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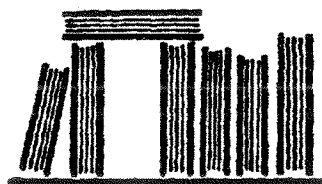
CYPRUS: RELIGION AND SOCIETY

FROM THE LATE BRONZE AGE TO THE END OF THE ARCHAIC PERIOD

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**Was copper production under divine protection
in Late Bronze Age Cyprus?
Some thoughts on an old question**

The importance of Cyprus as a copper producer and exporter during the Late Bronze Age is undisputed (Muhly 1996, 1999, 2003). The archaeological evidence clearly shows that while the exploitation of the rich copper deposits of Troodos had already started by the Middle Bronze Age, and perhaps even earlier, it is during the Late Bronze Age that the industry truly developed and production intensified in order to satisfy both local and external demands for the metal.

Provenance studies on ingots from a large number of sites around the Mediterranean basin have shed some light on questions regarding the nature and complexity of the metal trade of this period and the scale of production of the Cypriote copper industry (Gale and Stos Gale 1999). Furthermore, the recent discovery and excavation of a primary copper smelting site dating to Late Cypriote I, Politiko-*Phorades*, finally enables us to understand better how the copper was produced in this period and to appreciate how sophisticated the technology already was (Knapp *et al.* 1998, 1999, 2001).

Apart from the questions concerning how the metal was produced and how it was traded and by whom, another important issue is how was the Cypriote copper industry organized in the Late Bronze Age? An even more controversial question is whether the copper industry and religion were somehow linked. The purpose of this paper is to present a brief summary of previously published discussions on the subject and to readdress the question in the light of new evidence.

The association between copper production and religion was first made by Schaeffer who, in 1963 during the sixteenth campaign of excavation at Enkomi, discovered the well-known bronze statuette depicting a male wearing a horned conical helmet and a short kilt, holding a shield and brandishing a spear (Schaeffer 1971, 506-10) (Pl. 19.1). As the figure stands on a base that is shaped like an oxhide ingot, he was christened the Ingot God, and was assigned the attribute of protector of Cyprus' copper mines (Schaeffer 1965, 56-7).

In 1967, a Mr. James Bomford bought a small bronze figurine of a naked woman from Sotheby's, which was described as Syrian in the sale catalogue (Catling 1971, 19) (Pl. 19.2). It was Catling who, for stylistic reasons, mainly her similarity with Late Cypriote terracotta figurines (Catling 1971, 19), but especially because of the fact that the figure stands on an ingot, argued convincingly that she came from Cyprus (Catling 1971, 23). When he published the Bomford Goddess, he associated her with the Ingot God and identified her as his female counterpart who was the one that 'The copper workers looked up to ensure the fruitfulness of the mines and even more of the smelting furnaces and the processes by which the raw copper was produced' (Catling 1971, 30).

In the same publication Catling (1971, 29), using as evidence the two statuettes together with the well known four-sided stand from Kourion (Pl. 19.3), showing an ingot-bearer, now in the British Museum and the miniature inscribed ingots from Enkomi (Fig. 1), argued that in the twelfth century BC (this was the date given to the two statuettes), the management of the copper industry in Cyprus may have been temple-based. Perhaps influenced by the system portrayed in the well-known Jn Series of Linear B tablets found in the Pylos archive (Smith 1992-93), he made the following reconstruction of how the copper industry was organized: 'Alternatively, I can believe that the whole management of the copper industry in Cyprus may have been temple-based carried on in the name of the gods whom the finished products were brought as their due, and on whose behalf the temple property was subsequently either issued to the city's bronzeworkers for the production of manufactured articles or disposed of by internal or foreign trade as surplus in exchange for other necessities' (Catling 1971, 30).

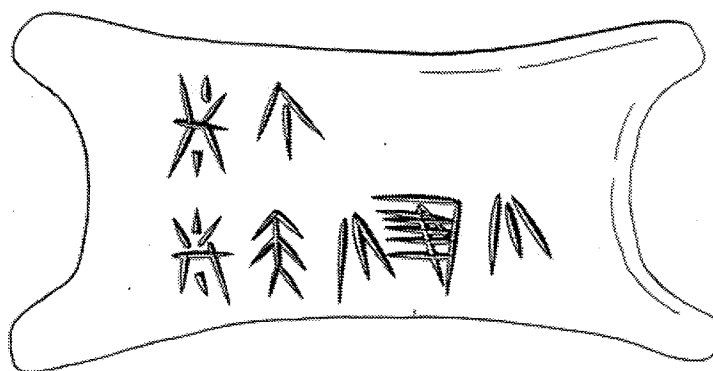


Fig. 1. An inscribed miniature ingot from Enkomi. Cyprus Museum, Nicosia.

