## A GLAZED POTTERY WORKSHOP IN THRACE

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ΠΕΡΙΛΗΨΗ: Ένα εργαστήριο βυζαντινής εφυαλωμένης κεραμικής, που αποκαλύφθηκε το 1998 στη Θράκη, κοντά στον οικισμό Μικρό Πιστό του νομού Ροδόπης, προστίθεται στα μέχρι τώρα γνωστά βυζαντινά εργαστήρια κεραμικής και εμπλουτίζει τις γνώσεις μας σχετικά με τα κέντρα παραγωγής και τις τεχνικές κατασκευής των βυζαντινών εφυαλωμένων αγγείων. Το σημαντικότερο εύρημα στο χώρο του εργαστηρίου υπήρξε ο μεγάλος αριθμός τροχήλατων τριποδίσκων ψησίματος αγγείων, που αποτελεί το καλύτερο μέχρι σήμερα σύνολο για τη μελέτη των τριποδίσκων της συγκεκριμένης κατηγορίας. Με το ψήσιμο των αγγείων συσχετίστηκαν πήλινα σε σχήμα κόλουρου κώνου αντικείμενα, τριπλάσια σε μέγεθος από τους τριποδίσκους. Επείχαν θέση τριποδίσκων στο ψήσιμο μεγάλων αγγείων. ενώ δεν θα πρέπει να αποκλειστεί και η περίπτωση της χρήσης τους ως «οδηγών» στο στήσιμο της «ντάνας» των αγγείων. Εδράζονταν απευθείας στη σχάρα του κεραμικού κλιβάνου και πάνω τους στοιβάζονταν τα αγγεία. Αποκαλύφθηκαν αρκετά ημιτελή και ολοκληρωμένα αγγεία που μας παρέχουν τη δυνατότητα σύνταξης καταλόγου με τα παραγόμενα στο εργαστήριο αγγεία. Με βάση το διάκοσμό τους διακρίνονται σε μονόχρωμα απλά εφυαλωμένα αγγεία, σε αγγεία γραπτά δι'επιχρίσματος και σε αγγεία με εγχάρακτη τεχνική, που είναι και τα περισσότερα. Με βάση τα ανασκαφικά δεδομένα και ειδικότερα από τη συσχέτιση των κεραμικών με τα νομίσματα, το εργαστήριο αυτό της Θράκης χρονολογείται στο 13ο αιώνα και συγκεκριμένα μετά το 1220 και πριν από το 1280. Ήταν ιδρυμένο πάνω στον άξονα της Εγνατίας οδού, γεγονός που βοηθούσε στην ευχερέστερη διακίνηση και εμπορία της κεραμικής παραγωγής.

Since the middle of the 20th century, our knowledge of Byzantine glazed ceramics has increased considerably, owing both to further study of ceramic material already in museum storerooms and to new finds from excavations carried out in the Balkans and the wider territory of Byzantium. Groups of finds from shipwrecks also offer interesting data for the study of Byzantine glazed pottery.

Most of our information relates to the period after the 12th century, when the number of centres producing Byzantine glazed pottery increased.

Before the 13th century, not only are there fewer excavational data available, but the Byzantine sources are also fewer, and in some cases obscure. For instance, the «ἐργαστήριον πρὸς κεράμων κατασκευὴν» mentioned in a document of the Great Lavra on Mount Athos in 952 (Actes de Lavra I: doc. 4, col. 4) and the «πρὸς αἰγιαλὸν κεραμαρίον» of Iviron Monastery in 982 (Actes d'Iviron I: doc. 4, col. 68) must have been workshops producing bricks and roof-tiles, not ceramic wares.

The key to the study, research, and dating of Byzantine glazed pottery is the presence of firing tripod stilts in and around the workshops.

Tripod stilts were introduced into Byzantium from China via the Islamic world at around the turn of the 12th century, revolutionising the process of firing and manufacturing Byzantine glazed pottery (Morgan 1942: 22-23).

