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Knekites

In the course of the survey of the porphyry quarries at Mons Porphyrites in 1995, a stela of black porphyry was discovered, recording the dedication of a temenos to Pan and Sarapis on 23 July, A.D. 18, by one C. Cominius Leugas, who in the inscription takes credit for having "discovered the quarries of the porphyry stone and knekites and black porphyry and multi-colored stones" (ὁ εὑρὼν τὰ μέταλλα τοῦ πορφυρίτου καὶ κνηκίτου καὶ μέλανος πορφυρίτου καὶ ποικίλους λίθους). The inscription was published promptly by Wilfried Van Rengen in *Chronique d'Égypte* 70 (1995) 240-245 with a detailed commentary (1).

This commentary centered above all on the types of stones mentioned in the inscription. The identification of porphyry (of which this is the earliest mention in an ancient text) and black porphyry (the stone of the stela itself) posed no difficulty. The ποικίλοι λίθοι, which do not stand in the genitive dependent on the quarries but instead separately in the accusative, are identified by Van Rengen with other ornamental stones found in the desert (2). The identification of the *knekites*, however, posed greater difficulty. Van Rengen cites the only previously-known appearance of this word, in a text of Hermes Trismegistos on the decans. He remarks that "nearly always, according to the prescriptions, the stones to be placed upon a plant or a herb, are precious or semi-precious stones; only once an

(1) The inscription was reported in W. Van Rengen, "Epigraphy," in D. Peacock, V. Maxfield et al., *The Roman Imperial Porphyry Quarries Gebel Dokân Egypt Interim Report 1995* (Southampton, privately circulated) and has since been referred to in other literature on the Eastern Desert: V. Maxfield and D. Peacock, "The Archaeology of an Industrial Landscape: An Interim Report on the Work of the Imperial Quarries (Mons Porphyrites) Project," in O. E. Kaper, ed., *Life on the Fringe: Living in the Southern Egyptian Deserts during the Roman and Early-Byzantine Periods* (Leiden 1998) 185-188; D. Peacock, "The Roman Period (30 BC-AD 395)," in I. Shaw, ed., *The Oxford History of Ancient Egypt* (Oxford 2000) 431; V. Maxfield and D. Peacock (eds.), *The Roman Imperial Quarries, Survey and Excavation at Mons Porphyrites 1994-1998* (London 2001) 60-61. The text is now printed as *SEG* XLV 2097.

(2) These perhaps include the stones coming from two Roman quarries close to Mons Porphyrites: the pink syenite porphyry from Wadi Umm Sidri and the greenish-gray quartz diorite from Wadi Umm Balad. See Fig. 1, and V. M. Brown and J. A. Harrell, "Topographical and petrological survey of ancient Roman quarries in the Eastern Desert of Egypt," in Y. Maniatis, N. Herz and Y. Bassiakis, eds., *The Study of Marble and Other Stones Used in Antiquity — ASMOSIA III, Athens* (London 1995) 221-234.

iron ring is used. It is obvious that *knekites* is a kind of coloured stone or rock. Its name is derived from the colour κνηκός, so it must be a yellow, tawny stone. We have not yet been able to identify the knekites on the site of Mons Porphyrites" (p. 244, note to line 5).

In this note we offer a different approach to this question and a suggested identification of the knekites. First, it should be observed that the stones mentioned by Hermes Trismegistos are not all really to be described as precious or even semi-precious. Some of them are in fact unknown, but it is instructive to observe that in Pliny's discussion of stones in the *Natural History*, he makes a division between stones (book 36) and gems (book 37). Of the non-gemstones in book 36, several are among the stones used in the Hermetic text, including *pyrites* (36.137), *coralliticus* (36.62), and Phrygian (36.143). We should therefore avoid any assumption (such as is made by LSJ s.v.) about whether the stone in question is something that we would classify as a gem.

The second question to be considered is the color of the stone. Ancient color terminology has been a controversial subject, but it has come to be recognized that we cannot start from the assumption that the ancient Greeks described color as we post-Newtonians do, primarily in terms of hue. Rather, the two other aspects of color identified in modern color theory are dominant in Greek thought, namely saturation and brightness. In particular, Greek descriptions of color are primarily oriented to a spectrum running from light to dark rather than to our rainbow. As Liz James has recently put it, "Greek definitions of colour words are clearly imprecise in their reference to hue. Even when a word is used in a hue sense, the meaning covers a band of colours rather than a single specific hue, though this band remains constant within classical Greek culture." In particular, the most crucial element in Greek description of color is brightness (3). This tendency remains constant from classical through Byzantine Greek.