And in this 1971 publication, the idea that copper production was not just under the protection of the gods but also the control of the temples was first presented in the literature.

In the meantime, Vassos Karageorghis' excavations at Kition Area II, revealed a series of workshops associated with the complex of Late Bronze Age temples. The workshops were established in the LC IIIA period i.e. in the 12th century BC (Karageorghis and Demas 1985, 272). Finds in the rooms, which constitute the Northern Workshops, showed that they were related to metallurgical activities. The fact that one of the rooms, Room 12, had a direct access to the main hall of the largest temple in the complex, Temple 1, and contained apart from metallurgical debris religious paraphernalia such as bucrania, indicated that it was the location of cultic as well as metallurgical activity (Karageorghis and Demas 1985, 81) (Fig. 2). These results were widely disseminated in various preliminary reports, as well as a book published by Karageorghis in 1976. In the final publication of the Late Bronze Age levels at Kition, Karageorghis and Demas (1985, 253-4) discussed the possible relation between copper production and religion. Kition seemed to finally prove, what was already sensed by Schaeffer, Catling and others, in other words that religion and the copper industry were closely linked.

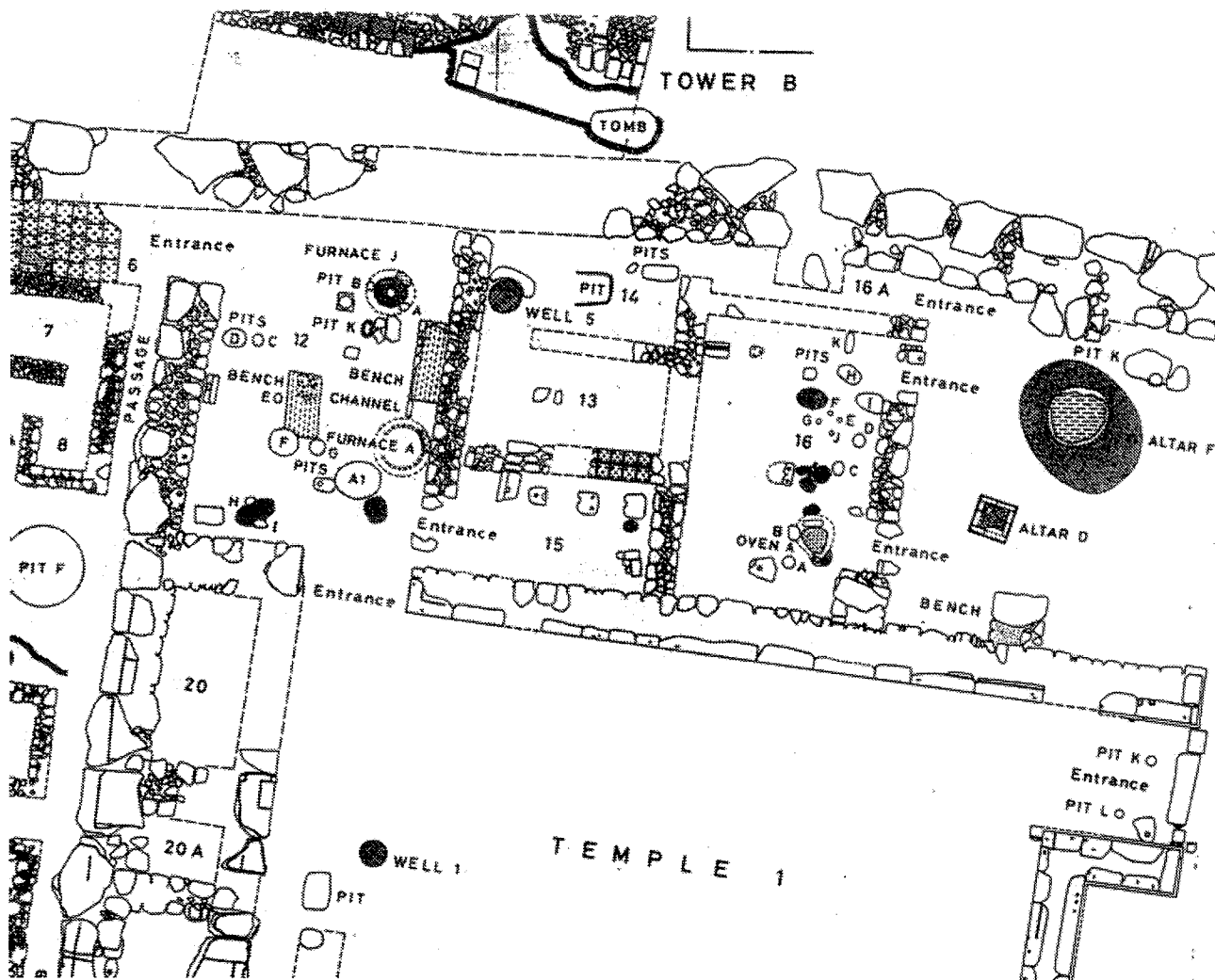


Fig. 2. The Northern Workshops of Kition - Floor III.

