some years ago informed the writer that he had found in earlier years a mineral answering to the description of bismuthinite.

The dike was almost entirely covered by soil, brush, etc., only a few square yards being exposed, until a year or so ago when it was opened up in an attempt to produce beryl in commercial quantities. Mr. Eardley-Wilmot of the Mines Branch, Department of Mines, informs me that the dike can now be seen to be of considerable size, the beryl occurring over a width of 15 feet, the total width not being exactly ascertainable, and that it can be traced for 200 feet or more in a north-easterly direction.

NOTES AND NEWS

NAMES FOR THE SYMMETRY-CLASSES BASED ON AXES

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While the crystal systems have been assigned different names by various authors, there is on the whole a general agreement as to which are preferable, and uncertainty rarely arises as to what system is intended, even when the less familiar terms are employed. With the thirty-two symmetry-classes, however, it is a different story. Few of them have had less than 10 distinct designations (including names, letter-symbols, and numbers) assigned, and as noted by Spencer[1] one of the hexagonal classes has received at least as many as 31. It would indeed be highly desirable if some general agreement could be reached as to the names to be used for the classes, as urged by Spencer, but those he recommends seem capable of considerable improvement. A new, relatively simple, series of names is here put forward, as possibly suitable for general adoption.

The most systematic set of names in wide use is that of Groth, each class being characterized by its general form. There are two principal objections to this plan, the first that the names of symmetry-classes ought to be based on symmetry rather than on forms, and the second that the general form names are unnecessarily cumbersome. Dana endeavored to avoid the second objection by using names of other than the general form for some classes, and descriptions of peculiar features for others, and Spencer follows the same plan, but this does not answer the first objection, and introduces the further disadvantage of lack of uniformity.

Sets of names based on symmetry are used by some authors, notably Miers and other English crystallographers, and one of these sets has been adopted in this country by Phillips.[2] The chief objection to it lies in its cumbersomeness, which is scarcely less than that of the Groth series.

The class-names noted in the preceding paragraph are based on both planes and axes of symmetry. The writer's proposal involves the use of names based as far as practicable on symmetry axes only. They are brought out in the accompanying tabulation, which is self-explanatory.

[1] L. J. Spencer, *Mineralog. Mag.*, **20**, 361 (1925).
[2] Mineralogy, 1912.

CUBIC SYSTEM

Holosymmetric (fluorite)[3] Holoaxial (cuprite)	Alternating (pyrite) Alternating-polar (sphalerite)	Digonal-polar (ullmannite)

TETRAGONAL SYSTEM		HEXAGONAL SYSTEM		
Tetragonal subsystem	Alternating subsystem	Alternating subsystem	Hexagonal subsystem	Trigonal subsystem
Holosymmetric (octahedrite) Polar (silver fluoride) Holoaxial (nickel sulfate) Monoaxial (scheelite) Monoaxial-polar (wulfenite)	Alternating (chalcopyrite) Alternating-monoaxial (meliphanite)	Alternating (calcite) Alternating-monoaxial (dolomite)	Holosymmetric (beryl) Polar (iodyrite) Holoaxial (high-quartz) Monoaxial (apatite) Monoaxial-polar (nephelite)	Holosymmetric (benitoite) Polar (tourmaline) Holoaxial (quartz) Monoaxial (?) Monoaxial-polar (sodium perio- date)

RHOMBIC SYSTEM	MONOCLINIC SYSTEM	TRICLINIC SYSTEM
Holosymmetric (barite) Polar (hemimorphite) Holoaxial (epsomite)	Holosymmetric (gypsum) Holoaxial-polar (lithium sulfate) Anaxial (clinohedrite)	Holosymmetric (chalcanthite) Asymmetric (calcium thiosulfate)

This method of naming and arrangement of classes is not only relatively simple and systematic, but it also brings out certain correspondences between classes in different systems which have some theoretical interest. In particular, it disposes once for all of the question as to whether there are 6 or 7 systems, and as to whether certain classes really belong in the hexagonal or in a trigonal system. The tetragonal system falls into two subsystems, on the basis of whether the singular axis possesses simple or alternating symmetry; and the hexagonal correspondingly falls into three, making it plain that the trigonal should rank as a subsystem, and not as an independent system of equal rank with the other six.

