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THE PITHOS MAKERS AT ZAGORA: CERAMIC TECHNOLOGY AND FUNCTION IN AN AGRICULTURAL SETTLEMENT CONTEXT*

The Geometric settlement site of Zagora on the west coast of the island of Andros was first excavated by Greek and Australian archaeologists during the 1960s and 70s. Analysis of the material has been on-going since then. Excavations revealed a thriving settlement at Zagora during the 8th century BC (Cambitoglou *et al.* 1971; 1988; Fagerström 1988, 61-66, 143, 171-176; Cambitoglou 1991; Mazarakis Ainian 1997, 171-175). The settlement covered 6.7 hectares, of which only about one-tenth has been excavated. To date, up to twenty-five domestic houses have been uncovered (**fig. 1**). These houses are located in Areas D and H on the crest of the peninsula, in Area J on the sheltered and terraced slope to the south and in areas B, E and F against the fortification wall (Cambitoglou *et al.* 1988, pl. 1; Cambitoglou 1991, figs. 4, 6).

All the Zagora houses featured at least one room with a bench. The benches have pot emplacements set into them, designed to hold pithoi and smaller storage vessels (Cambitoglou *et al.* 1988, 147). Every house at Zagora has one such bench, even the very small one- or two-room houses located along the fortification wall (e.g. B4: **fig. 2**: Cambitoglou 1972, 269, pl. 236a). Pithoi were found *in situ* or knocked off the benches by roof- and wall-fall, and pithos fragments broken during the life of the settlement were found across the site.

Three distinct types of pithos have been identified: the rope-band pithos, the relief-band pithos and the applied-relief pithos. Two pithos types —the rope-band and the relief-band pithos— fit comfortably into the local tradition of hand-made, plain and incised coarse-wares also found at the site, in terms of fabric and manufacturing techniques employed (Cambitoglou *et al.* 1971, 52-56; 1988, 181-184; Cambitoglou 1991, 39-44). The third type —the applied-relief pithos— does not belong to this local ceramic tradition. Instead it comes from a very specialised production with a wider but specific distribution.

To date the applied-relief type has been identified at only a few other sites in the Cyclades and Euboia, and on the mainland in Boeotia and Attica (**fig. 3**: Caskey 1998; Ervin-Cas-

* This paper is based on the research I undertook, under the supervision of Professor J.R. Green, for my Master of Philosophy thesis at the University of Sydney submitted in 2000. The technological analyses of the fabrics was carried out at a macroscopic level on 240 inventoried examples recovered from the Australian excavation seasons of 1967, 1969, 1971 and 1974, together with some material included from the excavations of the Greek Ephoria in 1960 under the directorship of Dr. Nicholas Zapheiropoulos (*ΑΔ* 16, 1960, *Χρονικά*, 248-249). Final publication of the material not included in *Zagora* 1 and 2 will be published in *Zagora* 3. Many of the conclusions arrived at in my thesis regarding the chronological and stylistic relationships between the Zagora and Tenos material have since been substantiated in Eva Simantoni-Bournia's extended publication of the applied-relief pithoi from Xobourgo (Simantoni-Bournia 2004).

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key 1976; Kontoleon 1969; Metzger 1979; Petrocheilos 1999; Schafer 1957; Simantoni-Bournia 2004). Two allied but independent local traditions have also been documented on the islands of Naxos (Simantoni-Bournia 1990; 2004, 78-79) and Rhodes (Feytmans 1950; 1952; Simantoni-Bournia 1990, 50-52; 2004, 49-62, 71).

The decorative style of applied-relief pithoi from Zagora can be divided into several distinct groups: dot-outlined linear and figured decoration (e.g. **figs. 4, 5 left**: Cambitoglou 1991, nos. 37, 39-41, 47, 49, fig. 40; Simantoni-Bournia 2004, 68-69); exclusively linear decoration (e.g. **fig. 13, left & centre**: Cambitoglou 1991, nos. 42-43, figs. 18-19; Simantoni-Bournia 67-68, pls. 20-22); generic friezes of animals, archers and dancers (e.g. **fig. 5**: Cambitoglou 1991, nos. 44-48, 51; Ervin-Caskey 1976, pl. 1.2-3, pl. 2.4; Simantoni-Bournia 2004, 71-72) and more complex figured compositions (e.g. **figs. 6-7**: Cambitoglou 1991, no. 52), with modelling similar to the well known Sack of Troy pithos from Mykonos, usually dated stylistically to the second quarter of the 7th century (Ervin 1963; Ervin-Caskey 1976, 28-29; Simantoni-Bournia 2004, 92-93, pls. 47-48).

Examples of both the linear and the dot border styles were found in the earliest floor levels identified in the domestic area of Zagora (**fig. 4**: Cambitoglou *et al.* 1988, inv.nos. 603+1460, 1145 and 1374; 1988, 182-183 and n. 8, pls. 164, 226b). These date to the transitional phase between MG and LG I, confirming that the production mechanisms responsible were already established by the mid-8th century BC (Simantoni-Bournia 2004, 69).

