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*Metodologie Scientifiche per i Beni Culturali*

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# Provenancing of a marble artefact from the Etruscan town of Chiusi (Siena, Italy): a contribution to the knowledge of trade exchanges between Etruria and the Central Aegean in the Archaic period

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## Abstract

A fragment of marble sculpture recently discovered in the VII-V cent. BC PT-1A archaeological Unit at Chiusi (Tuscany) has been analyzed in detail from a morphological, mineralogical and compositional (C-O isotope composition) standpoint. Archaeometric results indicate a Naxian provenance, probably from the Apollonas quarry. Historical documents indicate that quarry exploitation ceased at the beginning of V century BC, thus providing a lower chronological limit to the artifact's age. This, coupled with a stylistic analysis of the fragment, allow us to surmise that the original sculpture was a Greek kore. The occurrence of this sculpture at Chiusi may have relevant implications in the comprehension of trade and political relationships between inner Etruria and the Aegean world in the Archaic period.

## The archaeological background

Archaeological excavations of Etruscan elite tombs demonstrate that, in the course of the VII cent. BC, luxury goods from Eastern Mediterra-

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nean were actively imported into Etruria. These trade-exchanges initially interested the Etruscan towns close to the Tyrrhenian coast (Vulci, Cerveteri, Tarquinia, Vetulonia, etc.) and then progressively extended to inner Etruria (Chiusi, Orvieto) some tens of years later and up to the entire VI cent. BC. Starting from the beginning of the VI cent. BC, however, Athens replaced Corynth and the Eubea as the main Greek trade partner of the Etruscan towns.

The study of trade import in inner Etruria has recently received new pulses from the analysis of inhabited areas of main Etruscan towns. In particular, archaeological researches at Chiusi (Fig. 1) uncovered several peripheral settlements (called “surficial topographic units”) at a short distance from its present-day town centre. One of these settlements (PT1-A) yielded several fragments of Attic black figure pottery dating to the second quarter of VI cent. BC<sup>1</sup>, i.e., the earliest ever found in the Etruscan settlements of Chiusi.

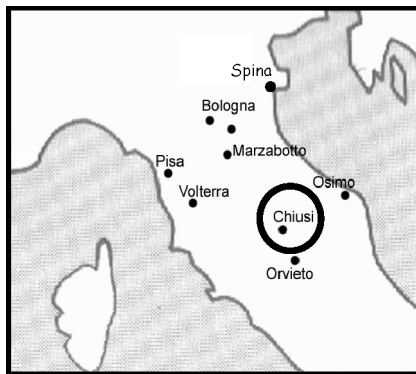


Fig. 1 – Sites of central northern Italy from which Greek marble artefacts of the Archaic period have been reported.

### The PT1-A Unit

The PT1-A unit is located about 1 km west of Chiusi (Fig. 2). It occurs on a flat topographic surface which played a major role for the development of archaic Chiusi as revealed by recent excavations in the nearby Petriolo area (Gastaldi 2000; Fig. 2). Archeological objects dating from Late Bronze Age up to the beginning of V cent. BC have been found within this Unit. These include, in addition to the aforementioned early-VI cent. BC Attic pottery, local “impasto” pottery (spools and spindles), bricks and

<sup>1</sup> The study of pottery fragments has revealed the presence of at least three *dinoi* and three black figure lekanides which can be dated between ca. 580 and 560 BC (Iozzo, 2004).

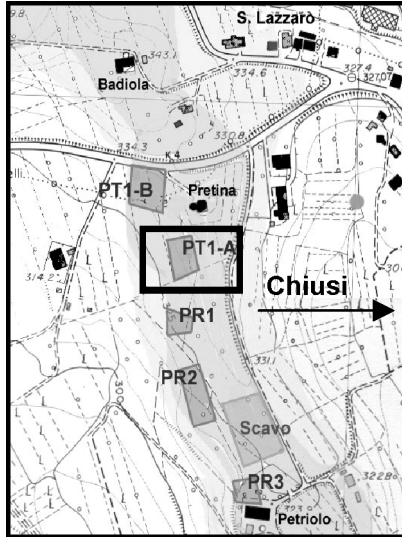


Fig. 2 – The PT1-A Unit (Chiusi).

