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## THE ORIGIN OF AFRICANO (Plate XIX)

The explorations which resulted in the discovery recorded below were undertaken by Mr. Ballance on behalf of the Committee for the Study of Ancient Marbles and Similar Stones in Antiquity. This Committee, which is sponsored by the International Association for Classical Archaeology, was established in 1965 in order to serve as a centre for reference and for the exchange of information between all those persons and institutions who are concerned with the identification and study of the fine building stones and other decorative stones used in classical antiquity. The present members of the Committee are MM. M. H. Ballance, F. Braemer, G. Carettoni, L. Cozza, R. Gnoli and T. Kraus, Dottoressa M. F. Squarciapino (representing the International Association) and the undersigned (Secretary).

A primary objective of the Committee's work is the establishment of authentic referencecollections of samples from ancient quarries. The nucleus of such a collection is already available in Rome, thanks to a generous grant made by the Italian Consiglio Nazionale delle Ricerche, through Professor Gnoli. It is housed temporarily in the British School, and it is hoped that supplies of quarry-samples will in due course be available also for distribution to other appropriate centres.

The Committee hopes to issue periodical bulletins, listing such identifications and giving recent bibliographical information. Meanwhile it is conscious that the value of its own work will depend very largely on the extent to which it can profit by, and can itself assist, the work of all scholars interested in this field of research. Any of those who are not already in touch with the Committee are most cordially invited to communicate with the Secretary of the Committee, c/o the British School at Rome, Via A. Gramsci 61.

## J. B. Ward-Perkins

Africano is one of the most distinctive, although one of the most variable, of the ornamental stones commonly used by the Romans. It is a breccia containing lumps of white, grey or, most typically, pink marble, in which the crystals vary from minute to very large, the largest usually occurring in well-defined veins or patches. These lumps of marble, which may be of any size up to several feet long, are embedded in a black, dark green or greyish matrix that is usually harder than the marble itself. It probably derives its modern Italian name simply from its generally dark colour, rather than from any early speculation as to its origin, and since Corsi's attribution of it to Chios was disproved by the discovery that Chian marble was the *Portasanta* of Italian stonemasons, it has usually been listed as of unknown origin.<sup>1</sup>

The period of its principal use stretches from Augustus to the Antonines, and both columns and slabs are fairly widespread in Italy and North Africa. In Asia Minor it is in general rare, though odd columns and slabs appear at Ephesus and Pergamum.

Corsi to Iasus in Caria, which in fact produced a most distinctive dark red marble with straight or contorted white bands, which is characteristic of Justinianic churches at Constantinople, Ravenna and Ephesus.

<sup>&</sup>lt;sup>1</sup> F. Corsi, *Delle Pietre Antiche*, 3rd ed., Rome, 1845, pp. 99f.; for the Chian quarries, W. Brindley in *R.I.B.A. Trans.*, New Ser., iii, 1887, pp. 47, and M. W. Porter, *What Rome was Built With*, London and Oxford, 1907; *Portasanta* was attributed by

In August 1966, the writer, on a rapid tour of ancient quarries in Turkey under the auspices of the International Committee for the Study of Marble and Decorative Stones in Antiquity, and with the aid of a generous grant obtained through Professor R. Gnoli from the Consiglio Nazionale delle Ricerche, visited the quarries at Teos.

Four quarry-areas can be distinguished. The most obvious is that at the northwest end of a rocky hill just to the north of the Seferihisar-Siğacik road, about 3 km. from Seferihisar. Several small ancient quarries are recognisable in spite of modern blasting and lime-burning. The stone is a dark grey marble, sometimes streaked with white, with large or very large crystals; it was used for ordinary building work of all periods at Teos, and apparently exported in quantity; *bigio antico* and *bigio morato*, which occur frequently in Italy, usually as columns, are superficially identical with darker and lighter forms of this Teian marble, though this does not of course preclude the possibility of other sources of supply.

About 1000 m. north-north-west of this outcrop, at the foot of the gently rolling hills that bound the Teos plain on the north, lies a small lake of clear greenish water, named Kara Göl (pl. XIX*a*). It is about 150 m. in diameter, and has steeply shelving banks covered with a narrow fringe of dense reedbed that suggests that there is a little seasonal variation in the level. Such natural rock as is visible on the banks is micaceous schist and dark grey marble of poor quality. The most remarkable feature, however, is the almost unbroken ring of spoil-heaps, up to 20 m. high, that surrounds the lake. These heaps are composed of chippings of *africano*,<sup>2</sup> and there can be no reasonable doubt that they were extracted from what is now the lake. The otherwise continuous ring of heaps is interrupted only on the south-west side, where a road leading to the safe anchorage at Sigacik, 3 km. away, must have left the quarry; near the lake shore at this point lie two large blocks of white-veined grey marble, which appear to be the sole survivors, apart from one lying in the sea at Sigacik, out of a score of vast and curiously-shaped masses, bearing quarryinscriptions, which were seen by earlier travellers.<sup>3</sup>

A short distance north-west of Kara Göl and higher up the hill there is a third quarry, of small size and little interest, which seems to have produced an inferior form of *africano*.

