SOME MINERAL NAMES

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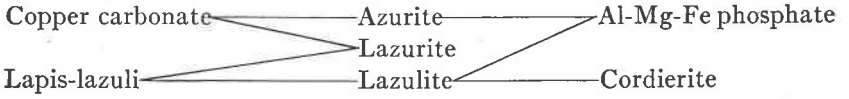
When I make the bold assertion that *alcohol* is a mineral name, it may perhaps be thought that I have partaken too freely of liquid refreshment, so disturbing to a balanced judgment. Nevertheless, this is a very early name for the mineral now known as stibnite or antimonite.

In Arabic *al-kohl*, meaning "the colouring" (*al* being the definite article), is the black powder used for darkening the eyelids. In the theatrical profession the pigment used for this purpose is still called kohl. Francis Bacon in his "Sylva sylvarum; or a naturall historie" (1626, p. 739) says: "The Turkes have a Black Powder, made of a Mineral, called Alcohole; which with a fine long Pencil they lay under the Eyelids." In the course of time the name alcohol became extended to include any fine impalpable powder, especially such as can be obtained by sublimation; and as late as 1812 Sir Humphry Davy mentions "alcohol of sulphur" for what is now commonly known as "flowers of sulphur." As the operation of distillation is very similar to that of sublimation, the name came to be extended to essences and spirits; and in the sixteenth century "spirit of wine" was called "alcohol of wine" by alchemists. This "elixir of life" was later called simply alcohol; and now the name is extended to liquors containing only a small percentage of C_2H_5OH.

This is a very striking example of the gradual change which, in the course of time, words may undergo in their meaning. About a hundred years ago a further extension in the meaning of alcohol was introduced by chemists for a whole series of organic compounds containing the group (OH). This hydroxyl group is now fashionable in mineralogy, so perhaps the name alcohol may again come back to minerals.

Other early names for the mineral stibnite were *stimmi* or *stibi* (Greek) and *stibium* (Latin), which were applied to a cosmetic used for darkening the eyelids and eyebrows. On this account the material was also known in Greek as *platyophthalmon* ("wide eye")—as recorded by Dana. Whether or not these are earlier names than the Arabic *al-kohl* I have not been able to discover; nor is this of much consequence in the present connection, for it would be useless, indeed foolish, to insist here on the law or priority. The name stibnite, due to J. D. Dana (1854), is a modification of stibine as originally given by F. S. Beudant (1832) from the Latin. Stibnite is good; but stibine is still used in French, and estibina in Spanish. The name antimonite, given by W. Haidinger in 1845, was already in use in 1834 as a chemical name for salts of antimonious acid.

Blue minerals have suffered a series of misfortunes in their names. Azurite, lazurite, and lazulite have each been indiscriminately applied to two minerals; and each of these minerals has received two of these names. The puzzle is to remember which is which.



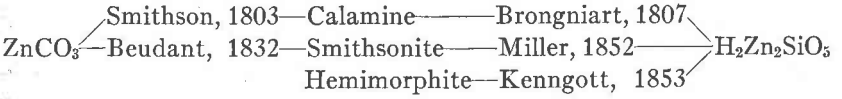
These names are all derived from the Persian word *lazhward*, meaning blue colour and also applied to lapis-lazuli. Some unscholarly scribe in the middle Ages, confusing the Persian with Arabic, dropped the initial letter, evidently thinking that this was the definite article. So now we have the words azure and lazure, both of the same derivation and meaning something blue. Mineralogists have added further to the confusion., The blue copper carbonate mineral, early known as cuprum lazureum. cæruleum montanum, azure copper ore, etc., was named azurite by F. S Beudant (1824), lasur by W. Haidinger (1845), and lazurite by F. Kobell (1853). But the name azurite had earlier been used by R. Jameson in 1805 for the blue phosphate of aluminium, magnesium, and iron, now known as lazulite (M. H. Klaproth, 1795). Lazule (John Bullokar, 1616) and lazulite (Macaulay, 1849, "enshrined in lazulite and gold") are old names for lapis-lazuli; and the essential blue constituent of this stone has been named lasurite (W. C. Brögger and H. Bäckström, 1890) and lazurite (E. S. Dana, 1892). The name lazulith (E. F. Scholtheim, 1801) has also been applied to cordierite (=iolite=dichroite).

Confusion such as this indicates that it will be well to start afresh. But rather than inventing a new set of names, I select the following old names as suitable. Chessylite (H. J. Brooke and W. H. Miller, 1852) has been applied to no other mineral but the blue copper carbonate; mollite (G. A. Bertele, 1804), after Baron C. E. von Moll (1760–1838), to none other than the Al-Mg-Fe phosphate; while lazulite, rather than lasurite or lazurite, is obviously the best name for the lapis-lazuli mineral. Azurite is a good name; but to recognise priority and use it in its original sense would only cause further confusion. At the present time, as I write, "az-u-rite" is a trade-name for a blue-black ink.

Lapis-lazuli was called sappheiros and sapphirus by the Greeks and Romans, and the latter form was used in this sense by G. Agricola as late as 1546. This name has since been transferred to the blue variety of corundum, the now well-known sapphire, which to the Greeks and Romans was known as hyakinthos and hyacinthus. Many other old names for gemstone minerals have had a chequered career. Chrysolite (Greek *chrysos*, gold, and *lithos*, stone) has done duty for topaz, beryl,

yellow olivine, quartz, corundum, etc. Its association with green olivine is suspicious; and as a name for a mineral species it may now well be allowed to become obsolete. Printers' readers are always troubled with chrysolite and chrysotile (=serpentine-asbestos).

Another familiar confusion, with duplication of names, is with the zinc carbonate and silicate minerals. This can be most simply straightened out by adopting the name smithsonite for the carbonate and hemimorphite for the silicate.



The name siderite (from the Greek *sidēros*, iron) has been used in many different senses and applies to several different minerals. In Latin, *siderites* was loadstone (=magnetite) and also a precious stone; the adamas siderites of Pliny being probably sapphire. The great Oxford Dictionary gives an English quotation under date 1579 for syderite as applied to loadstone. Other meanings are for iron ore, ironwort (a plant), and meteoric iron. The name has also been applied to the following minerals:

Siderite of T. Bergman (1790) =pharmacosiderite
Siderite of C. E. Moll (1797) =blue quartz
Siderite of C. E. Moll (1799) =lazulite=mollite
Siderite of J. Pinkerton (1811) =hornblende
Siderose of S. F. Beudant (1832) =chalybite
Siderite of W. Haidinger (1845) =chalybite

The choice of a name for iron carbonate here lies between chalybite (E. F. Glocker, 1847) and siderose, neither of which has been applied to any other mineral.

There is a strange similarity between the Greek *sidēros* (iron) and the Latin *sidus*, *sideris* (star), which is reflected in the English words sidereal, siderous (star-like and ferreous), and siderite. A connection between the names for falling stars (thunderbolts or meteorites) and iron has been traced in some ancient languages; and here the words may have had a common origin in some language previous to Greek and Latin, when meteoritic iron was the only iron available to early man. If this is so, then meteoritic iron has a strong case for priority in the use of the name siderite.

Felspar or feldspar? This is a minor problem still undecided amongst English mineralogists. Neither form is strictly correct. The name as originally given by D. Tilas in 1740 was feldtspat. He gave no derivation,

but no doubt the name has reference to the presence of the spar (spath) in tilled fields (Swedish, feldt or fält) overlying granite. Other Swedish forms are feltspat (J. G. Wallerius, 1747) and fältspat (A. F. Cronstedt, 1758). The German translation (1750) of Wallerius has feldspath, and the English translation (1772) of Cronstedt was field-spar. The field idea comes also into some other languages: földpátak (Hungarian) and polevoi shpat (Russian). R. Kirwan in the first edition of his "Elements of Mineralogy" (London, 1784) has felt-spar; but in his second edition (1794) he gave the name as felspar, evidently realising that this important rock-forming mineral has more to do with rocks than with fields. If any change from felspar is really needed, this should be to the original Swedish form feldtspar or feltspar, without stopping half-way at the German form feldspar. An interesting historical paper on this name has been given by N. Zenz´n (Geol. För. Förh. Stockholm, 1926, vol. 47 for 1925, p. 390).

Another mineral with different spellings in current use is chalcosine or chalcocite. The original form chalcosine of F. S. Beudant (1832), from the Greek *chalkos*, copper, is followed in European languages (French, English, Italian); chalcosina (Spanish) and Chalkosin (German). The alteration to chalcocite was made without sufficient reason by J. D. Dana in 1868. In this etymological atrocity the letter *c* is given three different values: the first *c* is part of *ch*, which in Greek (also Russian, Czech, and Spanish) is a separate letter of the alphabet; the second is the Greek *k*; and the third is pronounced as *s*.

In tracing the history and derivations of mineral names A. H. Chester's "Dictionary of the names of minerals" (New York 1896) is of the greatest help. This work was done by him in connection with the "New English Dictionary" (Oxford, 13 vols., 1884–1933) in which he was responsible for most of the mineral entries. This monumental work gives actual quotations through the centuries from the year 1000.