[3] It is understood that the writer does not claim that the compound cited belongs structurally in the class to which it is referred, thus cuprite appears to be structurally holosymmetric, and only superficially holoaxial, and similar relations seem to hold with nickel-sulfate-6-hydrate, nephelite, wulfenite, and perhaps others. As, however, most crystallographic text-books use the superficial rather than the structural symmetry as characteristic of a compound, looking up in them the compounds given here will make it possible to ascertain the class-name, letter, or number preferred by the respective author.

CLASSIFIED LIST OF MINERALS DESCRIBED OR DISCREDITED DURING 1916–1922 INCLUSIVE
(Supplementary to previous lists)

"Kalgoorlite" (1922)	complex sulfide	shown to be a mixture	**10**, 22.
Lilianite (1921)	$Pb_3Bi_2S_6$	species rank established	**9**, 43.
"Alkali-spinel" (1922)	complex Mg oxide	homogeneity not established	**12**, 231.
"Rancieite" (1921)	complex Mn oxide	homogeneity not established	**9**, 20.
"Iron hydroxide" (1921)	complex Fe oxide	distinctness not established	**9**, 44.
Elatolite (1922)	$CaCO_3$	high-temperature form	**11**, 107.
"Calcioancylite" (1922)	complex Sr carb.	=calciferous ancylite	**12**, 98.
Hydrotalcite (1921)	$Mg_6Al_2CO_3(OH)_{16}$	redefined ($+4H_2O$)	**9**, 21.
Stichtite (1921)	$Mg_6Cr_2CO_3(OH)_{16}$	redefined "	**9**, 22.
Pyroaurite (1921)	$Mg_6Fe_2CO_3(OH)_{16}$	redefined "	**9**, 22.
Salmoite (1921)	complex Zn phos.	optically distinct	**12**, 58.
"Cornetite" (1922)	complex Cu phos.	=var. of pseudomalachite	**9**, 233.
Kolovratite (1922)	complex Ni vanad.	probable new vanadate	**11**, 136.
"Kurskite" (1919)	complex Ca phos.	homogeneity not established	**9**, 118.
"Meyersite" (1922)	complex Al phos.	homogeneity not established	**9**, 156.
Pseudowavellite (1922)	complex Al phos.	probable new phosphate	**12**, 231.

CLASSIFIED LIST OF MINERALS DESCRIBED OR DISCREDITED DURING 1916–1922 INCLUSIVE

"Barroisite" (1922)	amphibole	distinctness not established	11, 167.
"Fluortamarite" (1922)	amphibole	distinctness not established	11, 217.
"Rimpylite" (1922)	amphibole	distinctness not established	11, 167.
"Weinschenkite" (1922)	amphibole	name preoccupied	11, 167.
"Mesodialyte" (1922)	eudialyte	distinctness not established	12, 97.
"Yuksporite" (1922)	pectolite	distinctness not established	12, 58.
"Hoegtveitite" (1922)	zircon (alvite)	homogeneity not established	12, 97.
"Cergadolinite" (1922)	gadolinite	=ceriferous gadolinite	12, 97.
"Chromepidote" (1920)	epidote	=chromiferous epidote	12, 97.
"Vanadiolaumontite" (1922)	zeolite	homogeneity not established	12, 97.
"Ramsayite" (1922)	complex Ti sil.	=var. of lorenzenite	11, 136.
"Loparite" (1922)	complex Ti sil.	homogeneity not established	12, 97.
Aluminium-epidote (1916)	chemical name for	clinozoisite.	
Arsenioardennite (1922)	chemical name for	end-member of series.	
Clinoamphibole (1922)	group name for	monoclinic amphiboles.	
Ferriepidote (1920)	chemical name for	end-member of series.	
Metabiotite (1921)	chemical name for	biotite changed by heating.	
Metachabazite (1921)	chemical name for	chabazite changed by heating.	
Orthamphibole (1917)	group name for	orthorhombic amphiboles.	
Orthaugite (1917)	group name for	orthorhombic pyroxenes.	
Pseudogymnite (1921)	synonym of	pseudodeweylite.	
Vanadioardennite (1922)	chemical name for	end-member of series.	