Further confirmation seemed to come from the excavation at *Athienou-Bamboularitis Koukouninas*, one of the most intriguing sites of this period. In two field seasons carried out in 1971 and 1972, an Israeli team under the direction of Trude Dothan and Amnon Ben Tor, uncovered the remains of what seems to be a sanctuary, which flourished from the 16th to the 12th centuries BC (Dothan and Ben Tor 1983, 139).

The architectural remains are indistinct, but the presence of over 2000 miniature vessels of various well-known types of the LBA strongly suggests that this site was related to cult (Dothan and Ben Tor 1983, 139). The excavations also uncovered a quantity of metallurgical debris. Their analysis led to the conclusion that smelting was taking place at Athienou (Maddin, Muhly and Stech Wheeler 1983, 132) and the excavators concluded that this was yet another cultic place connected with metalworking (Dothan and Ben Tor 1983, 140).

The discovery of slag, metal scrap and other metalworking equipment, such as moulds, in relation to cultic centres in other Late Cypriote sites such as *Myrtou-Pigadhes* (Webb 1999, 48-51), *Idalion-Ambelleri* (Webb 1999, 91), *Hala Sultan Tekke* (Åström 1998, 5; Åström 2000, 33) but also *Enkomi* (Courtois 1982, 161-3) seemed to offer further confirmation to the already established notion that religious authorities played an active role in the management of the copper industry.

In 1986 Bernard Knapp published a book entitled *Copper Production and Divine Protection: Archaeology, Ideology and Social Complexity on Bronze Age Cyprus*, in which he suggested that the evidence should be interpreted in the light of religious ideology which is strongly related not just to religious belief but also the economy (Knapp 1986, 4). He concluded that the Ingot God, the miniature ingots, and other finds depicting ingots, were in fact symbols that had been employed by the political elite in order to manipulate and secure their domination over copper production and distribution (Knapp 1986, 116; Knapp 1996, 10).

The topic of religion and copper production that had concerned scholars so much in the eighties, received little attention in the nineties. Undoubtedly this had to do with the fact that not much new evidence was coming out, as excavations of Late Bronze Age sites were limited both in number and in scale. Thus it is not surprising that, when in 1999 Jennifer Webb published her book on *Ritual architecture, iconography and practice in the Late Cypriot Bronze Age*, almost all of the data she compiled and discussed derived from old excavations. This is a valuable reference book for anyone who wants to study Late Cypriote religion and it has helped me greatly in the preparation of this paper. It is only natural that Webb (1999, 298-302) deals with the question of copper production and religion and presents the latest opinions on the matter, as well as the new finds.

Following Knapp (1986, 6) and Webb (1999, 298-9), there are five categories of archaeological finds that imply a connection between the copper industry and religion in the Late Cypriote Period. These are:

1. The two bronze statuettes shown standing on an ingot
2. The four-sided bronze stands that depict an ingot-bearer
3. The miniature ingots
4. The presence of metallurgical workshops within sacred precincts
5. Cylinder seals which often depict oxhide shaped symbols.

The iconography of the cylinder seals has been extensively discussed by both Knapp (1986, 37-42) and Webb (1999, 276-9) and will not be dealt with here. In the remainder of the paper the four other categories will be discussed in some detail.

The two statuettes are perhaps the most vivid statement that copper production was set under the auspices of the gods. Naturally, over the last 40 years there have been many attempts to identify them (summarized by Knapp [1986, 9-11], Hulin [1989, 127] and Webb [1999, 225]). As pointed out by Hulin (1989, 130), 'It is now clear and perhaps inevitable, that the identification put forward by each scholar reflected the source and relative breadth of his or her training. From a review of the literature, it is plain that those trained in Near Eastern archaeology favoured a Levantine identity for the figurines, while classically trained scholars were more familiar with parallels in the Aegean world'.

The Ingot God was identified by Schaeffer (1971, 509-10) as Nergal, the god who is mentioned in EA 35, one of the 8 letters sent from the king of Alashiya to the Pharaoh of Egypt and found at Tell el-Amarna (for a translation of the text see Moran 1992, 107-8).