Examples of the dot outlined linear and plain linear style have also been found in Eretria (Ervin-Caskey 1976, pl. 2, fig. 11; Metzger 1979), the latter in a stratified Geometric context.[1] Although no applied-relief pithos fragments have yet been found in the 8th century levels of the Sanctuary of Apollo Daphnephoros at Eretria, a re-used pithos body has been recovered from a 5th century settlement deposit elsewhere at the site. The fragment preserves a complex figured scene with very similar modelling to those at Zagora (Kontoleon 1969, 226, pl. 46; Simantoni-Bournia 2004, 83 and n. 129; Themelis 2006).

All stylistic groups are also represented among the much larger corpus recovered from the early excavations of the so-called Thesmophorion at Xobourgo on Tenos. The buildings from which these pithoi were recovered were substantially rebuilt in the Classical period, which indicates the esteem in which these vessels were held but obscures the date and context of their primary use (Kourou 2002, 262-266). The similarity between the Zagora and Xobourgo finds in the motifs and the modelling of the linear decoration and generic figures is striking, and has long been recognised (Cambitoglou *et al.* 1971, 56 n. 10; Cambitoglou *et al.* 1988, 182-183; Ervin-Caskey 1976; Kontoleon 1969, Simantoni-Bournia 2004, 69). Moreover, the fragments preserving complex figured scenes recovered from the settlement deposits at Zagora (**figs. 6-7**) show very strong affinities with a particular Xobourgo group: For Caskey the oeuvre of the "Master of the Mykonos Pithos" and for Simantoni-Bournia the "Potter of the Tenos Potnia" (Ervin-Caskey 1976, 28-29; Simantoni-Bournia 2004, 92-97). At Zagora this group is characterised by the high degree of modelling of the figures and the use of stamps and incision for subsidiary decoration. The close connection between the two groups is best illustrated by the use of a specific tool with a concave tip to create the double indentations on the shield borders at Zagora (**fig. 8**). A tool of the same type was used to decorate some of the shield borders and the wheels of the Trojan horse on the Sack of Troy pithos from Mykonos ("tool 2": Ervin 1964, 44, pls. 18-21) and also on the newly published Sack of Troy pithos from Xobourgo (Simantoni-Bournia 2004, 92-97, pls. 51-54).

1. A pithos fragment preserving dot outlined linear relief has also been recovered from an 8th century deposit at Miletus on the coast of Asia Minor (Niemeier – Niemeier 1997, 215-216, fig. 28).

The close parallels between some of the applied-relief pithos groups at Xobourgo and the corpus at Zagora not only confirm the existence of a shared tradition, but indicate that it was an ongoing relationship that was already active by the middle of the 8th century and continued through to the end of the life of the settlement at Zagora. To understand the nature of that tradition, it is necessary to return to the ceramic production mechanisms at work at the settlement at Zagora.

Although the three types of pithos found at Zagora —rope-band, relief-band and applied-relief— are stylistically distinct, they are all made from the same local clay. The fabrics differ only in the quantity of inclusions over 2 mm in size (notably quartz). Such inclusions are surprisingly rare in the fabrics of the relief-band type, while they are common in the fabrics of the applied-relief pithoi. The fabric of the rope-band pithoi is less uniform in sorting and size of inclusions than the other two pithos types, suggesting less careful treatment of the clay.

The three types of pithos also exhibit different firing regimes. This is indicated by the colour of the fabrics. The applied-relief pithoi have grey non-oxidized cores with a reddish finish to the exterior, showing that the pithoi were fired quite rapidly in a reducing atmosphere, with only a brief cooling period when oxygen was present in the kiln (Orton *et al.* 1993, 134, fig. 11.1, nos. 9-10).

The relief-band pithoi, on the other hand, have red, fully oxidized cores. Furthermore, hardness tests indicate that the relief-band pithoi were not hard fired. Therefore they must have been fired at low temperatures over a long period in an oxidizing atmosphere (Rice 1987, 86-88, 344-345, 354; Velde – Druc 1999, 122-124). The rope-band pithoi are also largely oxidized through to the core, like the relief-band, but —as is the case with the local handmade incised wares— the firing is less consistent.

The other major difference between the applied-relief pithos and the rope-band and relief-band pithoi is the method of construction. The relief-band and the rope-band pithoi were both built up from the base to the rim in a series of thick wet-clay bands that are often visible on the interior of the vessel (**fig. 9**). When the lower section was dry enough, the next section was placed over it, pinching it on to the top of lower section on both sides. Some of the wet clay was smoothed downwards to reinforce the join, while the bulk of the band was simultaneously drawn up to form the next wall section. This process was continued all the way to the rim which caps the final section (see Hampe – Winter 1962, pls. 16-17 for an illustration of the technique). The surface of relief-band pithoi were also often polished to a fine but barely visible skin before firing.