Further on in the same direction, on the east face of a valley running south-west towards Sığacık, lies a fourth quarry, some 100 by 40 m., that must have produced very large quantities of the ordinary grey marble. The working face on the south side is well preserved; the technique was that common to most ancient quarries;

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<sup>&</sup>lt;sup>4</sup> I am indebted to Mr. F. G. Dimes of the Geological Survey and Museum, South Kensington, for the following description of a thin section of a specimen from the spoil-heaps at Kara Göl.

specimen from the spoil-heaps at Kara Göl. 'The specimen is seen to be composed of granular calcite; the areas coloured pink and white are of finer and more even grain than the rest. There are also organic fragments in the form of sea-urchin spines included in one or two of the pink and white patches; these patches have a rather angular outline. The rock appears to be a recrystallized limestone breccia.' He adds, however, that some of the Kara Göl specimens also contain non-

calcareous material in the form of a silty mudstone, and that one consists mainly of quartz.

<sup>&</sup>lt;sup>a</sup> Richard Pococke, Description of the East, London 1745, II, ii, pp. 44, repeated almost verbatim by Richard Chandler, Travels in Asia Minor, 1775, p. 99; W. J. Hamilton, Researches in Asia Minor, Pontus and Armenia, London, 1842, II, pp. 17 ff.; CIL III, 419; Y. Béquignon, Rev. Arch. Ser. V, xxviii, 1928, pp. 185 ff. describes and illustrates the remaining blocks in some detail and revises the texts of the quarry-marks; G. E. Bean, Aegean Turkey, London, 1966, pp. 145 f. and pl. 25.

individual blocks were isolated from the surrounding rock by V-shaped trenches cut with the pick, and were then split off from below with wedges (pl. XIX, b).

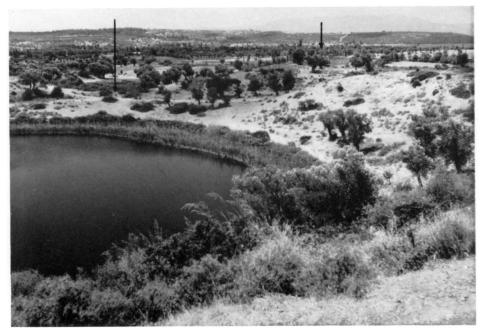
Previous descriptions of the Teian quarries mention the isolated hill, also Kara Göl and the curiously shaped blocks beside the latter. Hamilton, a distinguished geologist as well as an observant traveller, describes the chips in the spoil-heaps at Kara Göl as 'a hard brecciated limestone of a fine quality," as distinct from the 'blue marble' of the isolated hill. Other visitors to Teos, from Pococke and Chandler in the eighteenth century to Béquignon in the twentieth, seem to have been content to describe the material of the marked blocks at Kara Göl as 'grey marble' or 'pierre grisâtre,' without noting that the quarry had produced anything of more unusual colour. Indeed the existence of these grey blocks, which diverted the eye of the traveller from the adjacent quarry, seems to be responsible for the mystery that has so long shrouded the origin of *africano.*<sup>4</sup>

It is obviously fruitless to speculate on the manner in which the Kara Göl quarry was abandoned and became a lake, nor is there any absolute certainty as to when this took place. The latest of the quarry-marks on *africano* recorded by Bruzza<sup>5</sup> belongs to A.D. 135, while the latest of the grey blocks at Kara Göl, which may or may not have been cut in the Kara Göl quarry, were dated 166. In Rome, *africano* appears in quantity in the Forum of Trajan and is a conspicuous, though not, in terms of sheer volume, very important element in the presumably Hadrianic walldecoration of the Pantheon. The threshold of the Antonine Capitolium at Ostia, the latest large block known to me, may have come direct from the quarry or may equally well have been cut down from a damaged column; where *africano* appears in the late houses at Ostia, such as the Casa della Fortuna Annonaria, it is presumably reused. On this evidence, for what it is worth, the abondonment of the quarry can be provisionally assigned to the second half of the second century.

M. H. BALLANCE

<sup>4</sup> The only literary reference to Teian marble appears to be that of Dio Chrysostom (Orat., lxxix, 2), where Teos appears as one of a list of cities that have benefited by the possession of a supply of finely-coloured or variegated stones ( $\lambda l \theta \omega v$  $\epsilon v \chi \rho \delta \omega v \kappa \alpha i \pi \sigma \iota \kappa (\lambda \omega v)$ ). An incense-burner of Teian stone is recorded in an inscription from Smyrna (Syll.,<sup>3</sup> III, 996). On other supposed

references see Ruge in *RE.*, s.v. Teos, col. 568 f. <sup>5</sup> L. Bruzza, Annali dell' Instituto, 1870, p. 183, no. 182, cf. p. 146. With the benefit of hindsight, the similarity between Bruzza's no. 181 (on africano) and his no. 239 (on grey marble) might have suggested that the two came from the same group of quarries.



a. Teos. Kara Göl from the North-West. The Longer Arrow Indicates the Marked Blocks, the Shorter Arrow the Position of Siğacık



b. TEOS. THE NORTH-WEST QUARRY, LOOKING WEST (pp. 79-81)