It has been argued that in fact the ideogram used in the letter should be read as Resheph, the equivalent deity worshipped in Ugarit rather than the Mesopotamian Nergal (Schaeffer 1971, 510; Masson 1973, 115).

Even so, I believe that some caution should be exercised. It is a fact that the Amarna letters give the name of a Cypriote god, that is Resheph/Nergal, but this god is the cause of a grave calamity and is blamed for the *disruption* of the production of copper. He is *not* identified as the *protector* of the copper industry. Indeed Nergal is a plague god, the lord of the underworld and sometimes the god of storms (Dalley 1987, 62-4). According to Lambert (1991, 184), he is not a deity that is associated with copper production, and I believe that the identification of the Ingot god with Nergal is not substantiated in any way.

Based on the iconography, which is similar to the well-known type of the smiting god Negbi (1976, 39) also argued that the statuette represented a Near Eastern deity. However, some scholars have pointed out that both his stance and his dress are atypical (Webb 1999, 223). Catling (1971, 31) and others (e.g. Karageorghis 1973, 105), saw an Aegean influence in the iconography of the god, and thus suggested that he embodies the society of 12th century Cyprus, when an influx of newcomers especially from the Aegean is believed to have come to the island. Because the god, who is identified as the protector of the copper industry, seemed to be an Achaean deity, it was argued that the copper industry fell under the control of these newcomers (Karageorghis 1973, 109). This was an extrapolation of the already established idea that the Cypriote copper industry flourished only in the LC IIIA period under the beneficial influence of the Mycenaean (Catling 1969).

A number of scholars challenged these conclusions. Muhly (1980, 159) argued that the fact that the Ingot God was buried in the 12th century BC stratum, offers us only a *terminus ante quem* for his manufacture and worship. Both Muhly (1980, 159) and Knapp (1986, 87) argue that he was probably made sometime in the 13th or even the 14th century BC, and, therefore, he cannot be seen as a foreign introduction. Moreover, it is now clear from various new finds such as the workshop at *Phorades* (Knapp *et al.* 1998, 1999, 2001), and a re-evaluation of various aspects of Cypriote bronzework (Papasavvas 2001, 212-29), that both extractive metallurgy and metalworking in Cyprus were already very advanced before the arrival of Aegean settlers.

The implications of giving the Ingot God a foreign identity, as Hulin (1989, 134) explains, are much more far-reaching. If he is the protector of the copper industry and if the copper industry is under religious control then the conclusion is, as we have already seen, that the production and trade of Cypriote copper are in the hands of foreigners: the Syrians in the case that the Ingot God is of a Near Eastern origin, the Mycenaean in the case that the Ingot God is of an Aegean origin.

The fact that the Ingot God combines elements from both traditions and yet does not exactly fit either, the fact that he dates to a period during which there is no archaeological evidence for either a Near Eastern or an Aegean domination of the island, the

fact that he is shown standing on an ingot, the form in which Cyprus' primary commodity was exported, and the fact that he has a female parallel, who, as will be discussed in the following paragraphs, everyone agrees is of a clearly Cypriote type, strongly suggest that the Ingot God can only be identified as an indigenous Cypriote deity. However, as already pointed out by Masson (1973, 110) and Knapp (1986, 11), unless we find more texts that will enable us to decipher the Cypro-Minoan script, I believe it is futile to give him a name.

The Bomford statuette was identified as a fertility goddess who was protecting the fecundity of the mines (Catling 1971, 30; J. Karageorghis 1977, 104-5). The same deity is believed to be represented in two other bronze statuettes. One was accidentally found in Nicosia (Dikaïos 1936; Catling 1971, 20-2) and the other was found in Tomb 104 at the necropolis of *Teratsoudhia*, which dates to the LC IIC-LC IIIA (Karageorghis 1990, 59-61). This suggests a 13th century date of manufacture for all three. Unfortunately both the latter two examples are broken at the feet, and therefore it is not clear whether they also once stood on an ingot base. Analysing the iconography of these statuettes, and comparing them with contemporary terracotta figurines, Catling (1971, 23-9) argued that this is a distinctively Cypriote type and stated that: 'On balance I believe we should identify the Bomford Statuette as the twelfth century BC version of a long established Cypriote female deity whose origins are ultimately to be found in the Near East. In all likelihood she is the same goddess who was later to become the Paphian Aphrodite. In her Bronze Age manifestation she was doubtless a goddess of fecundity' (Catling 1971, 29). The goddess was, therefore, named Astarte (Catling 1971, 32) an identification which has been widely accepted (Karageorghis 1973, 105; J. Karageorghis 1977, 104-5; Karageorghis 1990, 59).