The Greek terminology for "yellow" is in fact a useful illustration of the point. The most common word is ξανθός, but when paleness rather than brightness is at stake, there are other terms. As James puts it, "ὠχρός is translated 'yellow' but its essential meaning is 'pale' with particular emphasis on 'pallid' and 'wan', in contrast to χλωρός which is

(3) *Light and Colour in Byzantine Art* (Oxford 1996) 13-17, 47-68; the quotation is from p. 51. The essential point about the importance of saturation and brightness made here is not new; James cites the bibliography, particularly Eleanor Irwin's *Colour Terms in Greek Poetry* (Toronto 1974).

pale in the sense of 'young' and 'fresh'; pallor, not yellowness, is the central point" (4).

With this background in mind, we turn to the meaning of knekites. Its nearest relative in the vocabulary derived from the color κνηκός is κνηκίς, a rare word appearing mostly with the meaning of a wispy cloud: as Hesychius puts it, κνηκοειδὴς τοῦ ἀέρος κατάστασις or νεφέλιον λεπτόν ("knekos-like state of the atmosphere" or "thin little cloud") (5). The fact that hue is not specific to this idea may be seen in Hesychius's definition of κνηκόν: τὸ κροκίζον χρῶμα, ἀπὸ τοῦ ἄνθους· ὅτε δὲ ἀπὸ καρποῦ, τὸ λευκόν ("the color like saffron, from the flower; but when from the fruit, white"). That is, the term possesses no fixed hue, but encompasses more than one pale hue. The other occurrences of κνηκίς provide no basis for supposing that the cloud in question was yellowish ("passing of a wisp of yellow cloud" as the Loeb translation of Plutarch, *De genio Socratis* 12, *Moralia* 581F would render διαδρομὴ κνηκίδος ἀραιᾶς); rather, the definition given by E.A. Sophocles in his *Greek Lexicon of the Roman and Byzantine Periods* s.v. seems appropriate: "small pale cloud" (6). If we apply this conclusion to knekites, our search should be for a pale stone rather than specifically for a yellowish or tawny one.

It is reasonable to suppose from the Mons Porphyrites inscription that knekites comes from Egypt and, most likely, from the Eastern Desert. Because it is mentioned in connection with two stones quarried at Mons Porphyrites, a nearby source is perhaps indicated. Thirteen Roman quarries are known from the Eastern Desert (7), but none produced a yellowish stone and no such material was worked anywhere else in Egypt. There is, however, an outstanding candidate for a "pale" knekites, and it comes from the Roman quarry in Wadi Umm Towat, 8 km southwest of Mons Porphyrites (Fig. 1) (8). This stone is a trachyandesite porphyry in the

(4) James (above, n. 3) 83-84.

(5) Ed. K. Latte II (Copenhagen 1966) 493.

(6) See LSJ s.v. for further references. The Anonymous Introduction to Aratus (ed. E. Maass 1893, p. 126) says helpfully κνηκὶς δὲ νεφέλη λεπτοτάτη κενὴ ὕδατος, which again suggests paleness rather than yellowness.

(7) Brown and Harrell 1995 (above, n. 2); B. G. Aston, J. A. Harrell and I. Shaw, "Stones," in P.T. Nicholson and I. Shaw, eds., *Ancient Egyptian Materials and Technology* (Cambridge 2000) 5-77.

(8) The quarry in Wadi Umm Towat has received relatively little study to date with only brief notices provided by C. H. O. Scaife, "Two inscriptions at Mons Porphyrites (Gebel Dokhan), also a description, with plans, of the stations between Kainopolis and Myos Hormos together with some other ruins in the neighborhood of Gebel Dokhan," *Bulletin of the*