By interposing these little devices between the vessels, the Byzantine potters were able to stack the wares one over the other, thus making much better use of the narrow space inside the kilns and considerably increasing their productivity. Thanks to this new method of firing, the wares were fired evenly, which minimised losses due to excessively high or low temperatures and the glazed surfaces' sticking together. From this point onwards, the use of tripod stilts became widespread, and almost all subsequent glazed wares bear the telltale marks they left on the interior of the base, thus also providing a terminus post quem for dating the wares. An article written by my colleague Demetra Papanikola-Bakirtzis in Αμητός, the festschrift for Professor Manolis Andronikos, fully explains the importance and the role of tripod stilts in the firing of ceramic wares (Papanikola-Bakirtzis 1986).

From the 13th century onwards, the presence of tripod stilts on specific sites makes it easier to locate the Byzantine workshops and, by extension, the production centres. So, on the basis of the discovery of tripod stilts, frequently accompanied by wasters, quite a number of production centres have been located in Greece and the Balkans in recent years. These include Corinth (Morgan 1942: 22-23), Thessaloniki (Bakirtzis, Papanikola-Bakirtzis 1981: 429, fig. 12; Papanikola-Bakirtzis 1987), Serres<sup>1</sup>,

<sup>1.</sup> Instead of using tripod stilts, the Serres workshop fired its wares using clay rods. For the way they were used, see Papanikola-Bakirtzis1992: 32, fig. 21.

Zihna², and Gratine (Bakirtzis 1979: 349) in Greece, Varna (Kuzev 1976: pl. II) and Veliko Tirnovo (Dolmova 1985) in Bulgaria, Lemba (Hadjisavvas 1977: 227) and Enkomi (Papanikola-Bakirtzis 1989: fig. 2.1) in Cyprus, Cherson (Yakobson 1979: 146-147) in the Crimea, and Pergamon (Spieser 1996: pl. 1, nos. 8-10) in Asia Minor. There are indications of two more Byzantine glazed ceramics workshops in Greece at Pydna (Marki 1994) and Sparta (Dawkins, Droop 1910-1911).

To these we should add the workshop at Bilecik (Belokoma) in the area of Iznik (Nicaea), which is mentioned in the chronicle of Asikpaşazâde (François 1997). According to the chronicle, inhabitants of Bilecik produced beautiful ceramic wares and brought large quantities of them to sell at the bazaar in Eskişehir (Dorylaion) (Zachariadou 1991: 139). This was in the last decade of the 13th century and until Bilecik's conquest in 1303/4.

It seems likely that in a few years' time the archaeological map of Byzantium will be dotted with so many glazed pottery workshops as to raise the legitimate question of whether and to what extent there was long-distance trade in ceramic products in the 13th to 14th century or whether these workshops simply met local needs. The likelihood is increased by the presence of potters in villages outside the urban centres. For instance, a census list of the village of Radolybus (mod. Rodolivos) drawn up in 1316 by Iviron Monastery, which owned it, includes seven tzykalades or potters (Ostrogorski 1965: 58, no. 20).

This paper presents a new Byzantine glazed pottery workshop located recently in the area of Sapes in Thrace, more specifically near the village of Mikro Pisto, Rhodope prefecture (Zekos 1998) (Fig. 1).

As a result of the wet winter of 1997 and the first spring rains of 1998, the River Xirorema, a tributary of the Filiouri between Mikro Pisto and Lykio, burst its banks. At the point where it flooded, it eroded some of the topsoil of a parcel of land, laying bare the remains of mud walls and numerous examples of Byzantine glazed pottery.