Astarte is of course the deity worshipped at Kition during the Iron Age, but it is not certain that we can project her back to the LBA. Furthermore, Astarte does not seem to have a special relation with metalwork or mining. An effort by Daley (1987, 61-2) to identify her with Mamma/Mammitum, a female deity of the Old Babylonian pantheon who seems to be associated with smelting was gravely criticized by Lambert (1991). Even without the philological problems identified by Lambert, I still find it rather far-fetched to identify a clearly Cypriote deity with an obscure Mesopotamian deity, at a period when the available evidence does not show direct cultural relations between Cyprus and Mesopotamia.

One female deity who is associated with mining is of course Hathor. Hathor is named as the protecting divinity of the copper mines of Timna during the Ramesside period (Rothenberg 1988, 276-7). The temple of Hathor at Timna is in fact, together with Kition, the most frequently cited example for the strong link between religion and copper production (e.g. Blakely Westover 1999, 87). The iconography, of course, is clearly different, and I am not suggesting that Hathor is the goddess that is represented by the Bomford statuette. As stated before, the general consensus is that both the bronze statuettes and the terracotta examples represent a local Cypriote deity, and for the same

reasons presented above for the Ingot God, it is perhaps not appropriate to give her a foreign name. However, the examples of Timna and Serabit al Khadem, where the Egyptians operated turquoise mines, provide, according to Blakely Westover (1999, 88), 'examples of an analogous operation in appeals to Hathor as Lady of the Turquoise or Malachite giving a non metallurgical divinity a titular association with mining'. Perhaps in the Bomford Goddess, the Cypriote fertility goddess, who is also portrayed in thousands of terracotta figurines, is given the added role of guardian of the copper industry, on which the economy and subsequently the prosperity of the island relied throughout the LBA.

The Ingot God and the Bomford Goddess are linked by virtue of the fact that they both stand on an oxhide ingot shaped base. Nevertheless we should keep in mind what keeps them apart. First, there is the difference in the size: he stands at about 35 cm tall, while she is just about 10 cm (Knapp 1986, 11). Second, although he was found within the adyton of a sanctuary, she lacks a provenance, while one of the other two related examples, that from *Teratsoudhia*, comes from a tomb. Both of these observations argue that unlike the Ingot God, the Bomford Goddess was probably not a cultic idol. This does not mean that a cultic idol of this goddess may not once have been housed in one of the excavated sanctuaries, which have been found devoid of their cult figure. In fact, Webb (1999, 112) reached the conclusion that, like the sanctuary of the Horned God, the sanctuary of the Ingot God also had two adyta. In other words, the sanctuary was dedicated to two deities (Fig. 3). The presence of hundreds of female terracotta figurines in