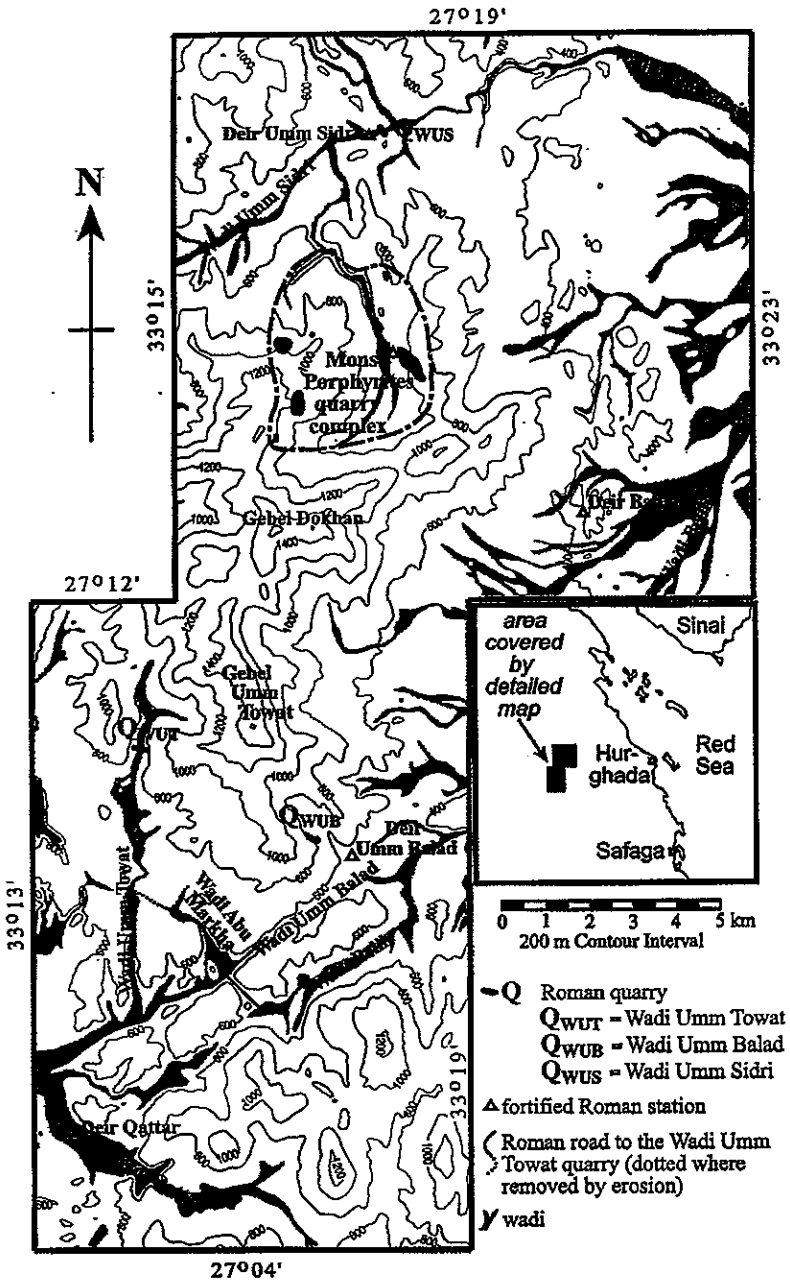

Fig. 1. Topographic map showing the locations of sites mentioned in the paper.

IUGS classification system (9), and is closely related in composition and origin to the porphyries quarried at Mons Porphyrites. It has abundant, large (up to 3 cm), light to medium gray, andesine-plagioclase phenocrysts and occasional inclusions of light gray to white quartz (up to 1.5 cm) that are surrounded by a dark gray to black, fine-grained (less than 1 mm) matrix of plagioclase, pyroxene and magnetite (Fig. 2) (10). In comparison to the finer-grained *melas porphyrites* (black porphyry; Fig. 3) mentioned in the Leugas stela, the Wadi Umm Towat stone has a distinctly pale appearance, which derives from the color of its large phenocrysts. Although the porphyries in Figures 2-3 are shown in black-and-white photographs, their appearance is accurately depicted because their natural colors are shades of gray, except for the Mons Porphyrites stone, which can also have a slight greenish tinge.

The Roman name for the Wadi Umm Towat porphyry is not known from any other textual source. In recent centuries, Italian stonecutters have referred to it as "porfido serpentino nero" because it looks like a black variety of the green "porfido serpentino verde" from Greece (the *lapis lacedaemonius* of the Romans) (11). The best-known surviving example of its use by the Romans is a small reused column in the Chapel of San Zenone within Rome's Church of Santa Prassede (12).

Surface pottery collected from the Wadi Umm Towat quarry, consisting of mostly non-diagnostic sherds, is of Roman age and probably dates to the first-second century AD (13). From all other indications, it is evident that the site is contemporary with Mons Porphyrites. The quarry consists of small workings on opposite sides of the wadi. Most of the activity was on the west side, where there is a single excavation 12 m across with the scant remains of a small stone hut. On the east side of the wadi are two more workings, each less than 10 m across, where relatively little stone was removed. Extracted porphyry blocks with wedge holes and chisel

Faculty of Arts, Cairo University (Cairo, 1935, v. 3, pt. 2, pp. 58-104) 94, 103-104; and Brown and Harrell 1995 (above, n. 2), figs. 3 and 11, tables 1-2.

(9) Brown and Harrell 1995 (above, n. 2), table 2 and fig. 11.

(10) For color photographs of samples in various collections of decorative Roman stones see: R. Gnoli, *Marmora Romana*, 2nd ed. (Rome 1988) fig. 94; G. Borghini, ed., *Marmi antichi* (Rome 1989) fig. 118a; P. Pensabene and M. Bruno, *Il marmo e il colore guida fotographica — I marmi della Collezione Podesti* (Rome 1998) pl. 59.

(11) Gnoli 1988 (above, n. 10) 139; Borghini 1989 (above, n. 10) 276; Pensabene and Bruno 1998 (above, n. 10) 10.

(12) Borghini 1989 (above, n. 10) 276 and fig. 118b.

(13) Prof. Steven E. Sidebotham, University of Delaware, personal communication.

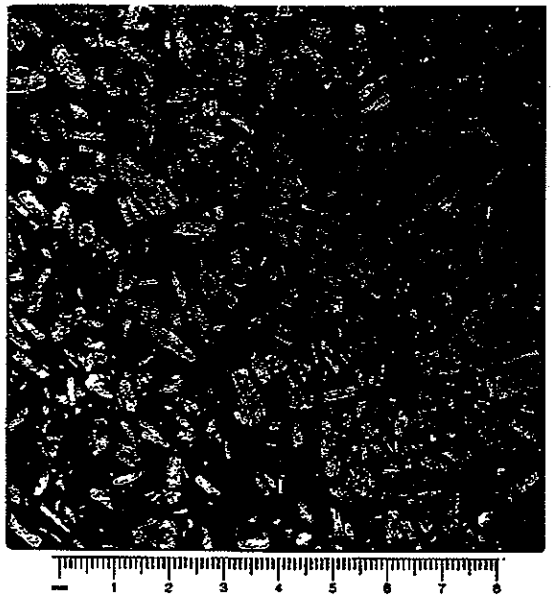

Fig. 2. Trachyandesite porphyry quarried in Wadi Umm Towat.

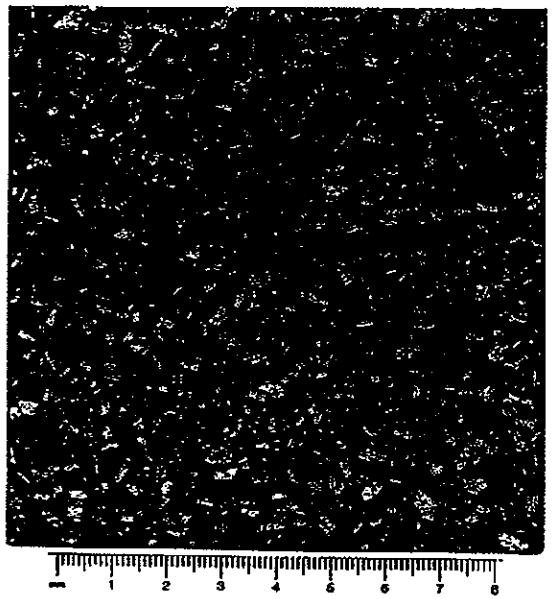

Fig. 3. 'Black' variety of the andesite-dacite porphyry quarried at Mons Porphyrites.

marks are seen in all of the workings. A few hundred meters to the south of the quarry, on the west side of the wadi, are the more substantial remains of two buildings, one 3.5 m square and the other 5.5 m square. The most striking feature of the site is the well-made Roman road leading to it (Fig. 1). It survives along only about half of its original 8 km length. The road ran down Wadi Umm Towat, crossed a divide to Wadi Abu Markha, proceeded across Wadi Umm Balad and another divide, and ended at Wadi Belih, where it joined the main Roman road to Mons Porphyrites. It is a cleared track with a width ranging between 11 and 14 m. From the tremendous effort expended on building this road, it is evident that the Romans had great expectations for the Wadi Umm Towat quarry. The site was abandoned, however, before much stone was taken from it.

It has been proposed here that knekites is the trachyandesite porphyry from Wadi Umm Towat. No other ornamental stone quarried by the Romans in Egypt can be considered more "pale." Further, the close association in the Leugas stela between knekites and two stones quarried at Mons Porphyrites suggests that knekites is to be found nearby. And finally, Wadi Umm Towat was clearly an important quarry at its founding, which may have been as early as the Leugas stela. Although it cannot be considered proven, our conclusion that the Wadi Umm Towat quarry is the source of knekites is strongly supported by the available evidence.

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