto Studies,* Geol. Series No. **32,** 1932, p. 5) a mineral from the same locality, occurring in the same manner and having the same physical (including optical) properties. His analyses show this mineral to be thomsonite.

If present-day knowledge of the range of optical properties of thomsonite had been available at the time echellite was described, I should have noted that it had properties corresponding with those of a thomsonite and have doubted the accuracy of the analysis. At that time, however, I was unable to find in tables of optical properties of minerals any mineral of similar composition with as high refractive indices. Larsen's tables, for example, give thomsonite in only one place and with $\gamma = 1.525$. I even submitted the observed optical properties to friends having readier access to large libraries than I had, asking them to check the values against those of known minerals, but they found nothing to correspond. Since that time I have noted more than one description of thomsonite with indices as high as those of "echellite" and have hoped for the opportunity of re-investigating "echellite." Re-investigation necessitated the acquiring of new material, since the original was exhausted, and the opportunity was never presented. Professor Walker's study now renders it unquestionable that the analysis of "echellite," made on a very small quantity of material, was faulty, and that echellite should be stricken from the list of established species.

PROCEEDINGS OF SOCIETIES

THE PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences, October 6, 1932.

Dr. Cajori presided at a stated meeting of the Philadelphia Mineralogical Society at which 29 members and 30 visitors were present. Mr. E. R. Gudehus was elected a senior member, Mr. W. L. Grierson was proposed for junior membership.

The election of officers resulted as follows:—President, H. W. Trudell; Vice Presidents, J. M. Poley and H. W. Arndt; Treasurer, M. G. Biernbaum; Secretary, W. H. Flack; and Councillor, John Vanartsdalen.

Mr. Toothaker addressed the society on "Czechoslovak Minerals." He described in detail his trip of the past summer to Europe. He visited the silver mines at Pribram, the former silver mines at Joachimsthal which now produce only pitchblende, and the Carlsbad hot springs. He described the method of mining Bohemian garnets. Photographs were shown of basaltic columns measuring 6 inches in diameter and 40 feet in length.

Mr. S. G. Gordon described a trip to Ontario, Canada, visiting the French River district, Sudbury, Cobalt, Timmins, and the Lake Shore Mines.

W. H. FLACK, *Secretary*

NEW MINERAL NAMES

Bultfonteinite

JOHN PARRY, ALPHEUS F. WILLIAMS, AND F. E. WRIGHT: On bultfonteinite, a new fluorine-bearing hydrous calcium silicate from South Africa. *Mineral. Mag.*, **23**, 145–162, 1932.

NAME: Presumably from the Bultfontein mine at Kimberley.

CHEMICAL PROPERTIES: A fluorine bearing hydrous silicate: $2\,Ca(OH,F)_2 \cdot SiO_2$. Analysis: SiO_2 26.50, $(Al,Fe)_2O_3$ 0.72, CaO 54.20, H_2O 13.36, F. 8.81. Sum 103.59, less 0=3.71, 99.88. Easily soluble in HCl, yielding a clear jelly. Water extracts calcium hydroxide and yields an alkaline solution. Heated in closed tube, yields water and becomes white and porcelain-like. Before the blowpipe, glows intensely and becomes white and enamel-like, but does not fuse.

CRYSTALLOGRAPHICAL PROPERTIES: Triclinic. Habit acicular. Completely twinned. $a=0.6756$, $c=0.6873$. $\alpha=94°\ 17'$, $\beta=91°\ 59'$, $\gamma=90°\ 44'$° $p_0=1.0145$, $q_0=0.6869$, $\lambda=85°\ 41'$, $\mu=87°\ 57'$ $\nu=89°\ 07'$. Cleavages (010), (100), fairly good. Twinning planes (010), (100).

PHYSICAL AND OPTICAL PROPERTIES: Colorless to pink. G.=2.73. Hd.=$4\frac{1}{2}$. Fusibility difficult. Biaxial positive. $2V=70°$, $2E=132°$. $\alpha=1.587$, $\beta=1.590$, $\gamma=1.597$. Dispersion weak. Under the microscope shows fine polysynthetic twinning lamellae with high extinction angles. Extinction on (010) is $c:\gamma'=27°$ to 29°, on (100) $c:\gamma'=46°$ to 48°.

OCCURRENCE: First found at the Bultfontein mine, Kimberley, associated with calcite, apophyllite and natrolite, in a large 'horse' of dolerite and shale fragments in kimberlite. Later found in Dutoitspan mine, and still later in Jagersfontein mine. Occurs as radiated spherulitic masses or as radiated acicular needles.

DISCUSSION: Closely related to custerite and hillebrandite as shown by the following comparison.

Hillebrandite	$CaO \cdot Ca(OH)_2 \cdot SiO_2$
Custerite	$CaO \cdot Ca(OH,F)_2 \cdot SiO_2$.
Bultfonteinite	$2Ca(OH,F)_2 \cdot SiO_2$.

W. F. FOSHAG