The applied-relief pithoi were constructed utilising a series of different techniques (**fig. 10**). The base and the neck was constructed from thin coils, and at least in once instance the junction with the neck was reinforced by cutting wedge-shaped "teeth" into the lower section (inv.no. 922). The body itself was built up in abutting sections from wide ribbons of green (semi-dry) clay, already rolled out to the required thickness of the final vessel wall. The upper section only abuts the lower one and does not need to overlap it for purchase, so the joins are not visible on the finished vessel and only in section when broken.

While differences in firing or fabric treatment are not on their own sufficient evidence for the identification of separate ceramic traditions rather than functional choices made by the potter, together, and particularly when occurring in conjunction with a completely different approach to the processes of vessel formation, they provide more than adequate evidence to isolate and identify individual potting traditions (Van der Leeuw 1993; 1994; Gosselain 1998; Sillar – Tite 2000; Whitbread 2001). The clear differences between applied-relief pithos making on the one hand, and rope and relief-band pithos making on the other, at all three stages in the production sequence indicates that the applied-relief pithoi at Zagora were

made by a different group of potters from that which make the majority of local hand-made coarse wares for the settlement.

The affinity between the style of decoration on the applied-relief pithoi from Zagora and Xobourgo and fragmentary pithoi recovered from Eretria suggests that all three were made within the same potting tradition. Preliminary examination of the fabrics of these associated applied-relief groups confirms that this affinity is also evident in the firing regimes followed by their makers, as well as in the method of construction, where visible. The most logical explanation for this phenomenon is that potters travelled, perhaps seasonally, between these three settlements during the latter half of the 8th century. There are numerous parallels for such itinerant potters from the ethnographic record of the Aegean (e.g. Hampe – Winter 1962; Voyatzoglou 1984; Jones 1986, 849-880; London 1989). The marked differences in method of construction employed for the applied-relief pithos to those employed for the rope-band and relief-band pithoi, signalling different internalised motor habits, makes it likely that the applied-relief pithos-makers were not based at Zagora.

It is also clear, however, that Zagora already had local potters capable of making a range of storage vessels of similar or greater capacity to the applied-relief pithoi. So the question arises: what created the demand that was met by these specific pithos makers?

A brief summary of the evidence pertaining to the functionality of all three pithos types in the context of an agrarian-based settlement sheds some light on how the inhabitants of the settlement might have stored their surpluses, and suggests one possible role for the highly decorated and enigmatic applied-relief pithos.

Firstly, the use of the applied-relief pithos was not restricted to an identifiable élite. All three pithos types have been found in all categories of house-types identified at the site: multi-roomed houses, which so far appear to date only to the last phase of its occupation; large one-room houses with a courtyard or a porch; narrow two-room houses and the much smaller one- to two-room houses that back on to the fortification wall.

Instead of using the status or occupation of the user as a starting point, it is thus more instructive to look at the pithoi from the perspective of bulk storage requirements. Though it is impossible to reconstruct fully the diet of any particular group in antiquity based on the present evidence, a range of studies utilising ethnographic, archaeological and textual sources and ranging in date from the prehistoric period to the Byzantine period have shown that there is a remarkably consistent pattern concerning the core dietary staples of rural and urban communities in the Mediterranean (e.g. Christakis 1999; Dar 1995; De Angelis 2002; Forbes 2002; Forbes – Foxhall 1995; Foxhall – Forbes 1982; Gallant 1991; Halstead 1990; Halstead – Jones 1989; Reger 1994).

Family member	**Daily Calorific requirement**
Active adult male	3000
Active adult female	2200 (2500 if pregnant)
Adolescent male	2857
Adolescent female	2383
preadolescent child	2010
Active older adult	2200
Total	**14650**

Table 1. Calorific consumption der day by gender and age (modified from Gallant 1991, 73; see also Reger 1994, 85-86.)

These studies show that one can plausibly estimate the calorific requirements for a hypothetical semi-subsistence based family of six (**Table 1**), and also postulate hypothetically the quantity of each type of basic bulk storage sta-

Commodity	**Cereals**[3] wheat or barley flakes (alphita)	**Pulses**[4] Lentils & broad beans	**Olive Oil**[5]	**Wine (3 adults)**[6]
% of daily intake	65%	18%	10%	7%
Calorific value[7]	8094.125	2241.45	1245.25	861
Amount per day	2.44 kg	0.6624 kg	0.154 litres	1.23 litres
Litres per annum[8]	**wheat: 1155 litres alphita: 1485 litres**	**314 litres**	**56.2 litres**	**450 litres**

Table 2: Hyypothetical annual bulk storage commodity requirements for a rural family

ple that would meet those requirements annually (**Table 2**)[2].

While the commodities listed in table 2 are purely hypothetical, there is a growing body of archaeobotanical evidence which indicates that the staples listed in the first categories (cereals, pulses and olive oil) did make up the primary stored food staples at the beginning of the Early Iron Age at least in southern Greece and Crete (Kroll 2000; Megaloudi 2004; cf. Roumpou 2006, 44-56). Wine is more problematic as its dietary role is often overlooked, or it is taken to be a luxury good only available to élites (Hamilakis 1999). At 8th-century Zagora, however, there is no evidence for élite control of any particular commodity, and vessels associated with the consumption of wine (kraters, skyphoi, kantharoi and kotylai) have been recovered from every excavated area of the settlement.

The point of this exercise, however, is not to propose the diet of the inhabitants at Zagora but to calculate the storage space that would be required for such notional commodities so as to help indicate to what plausible use each pithos type could have been put. By comparing the storage requirements of the different staples with the capacities, forms and mechanical

2. As the diet would never have been restricted to long term storage commodities, daily calorific intake assigned here is deemed to be ca. 85% of daily consumption for a typical family of six: i.e. 12452.5 calories. Commodities not included (15%): Fruit (fresh and dried); nuts, olives; vegetables (garden and wild); dairy products; meat (domesticated and game), fish and eggs.

3. For cereal production and consumption in the Cyclades from antiquity to the 19th century see Reger 1994, 85-109 (incl. discussion of primary and secondary texts and bibliography). The low annual rainfall on most Cycladic islands is more suited to the growing of barley than wheat (Reger 1994, 104).

4. The importance of dried pulses (legumes) in the ancient diet is well known (Sarpaki 1992; Flint-Hamilton 1999) but they are usually lumped with fresh vegetables in the dietary tables (e.g. Gallant 1991, 73, where the total calorific value is given as 25% of the dietary intake). The figure of 18% posited here is based on Dar's breakdown of the food ration of a wife whose husband is travelling as quoted in the Mishnah *Ketubot* 5.8-9 (Dar 1995, 338).

5. The degree to which olive oil played a role in the diet in antiquity is not known. The only consensus in the modern literature is that it must have been a great deal less than the 29% recorded for modern traditional rural Greece (Gallant 1991, 72; Foxhall – Forbes 1982, 68-70; Hamilakis 1999, 43-44) but probably more than the 1 sextarius per month allocated to Cato's farm labourers (Cato, de Agr. 58 = ca. 0.0193 litres per day: Foxhall – Forbes 1982, 69). The figure I give here for daily consumption for a family of six is again an arbitrary downward scaling of the percentage of olive oil recorded in the food rations discussed above (Dar 1995, 338: 12.9%) and is only marginally more than Cato's labourer's oil rations (0.0193×6 = 0.1158 litres).

6. The calorific value of white wine is 70 per 100 mls (Grivetti 1996, 18, table 1). The estimated quantity of 150 litres per adult follows Reger 1994, 237 (with references).

7. Calorific values 3340 per kg wheat; 3320 per kg hulled barley (Foxhall – Forbes 1982, 45-46).

8. Weight to volume ratios: wheat, 0.772 kgs per litre; hulled barley, 0.6 kgs per litre (Foxhall – Forbes 1982, 42-43).

properties of the three pithos types, it should be possible to elucidate at least the primary function for which each was commissioned, if not what they were used for throughout their use life (Sarpaki 1992; 2002). Where applicable, the storage of a "normal surplus", i.e. storage of staples to last through periods of drought and other ecological crises, will also be taken into account (Forbes 2002; Foxhall – Forbes 1995; Gallant 1991; Halstead 1990; Halstead – Jones 1989; Halstead – O'Shea 1989; Hordern – Purcell 2000, 175-230, 572-583).

The **relief-band pithos** has the largest capacity of all three types with the smallest ones averaging 200 litres and a mid-sized version of 400 litres, while the largest of the type can hold up to 700 litres (**fig. 11**)[9]. Relief-band pithoi have low-fired but fully-oxidised thick walls, made of a dense fabric noticeably lacking in inclusions. Several examples also preserve a highly polished exterior surface akin to burnishing, which sinters during the firing to form an impermeable outer skin. These features all reflect deliberate choices on the part of the potters, as each process increases the time and labour required in manufacturing the vessels. It appears that the potters wished to maximise porosity but minimise permeability, and in particular to enhance the insulation properties inherent in a dense but open pored matrix, as opposed to the effect of cooling via evaporation through the vessel wall which results when inclusions or organic tempers are present (Rice 1987, 230-232, 350-354; Skibo –Schiffer – Reid 1989).

It seems most likely therefore that this pithos type was designed to provide a buffer against temperature fluctuations while preventing moisture seeping in from the outside. From the perspective of the desired functionality of storage facilities, these characteristics are particularly valuable for the storage of cereals (Cotkin *et al.* 1999, 328; De Angelis 2002, 301-302; Panagiotakopoulou *et al.* 1995; Sigaut 1988). Given its large capacity, the upper range of the relief-band pithos type would be the optimum dry storage vessel for wheat or barley; a household with two such vessels could store enough grain to last at least one year.