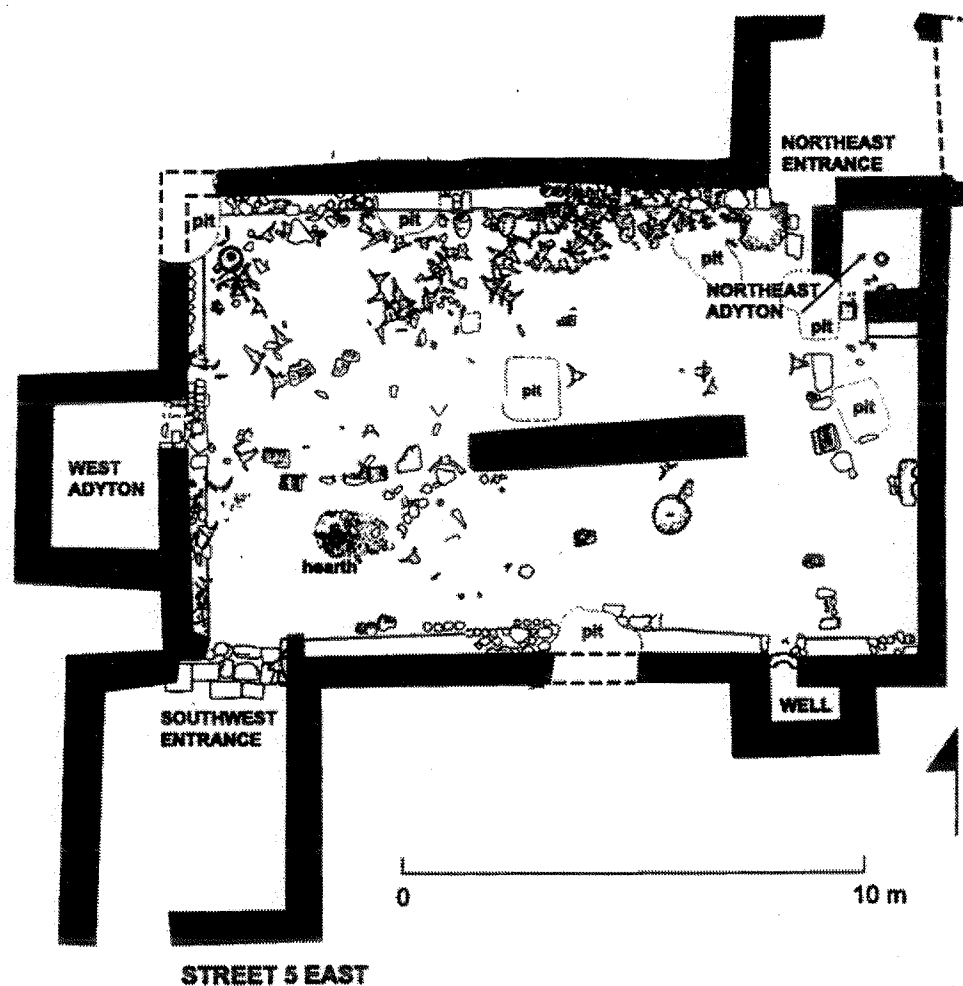


Fig. 3. The Sanctuary of the Ingot God, Sol III as reconstructed by J. Webb (1999, 105).

the Western Adyton and the western part of the courtyard indicates to Webb (1999, 113) that the companion of the Ingot God was a female deity and that, at least initially, she may have been the most important deity of the two. That this goddess could have been the one represented by the Bomford statuette, is I believe a strong possibility.

Let us now look at the evidence from the four-sided stands. The one in the British Museum is the best known. On each of the four sides a male figure is depicted, standing or in one case sitting in front of a stylized tree (Catling 1964, 205-7; Matthäus 1985, 314-5; Papasavvas 2001, 239-40). One of the figures bears an ingot on his shoulder (Pl. 19.3). The size of the ingot relative to the size of the man carrying it shows that this is not a miniature ingot. The stylized tree is often identified as a sacred tree (Knapp 1986, 31). The importance of trees in Bronze Age religion is well-known and seems to be confirmed by the presence of a sacred garden in Area II of Kition (Karageorghis and Demas 1985, 32). If the identification of the tree in the stand as a cultic figure to whom an oxhide ingot is brought as a votive offering is correct, then I think it is worth commenting that this is not a god or goddess standing on an ingot.

An ingot-bearer who is part of a procession of men bearing gifts is also depicted on another four-sided bronze stand, currently in the collection of the Bible Lands Museum, in Jerusalem (Achilles 1981; Catling 1984, 79, 83; Matthäus 1985, 319-20; Papasavvas 2001, 244). Unfortunately it is not complete and we are missing the figure or object towards which the procession is headed. The other partially preserved side presents a winged sphinx.

Finally, Karageorghis and Papasavvas recently (2001) published an ingot-bearer in the Royal Ontario Museum, Toronto, who, based on stylistic and technological similarities with the previous two examples, can safely be identified as a fragment of a four-sided stand. Unfortunately the new find, although very exciting, offers no help in our understanding of these scenes.

What can the iconography of these stands tell us about the question at hand? It should be remembered that the Kourion stand was one of the arguments used by Catling (1971, 29-30) to support the notion that the copper industry was under the control of the temples. As the only complete example of the three, the Kourion stand is the only one that could possibly shed some light on the interpretation of the depiction of an ingot-bearer. Perhaps, in order to do so, instead of looking solely at the panel depicting the ingot bearer, it would be better to consider also the scenes of the other three panels. In all four the figures are depicted in front of the same stylized tree. In the first one there is a seated male figure who plays a lyre, in the second a man who seems to be holding two fishes or most probably two bags and in the third a man who holds rolls of cloth or ivory tusks (Catling 1964, 205-7; Matthäus 1985, 314-5; Papasavvas 2001, 239-40; Knapp 1986, 31). If the depiction of an ingot-bearer in front of the sacred tree symbolizes the control of the temples over the copper industry, how can the other three scenes be interpreted? The ingot-bearer is differentiated from the other two standing figures solely by what he is carrying, and, therefore, what is true of this panel should be true of the others.

The whole iconography of this stand, as well as that of the one in Jerusalem, is consistent with a ceremonial procession where a variety of objects including copper oxhide ingots are presented to the deity (if we accept that the tree is a representation of the divine). Of all the examined examples, I think that depictions of ingot-bearers on these stands are the weakest argument for a religious control over the copper industry.