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CLASSIFIED LIST OF MINERALS DESCRIBED OR DISCREDITED DURING 1923

"Modderite"	a Co sulfide	=jaipurite	**11**, 77.
Cubanite	$CuFe_2S_3$	species rank established	**8**, 135.
"Chalmersite"	$CuFe_2S_3$	=preceding	**8**, 136.
Berthonite	$Cu_3PbSb_3S_7$?	a new sulfosalt	**9**, 173.
Chloroxiphite	$CuPb_3Cl_2O_2(OH)_2$	a new hydroxychloride	**9**, 96.
Diaboleite	$CuPb_2Cl_2(OH)_4$	a new hydroxychloride	**9**, 97.
Crednerite	$CuMn_2O_4$	redefined	**9**, 97.
Trevorite	$NiFe_2O_4$	species rank established	**9**, 98.
"Gahnite, cobaltiferous"	$(Zn, Fe, Co)Al_2O_4$	a new variety	**8**, 147.
"Coronadite"	complex Pb oxide	a mixture?	**8**, 209.
"Romanechite"	complex Mn oxide	a mixture?	**8**, 210.
Schoepite	complex U oxide	formula not established	**8**, 67.
"Borgstroemite"	complex Fe sulf.	= var. of carphosiderite	**10**, 180.
Argentojarosite	$AgFe_3(SO_4)_2(OH)_6$	a new sulfate	**8**, 230.
"Pisekite"	complex Ce phos.	=var. of monazite	**11**, 136.
"Stasite"	Pb-U phosphate	=dewindtite	**10**, 201.
Parsonsite	$Pb_2UO_2(PO_4)_2 \cdot H_2O$	a new phosphate	**8**, 150.
Finnemanite	$Pb_5Cl(AsO_3)_3$	a new arsenite	**8**, 230.
Weslienite	$Na_2Ca_3FeSb_4O_{15}$	a new antimonate	**9**, 174.

CLASSIFIED LIST OF MINERALS DESCRIBED OR DISCREDITED DURING 1923

Ellsworthite	$Ca(CbO_3)_2 \cdot H_2O+X$	a new columbate	**9**, 16.
"Manganomossite"	complex Mn col.	=manganiferous mossite	**12**, 98.
"Taramite"	amphibole	distinctness not shown	**11**, 219.
"Fluotaramite"	amphibole	distinctness not shown	**11**, 217.
"Chinkolobwite"	complex U sil.	distinctness not shown	**9**, 156.
"Eakleite"	complex Ca sil.	=xonotlite	**8**, 181.
Clinoptilolite	$CaAl_2Si_{10}O_{24} \cdot 7H_2O$	"crystallized mordenite"	**8**, 94.
"Flokite"	$CaAl_2Si_{10}O_{24} \cdot 7H_2O$	=preceding	**8**, 94.
Faroelite	Na-Ca-Al sil.	species rank inferred	**8**, 124.
"Gonnardite"	Na-Ca-Al sil.	=preceding	**8**, 124.
Anauxite	$H_{16}Al_6Si_{10}O_{37}$?	species rank established	**10**, 201.
"Errite"	complex Mn sil.	distinctness not shown	**10**, 107.
"Parsettensite"	complex Mn sil.	=preceding?	**10**, 107.
"Tinzenite"	complex Mn sil.	homogeneity not shown	**10**, 108.
"Befanamite"	complex Sc sil.	=var. of thortveitite	**11**, 137.
"Manganoneptunite"	titanosilicate	=manganiferous neptunite	**12**, 96.

See also Report of the Committee on Nomenclature and Classification of Minerals, topics 1 and 2, *Am. Mineral.*, **8**, 50-52 (1923).
The classified list for 1922 appeared in *Am. Mineral.*, **9**, 175 (1924).

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