Control over the ambient temperature is also important for the fermentation and long-term storage of wine (Brun 2003, 63-70; Rice 1996, 790). However, the current lack of evidence for any interior sealant such as pitch or resin precludes this functional identification, as without an interior lining vessel walls would be too porous for the long term storage of liquids.[10]

As it is more usual for ceramic vessels used as containers for wheat, and indeed for the production of wine, to be buried, and so provide insulation for their contents (Brun 2003, 66; Sigaut 1988; Rice 1996), it is possible that the makers of relief-band pithoi were motivated in their choices by the fact that the settlement at Zagora is built on a local marble outcrop and there is no depth of soil.

It seems improbable that the primary use of the relief-band pithos was for the storage of olive oil, as oil is unlikely to be kept in such quantities at a household level. More importantly from the economic point of view of the consumers, the relief-band pithos is over-engineered for such a use; the notional costs of the labour and fuel required in constructing these vessels renders them unnecessarily expensive for oil storage. The same issue applies to their

9. A: inv. no. M161 (Room in D Area excavated in 1960), reconstructed H. > 1.55 m, est. capacity > 680 litres; B: inv. no. 2547 (J15 bench & floor), reconstructed H. 1.35-1.60 m, est. capacity 560-580 litres; C: inv. no. 1160 (H18 floor), reconstructed H. 1.30-1.40 m, est. capacity 410-445 litres; D: inv. no. 1858 (H34 bench & floor) pres. H. 0.99 m, ext. capacity > 205 litres.

10. Organic sealants such as pitch, tar, wax and even milk are well documented in both the ancient sources and ethnographic literature but are rarely visible to the naked eye (Christakis 2005, 51-53; Devos – De Paepe – Vermeulen 1999). Increasingly sophisticated residue analyses of archaeological ceramics are now showing that a wide range of sealants were used on ancient storage and transport vessels and their presence on the pithoi at Zagora cannot be ruled out without further testing (Evershed *et al.* 1992; Roumpou 2006, 82-83; Roumpou *et al.* 2003).

use as containers for pulses, although the smaller sized examples would easily accommodate a year's supply.

The **rope-band pithos** is the smallest of the three types (**fig. 12**)[11]. These have a capacity of 40 litres to 110 litres, not including miniature versions that may have been used to transport or serve the primary commodity. The rope-band pithos has an S-curved profile, with narrow neck and flaring rim. This suggests that while they could hold either liquids or dry goods, they are optimised for pouring (Henrickson – McDonald 1983, 633; Rice 1987, 241). These vessels are the least carefully fired of the three types. Neither insulation properties, nor porosity were a primary concern. There is also no evidence for any special treatment of their surfaces prior to firing. Therefore the rope-band pithoi were not intended for long term storage of dry goods such as wheat, which would become damp, or of wine, which would leak through the walls. The small size of the rope-band pithos further precludes its use as a bulk storage container for wine or wheat.

Rope-band pithoi may have been used to hold oil, or pulses such as lentils (or indeed lentils preserved in oil, a known insecticide from antiquity, Panagiotakopoulou *et al.* 1995, 707). Alternatively they could have served as short-term wine or water jars, as water would have been consumed at a sufficient rate to allow storage in a semiporous vessel of this size, and the saturated walls would provide a cooling effect on the liquid within due to the slow but constant evaporation (Arnold 1985, 28, 139; Rice 1987, 231).

The third type —**the applied-relief pithos**— is best seen as a bulk storage container for liquids. Their capacity ranges from about 200 to 550 litres (**fig. 13**)[12]. The narrow deep form and constricted neck are not suitable for the bulk storage of dry goods, but make it an optimum vessel shape to reduce evaporation and oxidation of liquid contents. Hardness tests on the applied-relief fabrics consistently show that a more advanced stage of sintering was achieved than with the other storage vessel types at the site. Sintering causes closure of the pores and shrinkage thereby reducing the rate of seepage of the contents through the vessel wall (Rice 1987, 350). As these fabrics also consistently exhibit a higher quantity of inclusions, the matrix would still provide some cooling from the evaporation of non-viscous liquids (Skibo – Schiffer – Reid 1989).

Given these attributes, the two most likely bulk goods that might be stored in the applied-relief pithos are oil or wine. However, their large size precludes this likelihood as the upper end of the size range would provide over six years worth of oil for a standard family; the quoted shelf life of olive oil as understood in modern traditional Greece and Italy, even in times of drought or famine, is a maximum of four years (Forbes – Foxhall 1995, 75; Riley 2002). Wine, on the other hand, is known to have had a much longer shelf life in antiquity, and prior to the wide-spread adoption of the wooden barrel as the wine storage container of choice, the stockpiling of good vintages was common practice (Hordern – Purcell 2000, 217; Koehler 1996, 330 and n. 30). It is therefore likely that wine was the intended commodity for the applied-relief pithos, and even possible that these enigmatic vessels served as containers for aged wines, so lovingly described in Homer's *Odyssey*, when Telemachos goes to get provisions from his father's storeroom for his journey to Sparta (*Od.* 2.337-355).