A votive nature has also been attributed to a number of miniature ingots which have been recovered from Late Cypriote and other Late Bronze Age sites (for a comprehensive list see Knapp [1986, 27] and Webb [1999, 241]). Buchholz (1959, 19) was the first to suggest that the miniature ingots were votives, an idea that was accepted and widely reproduced in all relevant publications (Catling 1971, 29-30; Masson 1971, 449; Knapp 1986, 29). It is perhaps of interest to note that chemical analysis shows that the miniature ingots are not of pure copper like the oxhide ingots, but are instead of bronze (Knapp 1986, 28). The miniature ingots are sometimes inscribed with signs of the Cypro-Minoan script. Unlike their full size counterparts, which often bear one or at the most two signs, either impressed or inscribed,¹ some of the miniature ingots bear more than one sign, in other words they bear an inscription (Masson 1971). The suggestion by Buchholz (1959, 241) that the inscriptions are dedications to deities, was accepted by others (Masson 1971, 454; Catling 1971, 30).

Webb (1999, 237), however, in her analysis of finds relating to sanctuaries, points out that none of the examples that have been found in Enkomi come from clearly ritual assemblages and, therefore, she questions their identification as votives. If they are not votives then what could they be? One possibility is that they could be weights, but in order to ascertain this, a detailed metrological study of all the examples should be undertaken. Again we are in the frustrating position of not being able to understand them fully mainly because we cannot read the Cypro-Minoan inscriptions.

Finally we should briefly consider the evidence from the sanctuaries, starting with Kition. In a paper published by Vassos Karageorghis and the author in 1999, I carefully went through all the published archaeological and analytical data regarding the finds from these workshops in an effort to identify the metallurgical processes taking place there. There is no need to repeat everything here, and instead a brief summary of the main conclusions will be presented.

One of the questions that was addressed was whether primary and/or secondary smelting was taking place in the Northern Workshops. This is indeed a crucial issue; if copper ores were smelted in these workshops, and especially in Room 12, which had direct access to Temple 1, this would seem to offer firm support to the idea that the production of copper, and indeed the whole copper industry, was under the control of religion (Karageorghis 1973, 107). The idea that smelting was performed there stems mainly from the discovery of slag. The fact is, however, that slag is not produced only in smelt-

¹ For a list of signs on ingots from the Cape Gelidonya wreck and examples known up to the time of that publication see Bass 1967, 72; for a list of signs on the ingots from the Uluburun wreck see Sibella 1996, 9 and Pulak 2000, 146.

ing operations (Bachmann 1982, 2). Slag is also produced during refining, melting and even casting. Indeed at least one of the analysed samples was identified as a refining slag (Stech, Maddin and Muhly 1985, 194). Nevertheless, even if all the collected slags from the excavation of the Northern Workshops and the surrounding area did derive from smelting, there are other problems with their identification as copper smelting workshops. The discovery and excavation of the site of Politiko-*Phorades* indicate what one should expect to find in a primary smelting workshop. In this rather unimpressive site, where we have found no architectural remains, in an area of about 60 square metres we collected 3.5 tons of slag, 1000 large fragments of furnace material and 50 almost complete tuyères (Knapp *et al.* 2001, 207). Occupation of the site falls within the LC I and may, in fact, have been very short-lived. When compared, therefore, to the finds from *Phorades*, the amount of slag recovered from the workshops at Kition, which are believed to have been active for quite some time is really minimal, while debris from the smelting apparatus such as tuyères and furnace materials are scarce. Stech, Maddin and Muhly (1985, 397), in an effort to explain this phenomenon, have suggested that perhaps the Northern Workshops may have been regularly cleaned, since they were in constant use. This, however, does not seem to be the case with the workshops of Enkomi, where large amounts of slag (Dikaios 1969, 46), tuyères, and even bellows were collected (Dikaios 1969, 22-32).

One of the other issues that we discussed in detail in the publication is the use of bone ash. Because large amounts of bone ash were found in the area of the Kition workshops, it was suggested that bone ash may have been used as a flux for the smelting process (Stech, Maddin and Muhly 1985, 399). Although metallurgical treatises published in the Renaissance do mention the use of bone ash in the production of crucibles and cupels (for a detailed discussion see Karageorghis and Kassianidou 1999, 180-3), bone ash is not an appropriate substance to use as a flux in copper smelting (Karageorghis and Kassianidou 1998, 180). Nevertheless, this idea became so well established in the literature that a point was reached where the presence of bone ash in the precincts of sanctuaries implied copper smelting, and by extension supported the whole idea of copper production being under divine protection. Knapp (1986, 43) in an effort to understand why metallurgical activity was closely associated with religious structures wonders: 'Is there, for example, some economic connection between the industrial need for bone ash as a fluxing agent, on the one hand and the proximity of a "sacred" area where animals would have been slaughtered, dedicated, eaten and dissected on the other? In such a case, the skull bones would have been left in the "temple" to serve some unknown function, perhaps ritual, while the remainder might have been used on some phase of metallurgical production'.

