morphs after the glauberite crystals. These pseudomorphs may be picked up out of the loose, weathered shale. They average 1 to 3 cm. long by 1 to 2 cm. wide, but some very large simple crystals occur, 10 cm. × 5 cm. and larger. As above stated, their forms are all very simple, showing base *c* and pyramid *s*. Numerous bunches of crystals also occur. These cavities may have been filled by the action of solutions from the dying activity of the diabase dike which is exposed in the canal bank about a quarter of a mile away to the north, which broke vertically across the shale beds, bringing in copper minerals, and soaking some of the shale layers with hot reducing solutions so that their color was changed to gray.

This Blackwell's Mills locality is six miles north of the famous Griggstown copper mine, whose minerals had a similar origin. Pseudomorphs of calcite after glauberite have also been found near New Brunswick, but rarely.

RECENT ACQUISITIONS FOR THE MINERAL COLLECTION OF THE BRITISH MUSEUM (NATURAL HISTORY)

L. J. Spencer, *British Museum, Mineral Department.*

Fine Crystals of Gem Minerals

Beryl (aquamarine), a clear bluish-green crystal of gem quality, 13 cm. high and 10–12 cm. in diameter, weighing 2505 grams (=12,525 carats). From a pegmatite on Pingueira Mountain, near Santa Rita de Arassuahy, Minas Novas district, State of Minas Geraes, Brazil. The well developed crystal (forms *m*, *a*, *c*, *p*, *s*, *u*, Dana's letters) shows beautifully marked etch-figures on the faces and the edges are slightly rounded by corrosion. It was evidently in the process of resolution.

Topaz, a clear transparent crystal with pale blue tinge of color, measuring 12×11 ×10 cm. and weighing 2290 grams (=11,450 carats or just 5 pounds). From a pegmatite at Tsaratanana, Maevakanana district, Madagascar. The well developed and brilliant crystal faces (forms *c*, *m*, *l*, *y*, *f*, *X*, *u*, *i*, Dana's letters) are marked by complex and intricate pyramids and lines of growth, and the specimen is an instructive example of a crystal in which the process of growth has been abruptly arrested.

PROCEEDINGS OF SOCIETIES

THE MINERALOGICAL SOCIETY (ENGLAND)

Mineralogical Society, March 20th,—Dr. G. T. Prior, F.R.S. President, in the chair.

Mr. A. F. Hallimond: *On the atomic volume relations in certain isomorphous series, II.* The volume-relations of compounds of Ca, Sr, Ba with O, S, Se, and Te correspond in every way with those previously indicated for K, Rb, Cs, Na, Li, and the halogens. The differences in volume produced by the interchange of eutropic elements exhibit a constant ratio in each series. The partial volumes calculated for the radicles from the volumes of the free metals agree with those already obtained for the alkali compounds, and the values 6 for oxygen and fluorine agree with those calculated by Wasastjerna from the refractive indices. The volume effect of substitution in the sodium chloride lattice varies somewhat with the size of the cell, but the variation never attains the extent required for a

law of constant radii. Other isomorphous series agree with the Law of Retgers, and the present results are therefore expressed in terms of a law of additive volumes rather than additive radii.

PROF. A. HOLMES and DR. H. F. HARWOOD: *The age and composition of the Whin Sill and the related dikes of the north of England.* The rocks of the Whin Sill and its associated dikes are quartz-dolerites. Chemical analyses show that they are all of substantially identical composition. Dikes of this series run north of east. They are quite distinct from the system of tholtiite dikes to which the Bingfield dike, the "Brunton type" of Teall, belongs. A pebble of quartz-dolerite in the Upper Brockram of George Gill, Brackenber Moor, near Appleby, has been proved by chemical analysis to be definitely of the Whin Sill type. This, with other evidence, indicates that the age of Whin Sill and its associated dikes is post-Westphalian and pre-Upper Brockram.

MR. A. W. GROVES: *The identification of dumortierite in grains; dumortierite in Cornish granite.* Attention is drawn to the possibility of confusing dumortierite with a number of more common minerals. Dumortierite is recorded in several sediments in southern England and in the Land's End granite.

DR. T. V. M. RAO: *On "bauxite" from Kashmir, India.* The so-called bauxite of Kashmir is found to consist mainly of disapore and an opaque mineral corresponding in composition to a monohydrate of alumina. The deposit was derived from beds of clay, having been first altered into the di-hydrate (bauxite) and subsequently to its present condition through dehydration and thermodynamic metamorphism.

REVIEWS

CRYSTALLOGRAPHIC TABLES FOR THE DETERMINATION OF MINERALS. Victor Goldschmidt and Samuel G. Gordon. Special Publication No. 2. *The Academy of Natural Sciences of Philadelphia.* 70 pages. Price $1.50. 1928.

The authors have arranged the recorded crystallographic data of minerals according to the polar elements p_0, q_0, r_0, λ, μ, ν, as these values are obtainable by measurement. Available data for 759 minerals are given in nine tables while supplementary tables include 22 amorphous minerals, 242 for which the data are incomplete or wanting, and 2 liquid minerals. In addition to the 1025 mineral species thus accounted for, 192 doubtful species and varieties have also been included.

The possibility of selecting more than one position was also considered and the tables arranged to cover the various orientations. In order to facilitate the determination, the chemical composition, specific gravity, hardness and other characteristic properties are likewise given. These tables should prove extremely serviceable especially where fairly well developed crystals are involved.

W.F.H.