“white on red”-style architectural terracottas, as well as bucchero and Etrusco-Corinthian pottery.

Recently, a white marble fragment, about 13 cm. long and up to 6 cm thick, was found (Fig. 3). Although heavily damaged, it is still possible to observe two fine pleats on the object’s convex side. An Italian provenance for the manufacture seemed immediately unlikely. In particular, the coarse grain size of the marble clearly excluded Carrara as a possible marble source. In addition, the two pleats and the curved surface of the fragment resembled more closely a portion of a Greek *korè*. The stratigraphic association of this fragment with archaeological items dating from the beginning

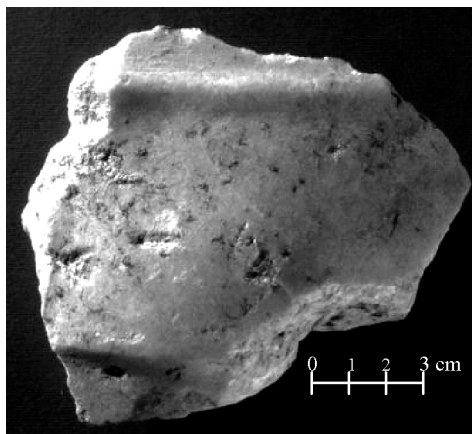


Fig. 3 – The marble fragment discovered in the PT1-A Unit (Chiusi).

of V cent. BC (or earlier) could indicate trade exchanges in an early (archaic) period between Greece and inner Etruria. Therefore, a more precise determination of the source area for the marble became a key issue in the archaeological project's framework.

### The archaeometric analyses

A multi-tracer approach has been widely used to establish the provenance areas of ancient marbles (cf. Attanasio 2003; Gorgoni et al., 2002, with references). In the last twenty years, in particular, several provenance studies took advantage of combined petrographic and stable isotope (C and O) analyses (cf. Herz, 1992; Moens et al., 1988, 1992; Gorgoni et al., 2002). The latter authors provided a refined petrographic-(C-O) isotopic database for ancient marbles, which we used as a reference for the present archaeometric study.

A thin section from the fractured portion of the marble piece was obtained and analyzed for mineralogical and textural features. Calcite is the absolutely dominant mineral phase. The marble fabric is typically heteroblastic, with coarse grained crystals of calcite (MGS up to 4.5 mm; Fig. 4) commonly embedded within a fine-grained carbonate matrix. Crystal boundaries are typically curved and/or embayed; polysynthetic twins of calcite are often bent and deformed. All these features point to a medium-high metamorphic grade (cf. Lazzarini, 1980; Moens et al., 1988). The large MGS values, and the overall textural and mineralogical features seem to indicate a provenance from the Aegean Sea, very likely from the island of

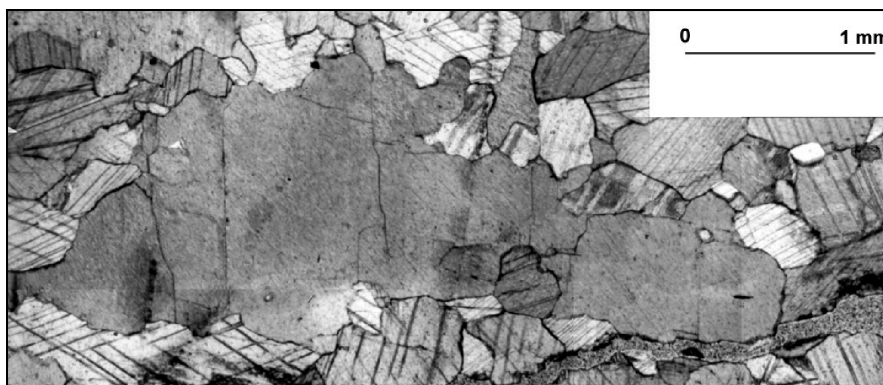


Fig. 4 – Photomicrograph (Nicols//) of the marble thin section, showing an elongated calcite crystal about 4,5 mm long. Many calcite crystals show curved/embayed boundaries and partially deformed twins.

