Drs. D. Coster and G. Hevesy of the Copenhagen Institute for Theoretical Physics have recently announced the discovery of a new element with atomic number 72, for which the name *hafnium* was proposed. The discovery was the result of X-ray spectroscopy upon extractions from zirconium minerals. As much as 5% of this element was found in samples of commercial zirconium oxide.

We deeply regret to note the death of the veteran mineral collector, Mr. Clarence S. Bement of Philadelphia, Pa. His love for minerals and keen appreciation of fine specimens resulted in a magnificent private collection, which in 1900 was sold to the late J. P. Morgan, whose name it now bears. The collection is now displayed in the American Museum of Natural History in New York City. An extended notice of Mr. Bement's life will appear later.

Richard V. Ageton, of the Bureau of Mines, who has been doing examination work for the War Minerals Relief Commission, is acting as assistant chief mining engineer of the bureau.

Sir William H. Bragg, Quain professor of physics in the University of London, has been elected a corresponding member of the Paris Academy of Sciences in the section of physics.

All crystallographers will regret to hear of the death of Professor Karel Vrba, aged 77 years, formerly Professor of Mineralogy at the Bohemian University of Prague, Bohemia.

ABSTRACTS—MINERALOGY

EXPERIMENTS ON THE ARTIFICIAL PRODUCTION OF DIAMOND. C. A. PARSONS. *Phil. Trans. Roy. Soc.*, **220**, 67–107, 1919. THE FORMATION OF DIAMOND. C. A. PARSONS. *J. Inst. Metals*, **20**, 5–24, 1918; both thru *Min. Abstr.*, **1**, 232, 1921.

The conclusion reached from several thousand experiments is that pressure is unessential to the artificial production of diamond, and that the diamond is produced from occluded gases in the iron after solidification of the metal. E. F. H.

METALLIC COPPER IN A METEORIC VEIN. T. T. QUIRKE. *Econ. Geol.*, **14**, 619–24, 1919.

The Richardson meteorite contains small flakes of copper in veins of nickeliferous iron and troilite. E. F.H.

THE PIPERNOID TUFFS OF CAMPANIA, AND THEIR MINERALS. F. ZAMBONINI. *Mem. Descr. Carta Geol. Italia*, **7**, pt. 2, 130 pp., 1919; thru *Min. Abstr.*, **1**, 106, 1920.

The following minerals are described: fluorite, new forms (553), (774), (766); nocerite; hydromagnesite; hydrodolomite; sanidine; acmite-augite; microsommite; marialite; fluosiderite; grothine; biotite rich in CaO (14%) and hornesite. Analyses, optical determinations, and crystallographic measurements are given in most cases. E. F. H.

PLEOCHROISM IN A TIN-BEARING MINERAL FROM SIAM. J. B. SCRIVENOR. *Geol. Mag.*, **56**, 123–4, 1919.

A uniaxial, +mineral, probably cassiterite (Sn 74.50%, sp. gr. 6.913) is strongly pleochroic, green to deep-red; this may be due to the content of TiO_2 (0.17%).

E. F. H.

ON AN UNUSUAL MICA IN NEPHELINE-SYENITE OF FUKUSHIN-SAN, KOREA. S. TSUBOI. *J. Geol. Soc. Tokyo*, **26**, 7–9, 1919; thru *Min. Abstr.*, **1**, 209, 1921.

Plates of biotite showed c (100), ρ ($\bar{2}05$), ψ (011), q (114), ξ (135). $\alpha = 1.614$, β 1.671, γ 1.672, a to (001) = 1°13′ in front, $\beta = b$. E. F. H.

POLARIZED LIGHT IN THE STUDY OF ORES AND METALS. F. E. WRIGHT. *Proc. Am. Phil. Soc.*, **58**, 401–47, 1919.

The results of a mathematical discussion of the reflection of light by absorbing media indicate that it is possible to detect anisotropism and to determine the optical directions in polished sections of opaque minerals. E. F. H.

COLORING MATTERS OF RED AND BLUE FLUROITE. C. S. GARNETT. *J. Chem. Soc. London*, 1920, Trans. Vol. **117**, 620–622.

Fluorite of a deep blue to black color from Derbyshire was treated with chloroform, benzene, and ether. The carbon content fell from 0.27 to 0.207%. The powder when heated becomes colorless and a bituminous odor is observed, while a black carbonaceous residue results when heated with conc. H_2SO_4. Thin sections show that the organic matter is present as films parallel to the cube faces and at the contacts of the crystals. Red fluorite from near Ashover, Derbyshire, owes its color to some rare earth mineral soluble in HCl or HNO_3. Heating has no effect.

W. F. H.

ON GEARKSUTITE AT GINGIN, WESTERN AUSTRALIA. EDWARD S. SIMPSON. *Mineralog. Mag.*, **19**, 23–39, 1920.

Gearksutite, a hydrous fluoride of Al and Ca, has heretofore been reported from only 3 localities. The genesis and mode of occurrence of the Australian material are entirely different from those previously described. At Gingin the mineral occurs as nodules in a narrow clayey bed in Cretaceous phosphatic greensand, associated with quartz, fluorapatite, glauconite, microcline, kaolinite and halloysite. Mean refractive index 1.445; sp. gr. 2.71—2.72. An analysis showed Al 15.38; Ca 22.13; Na 0.06; K 0.06; F 41.26; H_2O- 0.12; H_2O+ 15.88; O 4.88; Fe_2O_3, 0.03; K_2O 0.01; quartz 0.19; indicating a co-crystallization of the two end members $CaF_2.AlF_2OH.H_2O$ and $CaF_2.AlF(OH)_2.H_2O$ in the proportion of 86.5 to 13.5. Heated rapidly in a closed tube it gives off water and HF and is readily soluble in cold dilute acids. In Greenland, Colorado, and the Urals gearksutite and the associated fluorides seem to have been formed by the action of HF of magmatic origin upon pre-existing feldspars, at Gingin the mineral has been formed *in situ* by carbonated water acting upon fluorapatite and gibbsite. W. F. H.

THE 'SKARN' OF VĚCHŇOV AND ITS MINERALS. F. SLAVÍK. *Časopis Moravského Musea Zemského*, **1919-21**, 305–13; through *Min. Abstr.*, **1**, 290.

The following minerals are recorded from a 'skarn' in a magnetite deposit at Vechňov in Moravia: hedenbergite, andradite, epidote, amphibole, adularia, and magnetite (sometimes pseudomorphous after hedenbergite). E. F. H.

OPTICAL DATA ON SEVERAL MINERALS. F. Slavík. *Rozpravy České Akad., class 2*, **26**, (60), 8 pp.; *Bull. Intern. Acad. Bohême*, **22**, 32–8; through *Min. Abstr.*, **1**, 290–1.

The following indices of minerals are noted: bauxite 1.60 to 1.61, wavellite 1.545 (γ), fischerite 1.533, foucherite 1.64–1.65, picite 1.64, phosphorite 1.620–1.625, 1.615, collophanite 1.58, 1.60, zippeite 1.635 and 1.645, sphaerite 1.563 and 1.575, zepharovichite 1.55, gibbsite 1.56–1.565 and 1.573, destinezite 1.64, szaibelyite 1.575 and 1.60. Localities are given in each case. E. F. H.

TETRADYMITE FROM THE BOHEMIAN GOLD VEINS. F. Slavík. *Rozpravy České Akad., class 2*, **25**, (53), 5 pp., 1916; *Bull. Intern. Acad. Bohême* **22**, 100–02, 1918; through *Min. Abstr.*, **1**, 291.

Tetradymite or another Bi sulphide and telluride occurs in small tin-white scales in auriferous quartz veins in three central Bohemian localities. E. F. H.

CONTRIBUTION TO THE MORPHOLOGY OF BENITOITE. B. Ježek. *Rozpravy České Akad.*, **28**, (8), 5 pp. 1919; through *Min. Abstr.*, **1**, 291.

Two new forms are described: $(20\bar{2}7)$ and $(\bar{3}144)$. Ditrigonal-pyramidal symmetry is supported by the hemimorphic development of several pyramids. E. F. H.

THE CLASSIFICATION OF METEORITES. G. T. Prior. *Mineralog. Mag.*, **19**, (90), 51–63, 1920.

The earlier classifications were based largely upon mineral comp. and structure and little or no stress placed upon chem. composition. The scheme advocated for both meteoric irons and stones depends upon the amount of Ni in the nickeliferous iron and upon the proportion of FeO to MgO in the magnesium silicates. The four classes of meteorites—irons, stony-irons, chondritic stones and non-chondritic stones—are each subdivided into four groups, each group possessing a comp. falling within definite limits in regard to Ni-Fe and ferrous oxide. W. F. H.

NOTE ON THE PLUMBIFEROUS BARYTES FROM SHIBUKURO, PREFECTURE OF AKITA, JAPAN. R. Ohashi. *Mineralog. Mag.*, **19**, (90), 73–76, 1920.

The plumbiferous barite is being deposited from hot springs and forms concentric bands of white and brownish yellow coatings on pebbles and rocks. Sp. gr. 4.62. Indices of refraction between 1.65 and 1.70. $2E = 67–86°$ (Mallard's method). Dispersion strong, $\rho > \nu$. The quantity of Pb varies from 4.67 to 17.76, the yellow zones containing the larger amount. Based upon chem. comp. the mineral corresponds to the mixtures $A_1B_{14}-A_1B_8$ (A = anglesite, B = barite), while the material from Hokuto corresponds to $A_1B_3-A_3B_5$. All the barite from Shibukuro, whether it contains Pb or not is radioactive. It is inferred that the mineral has a self-luminescent property in addition to the radioactivity. W. F. H.

THE CRYSTAL FORM, FLUX, AND ACTUAL MELTING OF PHOSPHORESCENT ZINC SULFIDE. Erich Tiede and Arthur Schleede. *Ber.*, **53**, 1721-5, 1920.

A relation between crystal form and capability of phosphorescence could not be established for artificial sphalerite and wurtzite. The action of a flux in producing phosphorescence may be replaced by an actual fusion of the sulfide. E. F. H.