11. A: inv. no. 1859 (H34 bench), reconstructed H. c. 1.10 m, est. capacity c. 100 litres; B: inv. no. 1314 (F2 roof-fall), reconstructed H. c. 1.00-1.10 m, est. capacity 100 litres; C: inv. no. 1680 (F1 floor), reconstructed H. c. 0.75-0.80 m, est. capacity c. 65 litres; D: inv. 1235 (H20 floor), H. 0.40, est. capacity c. 7.67 litres.

12. A: inv. no. 148+1195 (H26/27 bench), reconstructed H. > 1.70 m, est. capacity > 550 litres; B: inv. M162 (room in D area 1960 excavations), H. 1.60 m, est. capacity ca. 470 litres; C: inv. no. M160 (room in D area 1960 excavations), reconstructed H. > 1.30 m, capacity > 200 litres.

Wine-storage suggests that the attention-grabbing applied-relief decoration served to commemorate a particular vintage –or a rite of passage– for which the jar was commissioned, or, more prosaically, to advertise the high quality of the contents, thus allowing the householder to promote their personal vintages (and superfluous surplus in years of abundance) to a prospective buyer visiting the settlement.

If Zagora was in a small way an exporter of its surplus wine, traders might well stop there, and incidentally provide passage for the Tenian-Boiotian applied-relief pithos makers. It may be no coincidence that the two islands with well-documented separate and thriving local traditions of applied-relief pithos makers were Naxos and Rhodes, both famous in later antiquity for their wine (Feytmans 1950; 1952; Simantoni-Bournia 1990; 2004).

The social nature of the consumption of wine even at this time in ancient Greece (Sherratt 2004) and its association with travellers and the recounting of epics, myths and tall tales such as told by Odysseus during his travels may also explain why the Tenian-Boiotian applied relief pithoi of the 7th century preserve some of the earliest and most intriguing representations of the myths and epics that later coalesce into the classical cannon (Caskey 1998).

The primary staples contained by each pithos type suggested here are speculative, albeit based upon some of the functional characteristics of the vessels and with a view to their agricultural context. It is hoped that residue analysis will be able to confirm or refute these propositions in the near future (Evershed *et al.* 1992; Tyree 2000), and in a more general way, that these speculations will help to promote further the integrated study of pithoi recovered from settlement sites, both from a technological and a functional perspective.

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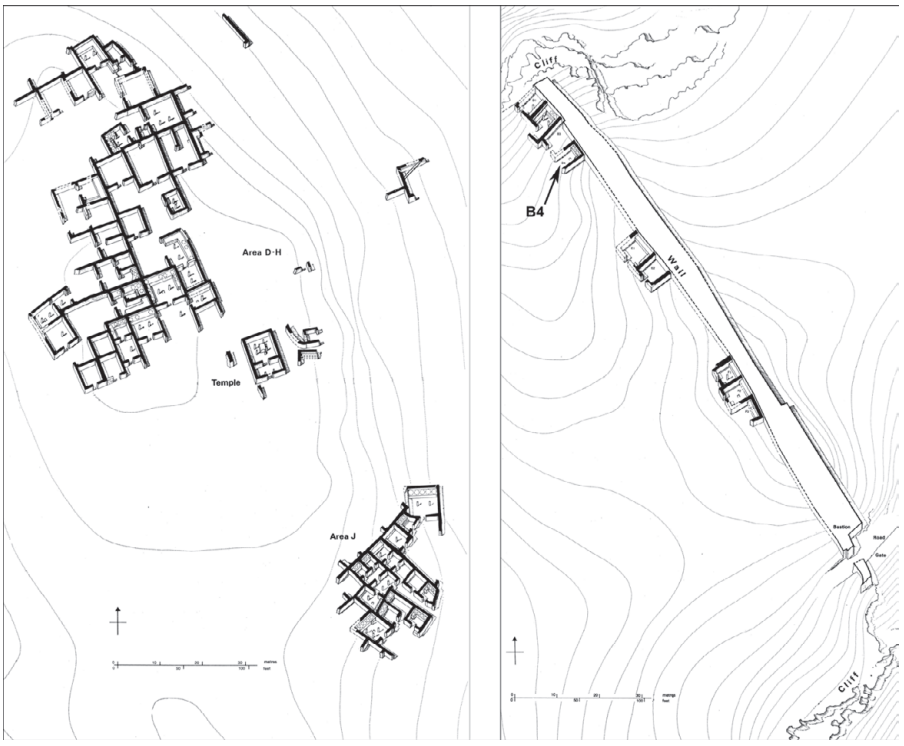

Fig. 1. Isometric plans of the houses in Areas D, H and J and along the Fortification Wall (J.J. Coulton).

Fig. 2. Benches in room B4 preserving 5 pot emplacements (Zagora Archives, AAIA).

Fig. 3. Map of the central Aegean showing the distribution of 8th & 7th century BC applied-relief pithoi.

Fig. 4. Linear applied-relief pithos fragments from MG-LG I stratified contexts at Zagora (Zagora Archives, AAIA).