Naxos; Thasos, Paros and Prokonnesos (Marmara) may be alternative source areas (cf. Gorgoni et al., 2002).

Carbon and oxygen isotope analysis were carried out on our sample. The isotopic signature of the marble fragment ( $\delta^{18}\text{O}_{\text{PDB}} = -5.70 \pm 0.1$  per mil;  $\delta^{13}\text{C}_{\text{PDB}} = +1.32 \pm 0.05$  per mil) has been compared with compositional fields obtained by Gorgoni et al. (2002) for medium- to coarse-grained marbles, both from ancient artifacts and quarries (Fig. 5). The analytical point plots in the Naxos island isotopic field, close to (but significantly separated from) Aphrodisias, Marmara and Paros fields.

Combined petrographic and isotopic results are in agreement with a provenance of the Chiusi marble fragment from Naxos. This well-known Cycladic island hosts a number of marble quarries which were exploited in the antiquity, among which Apollonas (on the northern coast) and Melanes (in the centre of the island) were of particular relevance in the archaic and classical periods. The petrographic features of our marble fragment (i.e., the curved/embayed grain boundaries, the mosaic texture with interstitial fine-grained plagues, etc.) appear to resemble more closely the marble samples coming from Apollonas rather than from Melanes (or Flerià) quarries, which show, for instance, higher degrees of cataclastic deformation and larger grain size.

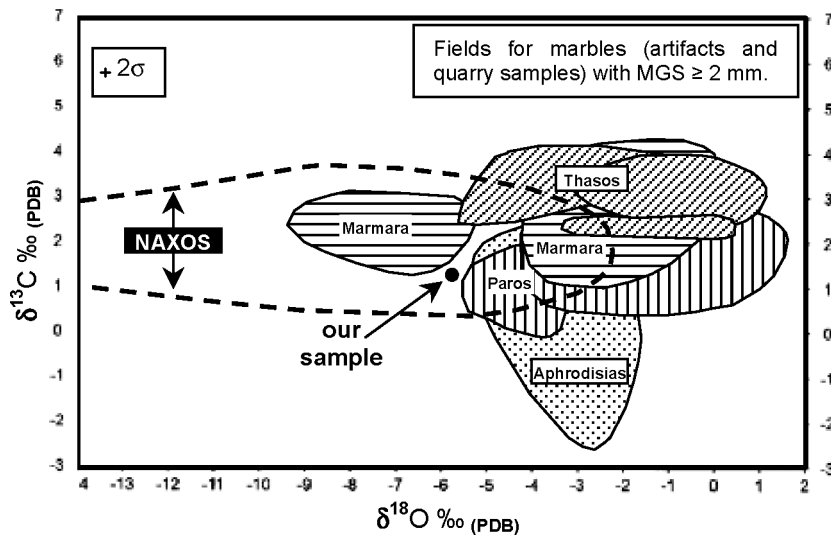


Fig. 5 – Plot of C-O isotope composition of the Chiusi marble fragment in the Gorgoni et al.'s (2002) reference diagram.

## Discussion of results

The supposed provenance from Naxos of the analyzed marble fragment may provide important clues to the determination of sculpture's chronology and type. Archaeological data suggest that exploitation of the marble quarries at Naxos ceased abruptly around 499 B.C., presumably because of the invasion of the island by the Persian troops (Kokkorou-Alewrás, 1992; 1995, p. 39). Consequently, the marble fragment found at Chiusi should belong to a sculpture dating earlier than this date, in agreement with archaeological findings at the PT-1A Unit dating up to the beginning of V century BC. The original sculpture (from which the fragment has been detached) could then be a *kore*: the two ribbons on relief could represent the pleats of the dress which, taking into account the surface convexity, should have been originally almost horizontal. On the backside, a few *korai* have pleats on relief formed by the dress kept at distance from the body by the right hand: our fragment could come from the right thigh-groin junction of a *kore* of this kind<sup>2</sup>. Of particular interest the comparison with the *kore* in the Metropolitan Museum of New York, dated to the second half of VI cent. BC: at the right thigh-groin junction the dress' pleats show almost exactly the same distance as in our fragment (Fig. 6).