Bone ash is not a surprising find in a sanctuary, if we consider the number of animals which would have been sacrificed there. However, its presence in a sacred precinct cannot by any means be extrapolated to support the idea that copper smelting was performed in sanctuary workshops, as has been done in the past.

Since it cannot be denied that some metallurgical activities were taking place in the Northern Workshops at Kition, how can we interpret the excavated installations that were identified as smelting furnaces? These, in fact, may have been hearths for heating the crucibles containing metal to be refined or to be cast (Karageorghis and Kassianidou 1998, 183). We know from *Phorades* that the product of the primary workshop would have needed a series of other steps of refinement before it reached the point that it could be cast into ingots. Was this the process that was taking place at Kition and, if so, does this support the idea that the final product was indeed under the control of the temples? Again I believe that it would be imprudent to answer this question based on the presently available evidence.

It is, I believe, equally possible that the workshops may in fact have been involved in the casting of objects, perhaps of votive or ceremonial character and the recycling of temple bronze (Karageorghis and Kassianidou 1998, 183-5). Scrap metal was collected at many points of the excavation of the sacred area, and it has been found in numerous other sanctuaries of this period (Webb 1999, 237). We know that in Antiquity, when the number of votive offerings had increased or after they were damaged, the offerings were collected and buried in *bothroi*. *Bothroi* are usually packed with broken ceramic vessels and terracotta figurines, but rarely contain metal objects. This absence of metal artifacts from *bothroi* may be used as indirect evidence for the recycling of the temple's bronzes, a practice that seems to be implied in the Jn series of Linear B tablets from Pylos (for a more detailed discussion and references see Karageorghis and Kassianidou 1998, 184-5).

To summarize, there is no doubt that metallurgical activities were taking place in the Northern Workshops of Kition. The fact that one of the main rooms, Room 12, has direct access to Temple 1, as well as the fact that it was full of religious paraphernalia such as bucrania, stone anchors etc, indicates that in this room there was also cultic activity (Karageorghis and Demas 1985, 81). However, based on the available evidence, the metallurgical activity taking place at Kition does not seem to be primary or even secondary smelting. Even if copper metal was refined here the scale of the activities witnessed is not in accordance with the idea that the whole Cypriote copper industry on which the economy of the island was based, was under the control of the temples.

The other often-quoted example of a sanctuary related to copper smelting is that excavated at the site of *Athienou-Bamboulari tis Koukouninas*. During the excavation almost 500 kg of various sizes of nodules were recovered which were interpreted as the result of a roasting process (Maddin, Muhly and Stech Wheeler 1983, 133) and a rather primitive smelting procedure was proposed in which copper was produced without the production of slag (*ibid.*, 134). As the smaller nodules were discovered in and around a pit located in the courtyard, where a number of pits containing large quantities of miniature pottery were also recovered, it has been suggested that the nodules, as the end product of the production of copper, were also offered as votives (Stech 1982, 107).

There are a number of problems with the proposed smelting procedure, but to go into detail is beyond the scope of the present paper. Suffice it to say that the study of the

slag and other archaeometallurgical material from Politiko-*Phorades* shows that, already at the beginning of the Late Cypriote period, the smelting technology was very advanced and the procedure suggested by Maddin, Muhly and Stech Wheeler does not fit the findings from the detailed study of this primary smelting workshop of this period (Kassianidou 1999, 95-6).

We may, however, briefly look at the evidence. The discovery of roasted ore, which is an intermediate product in the long series of steps of turning the mineral to metal, is intriguing. As an intermediate product, roasted ore is usually a rare find even on smelting sites (Craddock 1995, 167-9), unless for some reason it was discarded, which could be the case here, if for example it was deemed too poor in metal to be further processed. Is a waste product an appropriate votive for a deity, as has been suggested by Stech (1982, 107)? And why did the intermediate product not go through the rest of the process in order to be turned into metal? And if these are the waste products of the roasting process, where are the waste products of the smelting process? In other words where is the slag, as at least some slag would undoubtedly have been produced, if they had wanted to produce metal from these nodules. