

Flavus or blavus: a difficulty in understanding early descriptions of minerals.

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WHILE studying some of the early works on minerals I came across an obvious difficulty: several minerals, amongst which lapis-lazuli is the most startling, are described in Latin as *flavus*, yellow or flaxen-coloured, not blue. This error has been copied into a book in English. The solution is less obvious than the difficulty, and it may therefore be worth while to put it on record for other workers on similar lines.

The 'Liber mineralium' of Albertus Magnus (or St. Albert) (3),¹ written about A.D. 1250, is one of the most important of the post-classical works, in that, besides repeating the descriptions and some of the supposed medical and magical properties of minerals, it includes a number of personal observations on localities, modes of occurrence, &c. Book II, tract II, is a description of precious stones and their virtues, the stones being given in alphabetical order of their names. This arrangement was followed by most authors, including Leonardus (8; see below), until Conrad Gesner (5), who in 1565 published the first work on minerals and fossils to be illustrated with figures. He attempted a scientific arrangement and described the alphabetical as 'nimis vulgatum & triviale', the last word in approximately its original sense.

In Cap. XVII (letter S) Albertus describes Saphirus [*sic*]. It is clear that he is dealing with our sapphire, not with that of Pliny which is lapis-lazuli; he says that in colour it is a clear yellow (perspicuus flavus), like the sky on a fine day. From the comparison with the sky it is certain that the word printed as *flavus* must mean blue. Equally certain is the description in Cap. XX of the mineral Zemech, also known as Lapis lazuli [*sic*], from which azure is made: it is a fine *flavus* colour with little golden specks (pyrite). Under Hyacinthus (Cap. VIII) we learn that there are two chief kinds, the watery (aquaticus) and the sapphirine, the colours of which are respectively whitish and very bright *flavus*. Whether Hyacinthus is corundum, or zircon, or both, or neither, is one of the more difficult questions in early mineralogy: it is

¹ Numbers refer to list of works at the end of this paper.

fully discussed by C. W. King (*7a*, pp. 160–168; *b*, pp. 242–257), but the colour should be blue, not yellow. The same adjective is applied (Cap. XIX) to turquoise.

These quotations are taken from the latest text of Albertus (*3a*), but I have confirmed that the important word is the same in editions printed in 1518 and 1541. It may be advisable to state that the ‘*Liber mineralium*’ is a genuine work of Albertus and is not to be confused with a spurious and ridiculous treatise, ‘*De secretis mulierum . . . lapidum . . .*’, which was constantly reprinted and translated and became known in France as the ‘Grand’ or ‘Petit Albert’, beloved of fortune-tellers and interpreters of dreams. I have not examined texts of the genuine work earlier than 1518, but the word *flavus* must be printed in some, if not all, of these.

In 1502 Camillus Leonardus (8) of Pisa published at Venice the first edition of his ‘*Speculum lapidum*’. Other editions in 1516, 1533, 1610, and 1717 are listed by Adams (1), who reproduces the title-page of the first of these. This evidently popular handbook is stated by the author to be compiled from the works of Aristotle,¹ Pliny, Albertus Magnus, and others: *flavus* is used in the first edition of lapis-lazuli, and the whole description is taken from Albertus. In 1750 Leonardus’s book was translated into English with the title ‘The Mirror of Stones’. Copies are not uncommon: the libraries of the Natural History Museum, the Geological Survey and Museum, and the Geological Society all have one; probably many members of the Mineralogical Society possess this book or have consulted it. It contains (p. 239) the following description:

‘*Zumemellazuli*, or *Zemech*, but in *Latin* is the Stone *Lazuli*. This Stone is yellow, of the Colour of the Sky when it is in its greatest Serenity, not transparent, and shines with golden Streaks; it sustains the Fire, and from its Beauty is called the celestial or starry Stone. Being prepared by Physicians, it cures melancholy Disorders. There is also made of it a Colour call’d the Ultramarine Azure.’

There can be no doubt but that the description is of lapis-lazuli, but neither that mineral nor the sky on a fine day can be called ‘yellow’.

The solution of the difficulty.—When I first came across this difficulty in understanding Albertus I wondered whether the word *flavus* had in medieval times changed its meaning; but this guess was wrong. Another possibility was a printer’s error. I consulted several scholars, one of whom suggested that I should search the appendix to a recent

¹ i.e. the Pseudo-Aristotelian work in Latin translated from the Arabic of Avicenna: see E. J. Holmyard and D. C. Mandeville, *Avicennae de congelatione et conglutinatione lapidum*. Paris, 1927. [M.A. 3–466.]

edition of Du Cange's (4) glossary of medieval Latin, which includes a list of all words for colours. This gave the answer at once. Classical words for colours are notoriously few and often indefinite. Albertus was essentially German and used a latinized word *Blavus*, formed from the German *blau* or *blaw*. Whether he coined it himself or found it in use is uncertain and immaterial; both Du Cange and Hofmann (6) give, as a first reference for 'Blavus', Johannes Monachus, who died at Avignon in A.D. 1313 and was thus practically contemporary with Albertus: he used it in his life of St. Odo to describe certain vestments—'of the colour which we, in the vulgar tongue (*vulgo*) call *blavus*'. But despite this comment the word does not appear to have been common, except (with derivatives) in botanical works. In 1297 Matthaeus Silvaticus used *Blavus* in describing two plants, one of which is woad; Ruellius several times in a Latin version of the Greek Herbal of Dioscorides (Basle, 1537) to translate *κύανος*. Littleton's 'Latine dictionary' (9) gives *Blaveolus* as the 'the blew bottle, a flower', i.e. the cornflower. It is curious how the pursuit of one error leads to the detection of another: he puts this word in his Part II—Latine Classical, not in Part IV—Latine Barbarous; but his authority for the word is Hadrianus Junius, a Dutch medical man who died in 1575. I am indebted to Dr. L. J. Spencer for finding it thus misplaced, when I had concluded that Littleton did not give it. Salsmasius (1588–1653), the commentator on many classical authors, places *Blavus*, as an adjective of colour, between *Caeruleus* and *Purpureus*.

It is strange that the early German mineralogists did not use the word. Agricola (2) uses 'Caeruleus' for the colour of *Cyanus*, *Sapphirus*, &c. Gesner (5) and his friends, whose books he printed with his own, used neither 'blavus' nor 'flavus' for blue, although one of them, Rueus, Doctor Medicus Insulanus (i.e. François de la Rue, a doctor of medicine of Lille), uses (p. 33) the exact words of Albertus for *Sapphirus*—the colour of the sky on a most serene day. Presumably he used a printed edition of the 'Liber mineralium' and omitted *flavus* because it made nonsense of the passage. Perhaps this note may safeguard future students of the history of mineralogy from the same misfortune.

In justice to the printer whose error has persisted for four centuries (so far!), it may be pointed out that in early type the character for F-l with ligature and serifs looks not unlike a B. What he printed had considerable resemblance to the manuscript he used.

References.

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4. DU CANGE (C. du F.), *Glossarium ad scriptores mediæ et infimæ Latinitatis*. (1st edit., Paris, 1678). L. Favre, editor, Niort, 1883-87.
5. GESNER (C.), *De omni rerum fossilium genere, gemmis, lapidibus, metallis et hujusmodi*. Tiguri = Zürich, 1565. Besides his own work, *De rerum fossilium, lapidum, et gemmarum maxime, figuris*, the book includes: F. Rueus, *De gemmis, editio secunda* (quoted here), and six other tracts.
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— (b) *Natural history of precious stones and of the precious metals*. London, 1867.
8. LEONARDUS (C.), *Speculum lapidum*. Venice, 1502. English translation (anon.): *The mirror of stones*. London, 1750.
9. LITTLETON (A.). *A Latine dictionary*. London, 1678.

Note.—Since this paper was written I find that C. W. King was aware of the difficulty, but not of the solution. In 'Antique gems', 1860, p. 422, he writes: 'It is curious that Camillo [Leonardus], both in this place and in speaking of the Sapphire and Turquoise, uses *flavus* as synonymous with *coelestis*, azure.'