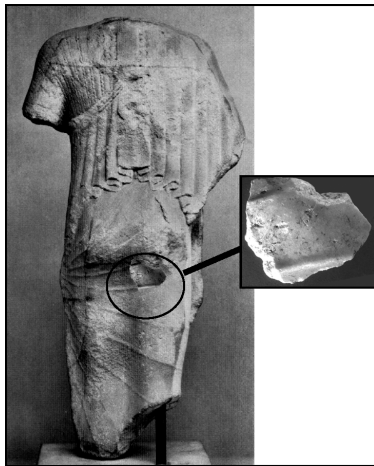


Fig. 6 – The New York Metropolitan Museum's *kore* (backside). The Chiusi fragment could derive from the thin-groin junction of a sculpture of this kind.

<sup>2</sup> The drapery style compares well with that shown by several *korai* dating between 530 and 550 BC (cf. Richter, 1968), namely *korai* n. 669 (parian marble), n. 615 and n. 681 ("islands' marble") and the New York Metropolitan Museum's *kore* (parian marble).

## Conclusive remarks

Based on archaeometric analyses, we suggest a Naxian provenance for the marble fragment found at Chiusi. Taking into account historical documentation, this provides a constraint to the artifact's age (probably no later than the beginning of V cent. BC) and, in conjunction with morphological analyses, allows us to surmise that it belongs to a Greek *kore*.

This determination may provide some contribution to the question of why and how works of art of this kind reached Etruria in the archaic period. A number of marble sculptures (dating at the VI century BC) have been unearthed by archaeological excavations in several areas of Central and Northern Italy. One may recall the head of a *kouros* found at Marzabotto, a goddess from Orvieto (Maggiani, 1999; Corso, 2000) dating to 500 BC, and the two *kouroi* (the so-called "Milani *kouroi*") from the Osimo area, which all are presently interpreted as imported sculptures (cf. Landolfi and Marinis, 2001). The import of marble artifacts by the Etruscans is definitely better documented in the V century BC, especially at Spina (Schilardi, 2000), where recent archaeological studies (Lazzarini and Turi, unpublished data) revealed the exclusive use of Parian marble. As to Central Etruria, a few sculptures were found in archaeological sites along the middle and lower Arno river valley. Among the many, one can recall the Lorenzini head from Volterra (made in "local" marble according to Cristofani, 1979), and several kinds of funerary monuments like the club-shaped cippi of the Pisan area. These findings may be correlated with the birth and development of the Pisa emporium during the VI century BC, which opened the way to the arrival in Etruria of specialized skilled workers from abroad (for more details see Maggiani, 1999, pp. 233-249, with references). A few marble sculptures of clear Greek-Oriental style appear in this period in some areas of inner Etruria as well. However, only a small number of them (including the Chiusi fragment and the club-shaped marble cippus found at Orvieto: cf. Maggiani, 1999) were obtained from Naxian marbles. The presence in inner Etruria of works of art in Greek marble may be explained either by the migration of specialized skilled workers through the middle Arno valley or by trade exchanges along the Tiber, Paglia and Chiana valleys.

Moreover, the occurrence of a *kore*-like sculpture at Chiusi is a further evidence of the strong relationships existing between this town and Orvieto since the second half of VI cent. BC. The Chiusi fragment resemble very closely (as to marble provenance and age) the "Venus" from Cannicella at Orvieto and the preserved drapery of one *kore* found at Orvieto (cf. Maggiani, 1999). The strong political connections between the two Etruscan towns may have promoted the birth of one kind of cultural *koiné*, to which

belonged the sculptors of the above marble artifacts. These workers' activity may have exerted a strong influence over the subsequent statuary in "pietra fetida" and travertine, mainly devoted to funerary purposes (Maggiani, 1999).

Finally, the artistic relevance of the marble fragment is a further evidence that the PT-1A Unit was inhabited by an *élite* social class, possibly since the end of VII cent. BC. To the present state of the research, however, it is not yet clear whether the site was a cultural area or rather an elite, private edifice. As for the Venus from Cannicella at Orvieto, the Chiusi *kore*-like artefact can be, in fact, interpreted either as a gift (made by specialized skilled workers) or as a cultural (ex-voto?) statue.

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