The most interesting aspect of the excavation that followed was the discovery of tripod stilts, a clear indication that there had been a pottery workshop on the site. Hence, the significance of the discussion in the introductory section of this paper of the role and the importance of tripod stilts in Byzantine glazed pottery. If the discovery of a few tripod stilts indicates the probable presence of workshops, then the discovery of thousands of them in the course of our excavation makes it a certainty, particu-

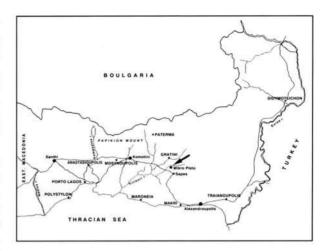


Fig. 1. Map of Western Thrace showing the site of the Byzantine glazed pottery workshop at Mikro Pisto.

larly since they are accompanied by a large number of wasters.

Although the excavation was confined to a small space, the fact that the tripod stilts were spread over a much wider area and were much more numerous in some places than in others suggested that more than one kiln had been operating here. Furthermore, the flat land, the local red soil, and the abundant water (the site is bounded by a number of streams) would have made the site a favourable one for such facilities.

A total of twelve insulae were excavated, four of them yielding the remains of a rectangular structure, the ground plan of which was sketched with some difficulty (Fig. 3). The factors which had conduced to its destruction were the poor quality of the building materials (stone and mud) and the fact that the land had been constantly ploughed for centuries (Fig. 2). Part of a stone slab with a round socket was found in the middle of the room. It is tempting to suppose that the vertical revolving axle of a potter's wheel fitted into the socket; however, there is nothing else inside the building to indicate that it was a pottery workshop. Evidence of this kind, such as tripod stilts and wasters, was found outside the building, more specifically to the east in two deposits where the earth was very burnt. An intact jar found embedded in the ground here had been used for storing water for the workshop.

The most important find was unquestionably the numerous tripod stilts. Apart from three that are handmade or mouldmade, all the rest were made on the wheel (Fig. 4-5).

<sup>2.</sup> The existence of a pottery workshop at Zihna in the Late Byzantine period is conjectured on the basis of the discovery of tripod stilts during surface investigations in the area. The Turkish traveller Evliya Çelebi praised the town for its glazed ceramics in the Postbyzantine period. See Çelebi 1991: 76.

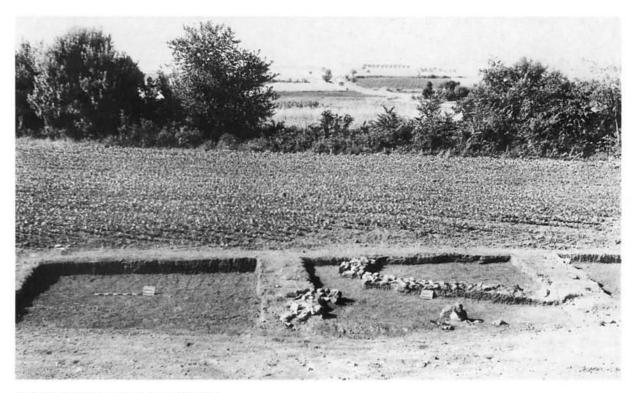


Fig. 2. The site of the pottery workshop at Mikro Pisto.

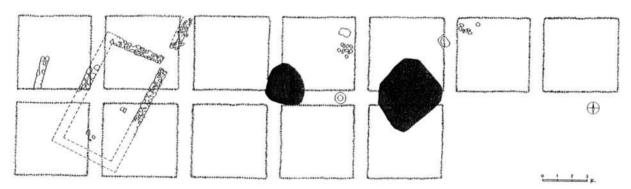


Fig. 3. The site of the pottery workshop at Mikro Pisto. The deposits of the wasters are marked in black.