Fig. 5. Generic figured friezes on applied-relief pithos fragments (Zagora Archives, AAIA).

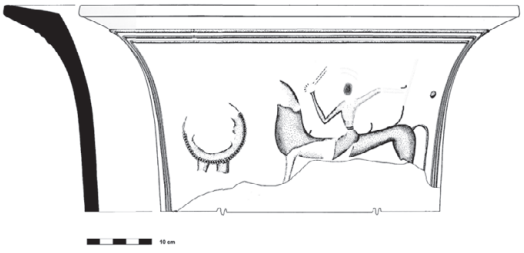

Fig. 6. Inv. no. M160 [House gamma, D area 1960 excavations] (drawing by J.R. Green)

Fig. 7. Inv. no. 2487 [J15 below roof-fall] (photo by the author).

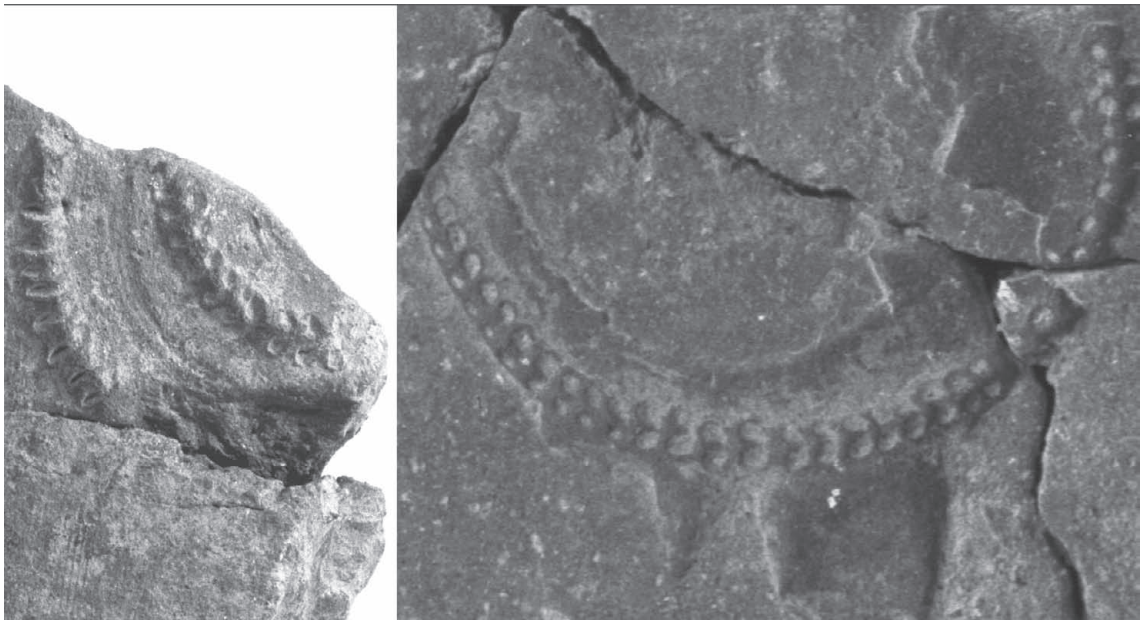

Fig. 8. Detail of shield border decoration on inv. nos. 2487 and M160 (not to scale; photos by the author).

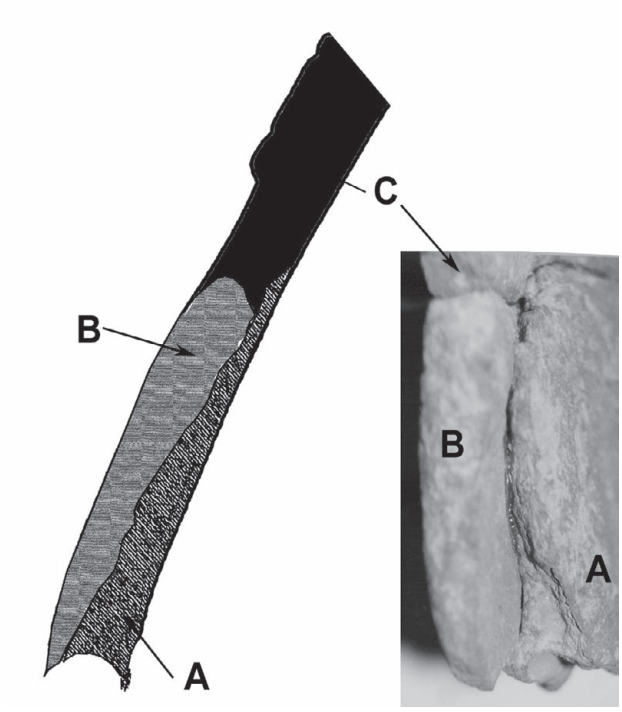

Fig. 9. Relief-band fragment preserving overlap of wet-clay join. A: beginning point of clay band; B: overlapping end; C: upper band.

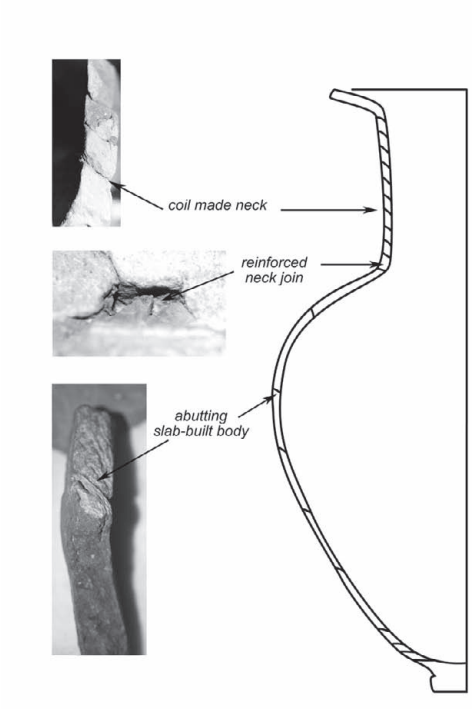

Fig. 10. Applied-relief construction techniques: examples of coil and abutting slab joins visible in section.

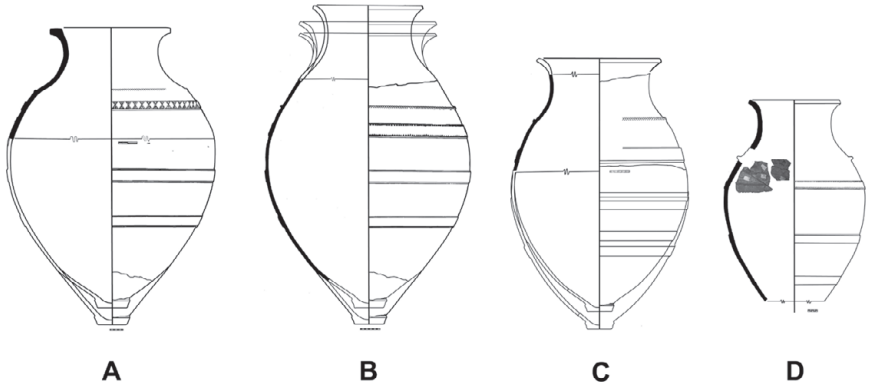

Fig. 11. Capacities of relief-band pithoi from Zagora. A: > 680 litres; B: 560-580 litres; C: 410-445 litres; D: > 205 litres (reconstructions by the author based on drawings by J.R. Green).

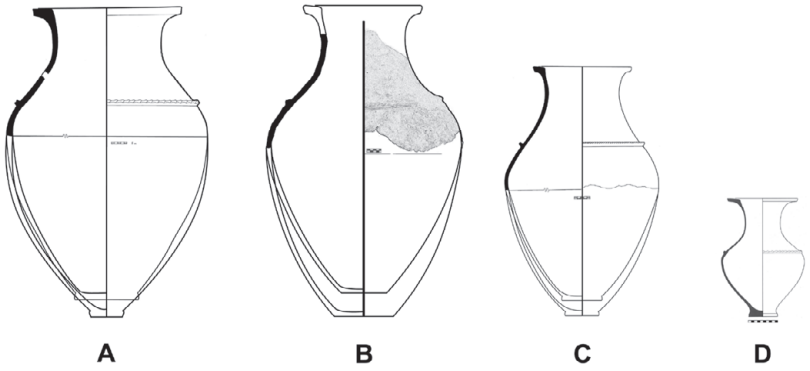

Fig. 12. Capacities of rope-band pithoi from Zagora. A: 100 litres; B: 100 litres; C: 65 litres; D: 7.67 litres (reconstructions by the author based on drawings by J.R. Green).

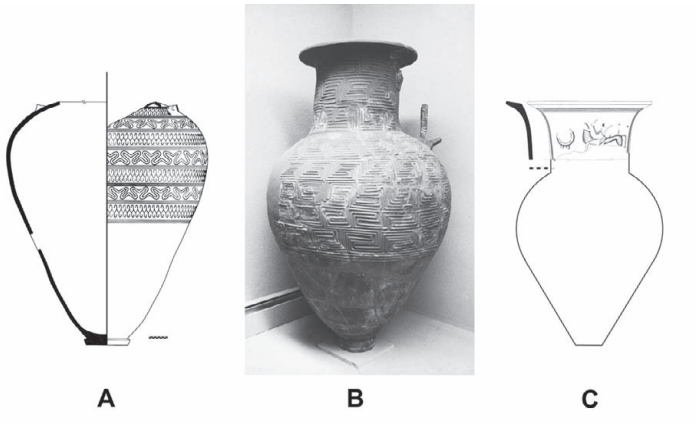

Fig.13. Capacities of applied-relief pithoi from Zagora, A: > 550 litres; B: 470 litres; C: 220 litres (reconstructions by the author based on drawings by J.R. Green).