Wheelmade tripod stilts have also been found in excavations at nearby Gratianou (Bakirtzis 1979: 349) and at Veliko Tirnovo (Dolmova 1985: 15, fig. 4) and Varna (Kuzev 1975: 156-157, pl. III). The exceptionally large number unearthed at Mikro Pisto constitutes the best sample so far for the study of wheelmade tripod stilts. In shape they resemble the base of a tiny bowl or pot (Fig. 6). They are not all the same size, so obviously the smaller ones were used for firing small wares and the larger ones for large wares. On the upper surface there are three triangular points forming the angles of a notional equilateral trian-

gle. Most of them have small holes in their round base; those without holes were used for wares whose surfaces did not require a high firing temperature. The points of some of the tripod stilts are covered with a dull green glaze, which is not traces of the melted glaze of the wares, but was applied at the time of manufacture to minimise the telltale marks they left on the bases. By and large, the diameter of the base of the wheelmade tripod stilts is smaller than that of the wares being fired. We conclude from this that the wheelmade tripod stilts inserted between them rested not on the ring of the base, but firmly and

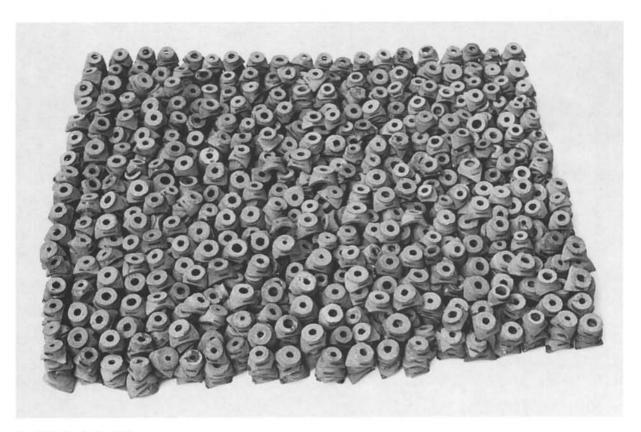


Fig. 4. Wheelmade tripod stilts.

snugly within it (Fig. 8a). This gave the wheelmade tripod stilts an advantage over the handmade and mouldmade ones, which did rest on the ring of the base<sup>3</sup>, for they made the vertical stacks of wares more stable. Furthermore, since they are higher than the other types of tripod stilts, the wares were farther apart during firing and the problem of the glazed surfaces' sticking together was avoided as much as possible. The wheelmade tripod stilts also presented a serious disadvantage, however: they left large, obvious marks in the glaze. There are many instances where the entire isosceles triangle of the tripod stilt is imprinted in the base of the vessel.

Some interesting clay objects in the form of truncated cones were found with the tripod stilts. Two identical published examples from Veliko Tirnovo have been described as conical "funnels" (Georgieva 1974: 44, fig. 31.4,5). Larger than the tripod stilts, like them they also come in various sizes (Fig. 9). One would imagine that they too were used in the firing process<sup>4</sup>, a hypothesis that is strengthened by the fact that cones and tripod stilts are often found stuck together (Fig. 7, nos. 1-3, Fig. 10). They

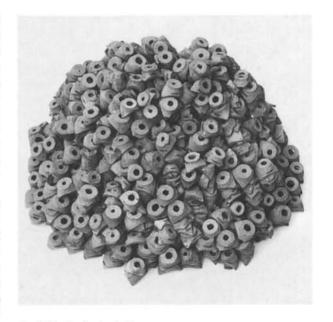
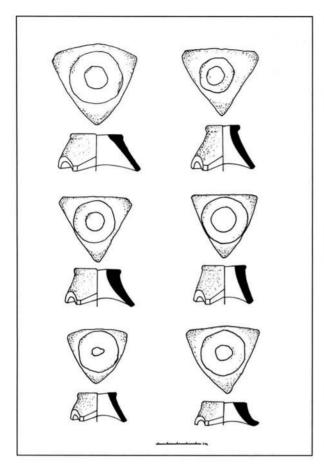
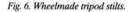


Fig. 5. Wheelmade tripod stilts.

<sup>3.</sup> For the way the handmade and mould-made tripod stilts were positioned between the wares, see Papanikola-Bakirtz is 1986: 642, fig. 1.

<sup>4.</sup> Similar cones have also been found in a pottery workshop in Veria, which may date to the 15th or 16th century, see Papazotou 1999: 254.





were probably used for firing large vessels, though they may also have served as "guides" when the wares were being stacked in the kiln (Fig. 8a). They stood on the firebars inside the kiln and the wares were stacked on top of them. In this way, the first vessel did not rest directly on the firing surface, but on the clay cone, which could withstand a higher temperature. Otherwise, if the first vessel had rested on the firebars, the heat could have shattered or distorted it, and this would have brought the whole stack down.

Another interesting practice deduced from the excavational finds is that two tripod stilts were sometimes inserted together between the wares. This was done in the case of larger vessels, when a single tripod stilt would not have kept them far enough apart (Fig. 8b).

Although the discovery of pottery workshops in recent years has increased our knowledge about the places where Byzantine glazed ceramics were produced, it has not told us much about manufacturing techniques. With the exception of the Serres and Thessaloniki workshops, where a correlation of unfinished and finished wares produced recognisable types of vessels, in the other workshops we

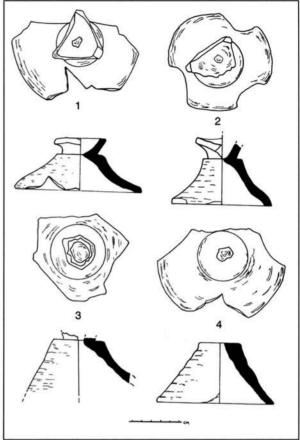


Fig. 7. Clay firing cones with wheelmade tripod stilts stuck to their upper surface.

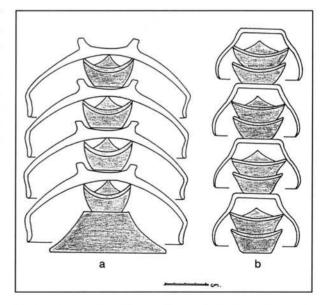


Fig. 8: a) Reconstruction of firing vessels using wheelmade tripod stilts and a cone. b) Reconstruction of firing narrow wares (cups) using two wheelmade tripod stilts between them.

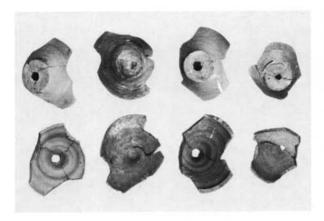


Fig. 9. Clay cones, which replaced tripod stilts when large wares were being fired, and also served as "guides" when the wares were being stacked.

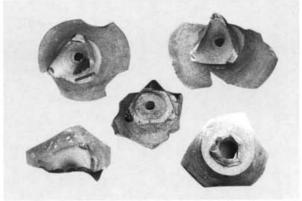


Fig. 10. Cones with wheelmade tripod stilts stuck to them.

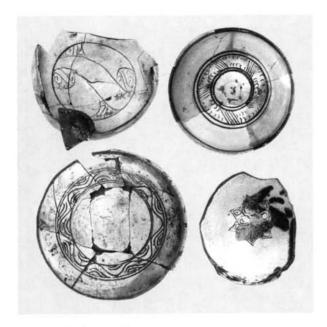


Fig. 11. Finished wares and wasters.

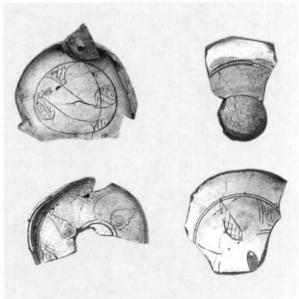


Fig. 12. Wasters discarded after the first firing.

cannot firmly identify specific vessels on the basis of details of their decoration.

Apart from a large number of wheel-made tripod stilts, the Thracian workshop which has just begun to be excavated has also yielded quantities of unfinished and finished wares, which means that we can draw up a catalogue of the types of wares produced here (Fig. 11). Although the kiln has been destroyed or has not yet been excavated, it cannot have been much different from the kiln excavated at Corinth in the period between the Wars (Morgan

1942: 16-17, fig. 9, 10). A study of the excavational material reveals all the essential stages in the manufacture of a ceramic vessel. First, it is shaped on the wheel, then left in the open air to dry. This is followed by the first and the second firing. While the clay is still soft, the interior surface is covered with a layer of slip and the decorative motifs are engraved through this. The glaze is applied after the first and before the second firing (Fig. 12). Tripod stilts appear to have been used only for the second firing<sup>5</sup>. No matter how carefully the firing process was carried

In the pottery workshops of Thessaloniki and Lapithos, it has been found that tripod stilts were used for the first firing too, see Papanikola-Bakirtzis

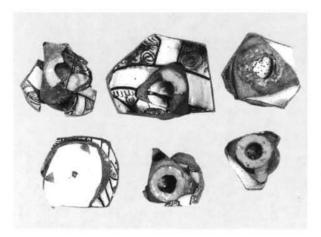






Fig. 14. Glazed Sgraffito Ware.

out, the risks could not be entirely avoided. Many wares were distorted during either the first or the second firing by temperatures that were too high or too low; others cracked; and in yet other cases the tripod stilts stuck to the glazed surface inside the bottom of the vessel and could not be removed (Fig. 13). These are the wasters, non-marketable wares which are found discarded in the workshops' refuse pits and offer valuable information for the study of Byzantine glazed ceramics.

The largest category of wares produced by this workshop is bowls, followed by plates. On the basis of their decoration, the vessels may be categorised as Monochrome Ware, Slip-painted Ware, and Sgraffito Ware, the latter constituting the largest group (Fig. 14). The simplest type of sgraffito vessel is decorated inside with concentric circles. There is a wide variety of decorative motifs in the centre of the well (Fig. 15), including lanceolate leaves radiating from a firewhirl, other radial motifs, scrolling tendrils, and running dogs, to name but a few. The decorative motif in another category consists of a wide band around the interior of the vessel where the well meets the base. The bands are filled with undulating lines, scrolls, spirals cut across by oblique hatching, rows of lozenges, heartshaped and ivy leaves, circles surrounding engraved sigmoid motifs, successive whorls, and a variety of elliptical shapes. The bands are usually set against a ground of pale green or yellowish glaze. There is similar decoration in the bands around the rims of the vessels, both inside and out (Fig. 16). The vessels whose sgraffito decoration covers the entire interior surface are more interesting. The decorative motifs may be grouped as follows: 1) Large pinecone scales alternating with either engraved triangles or stylised vegetal motifs (Fig. 17); 2) Bands filled with stylised vegetal or geometrical ornamentation radiating from the circle of the base to the rim (Fig. 18, nos. 1-5) and usually alternating with engraved triangles; 3) Greek crosses,

the arms filled either with scrolling tendrils or with broken lines (Fig. 18, nos. 6-9); the four quadrants formed between the arms of the cross and the rim are usually ornamented with engraved triangles; 4) Leaves alternating with figure-of-eight knots (Fig. 19); 5) Concave quadrilaterals covering the entire base of the vessel, with figure-of-eight knots between the concave sides and the rim (Fig.

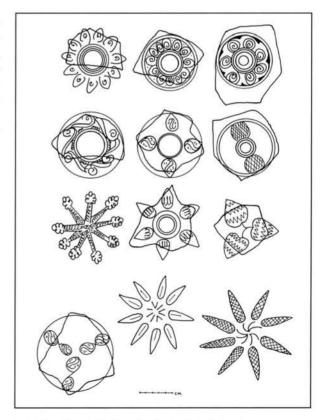


Fig. 15. Sgraffito motifs decorating the bottom of the wares.

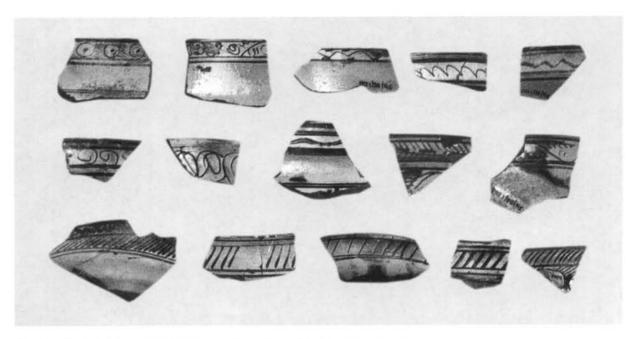
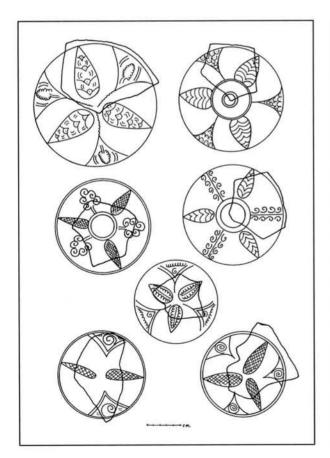


Fig. 16. Sgraffito decoration in the bands around the inside and the outside of the rims of the vessels.



 $\label{lem:control_fig} \emph{Fig. 17. Sgraffito Ware decorated with leaves alternating with engraved triangles and vegetal motifs.}$ 

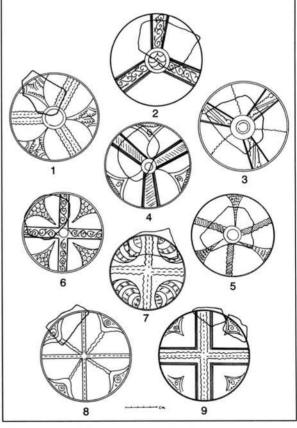


Fig. 18. Sgraffito Ware with radial bands and crosses.

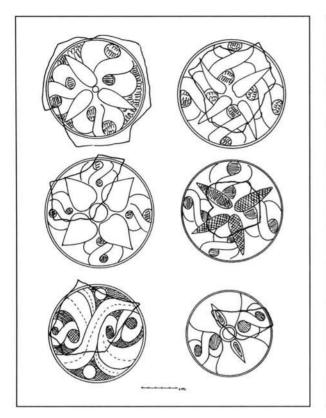


Fig. 19. Sgraffito Ware ornamented with leaves alternating with figure-of-eight knots.

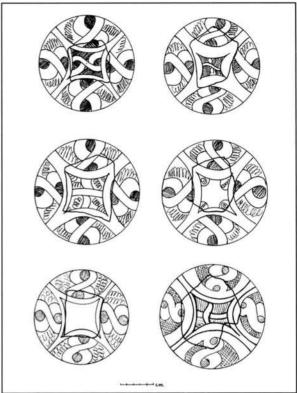


Fig. 20. Sgraffito Ware with concave-sided quadrilaterals in the centre of the base and figure-of-eight knots between the concave sides and the rim.

20; 6) Three half-anthemia either linked with scrolling lines or alternating with figure-of-eight knots; 7) Snails alternating with engraved triangles.

Apart from four sherds with depictions of birds (Fig. 21) and two from the same vessel with a fragmentary representation of what is probably a fisherman, all the glazed Sgraffito Ware from this workshop is characterised by vegetal and geometrical decoration. In contrast to the Serres and Thessaloniki workshops, where birds are a favourite motif (Papanikola-Bakirtzis 1983: 377-378, pl. 1-4), the figure-of-eight knot seems to be the *marca depositata* of the Thracian workshop, either as the principal or as a supplementary decorative motif<sup>6</sup>.

A study of the excavational material to date indicates that over a hundred different types of wares may be ascribed to the Thracian workshop on the basis of their sgraffito decorative motifs. When the recognised types are found elsewhere, we shall be able to note where and how

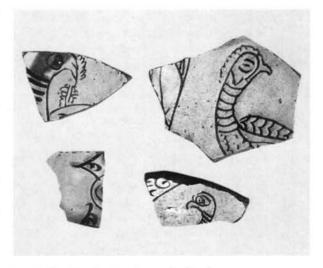


Fig. 21. Glazed Sgraffito Ware decorated with birds.

<sup>6.</sup> Glazed wares decorated with figure-of-eight knots have been found in the Hippodrome in Thessaloniki, though they differ from those found at Mikro Pisto. For these wares, which have been attributed to a Thessaloniki workshop, see Vavylopoulou-Charitonidou 1989: pl. 16, 17, 18, 20. The figure-of-eight knot is a frequent motif in the decoration of glazed wares from Pergamon, see Spieser 1996: pl. 3(36), 11(179–184), 12(193), 14(220), 47(436).



Fig. 22. Remains of a bridge on the via Egnatia near the pottery workshop.

far trade in the products of this workshop reached. Already, a glazed bowl found during an earlier excavation at Paterma, Rhodope prefecture (Bakirtzis, Zekos 1981: 32-34, fig. 6), and a base with sgraffito decoration found during recent excavations at Paliohora near Maroneia<sup>7</sup> have been recognised as products of this workshop.

The glazed pottery workshop at Mikro Pisto cannot yet be linked to any nearby village or other kind of settlement. Though a follis of Constantine I (1059-1067) and a few glazed sherds of white clay predate the pottery from this workshop, they do not constitute strong evidence that there was some sort of settlement in the wider area. They are more likely connected with the road near the workshop known to local Moslems as *Istanbul Yolu*<sup>8</sup>. This is unquestionably the *via Egnatia*, whose route went past here and a remnant of which is the arched bridge over a nearby stream (Fig. 22).

The fact that the workshop was situated on the route of

the via Egnatia would have made it easier to market its products; on the other hand, the site was not a secure one, because the entire area had no defences. So one fundamental prerequisite for establishing the workshop on the Rhodope plain was a measure of political stability. A number of factors enable us to date the workshop and estimate how long it operated. It should certainly be dated to after 1200, which is the terminus set by Zeuxippus Ware, the first category of pottery to be fired using tripod stilts (Megaw 1968: 69, 87). The dynastic strife between Andronicus II and Andronicus III and between John Kantakouzenos and Anna Palaiologina in the first half of the 14th century resulted in the devastation of the Thracian countryside and would not have encouraged the establishment of workshops outside urban centres and unfortified settlements. Conditions were more favourable before this, after the Emperors of Thessaloniki and Nicaea had recaptured the area. Numismatic evidence pro-

<sup>7.</sup> It is the base of a bowl decorated with three leaves alternating with three figure-of-eight knots, see Doukata-Demertzi 1999. 8. For the route of the via Egnatia through Thrace, see Moutsopoulos 1979: 213–222.

vides a more precise dating. Small Latin imitations of types A and B, a bronze trachy of John III Vatatzes (1246-1254) minted in Thessaloniki, and a bronze trachy of the C10 type of Michael VIII (1258-1282) indicate that the workshop was operating in the 13th century, specifically after 1220 and before 1280. Having dated the workshop to the 13th century, we may now state firmly that the wheel-made tripod stilts were used concurrently with the other types<sup>9</sup>.

A thorough study of the abundant excavational data, as well as of the material that will be unearthed as the excavations continue, will, I believe, give us quite a full picture of the Byzantine glazed pottery of the 13th century.

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<sup>9.</sup> M. Dolmova dates the wheelmade tripod stilts found at Veliko Tirnovo and Varna to the second half of the 14th century, see Dolmova 1985.

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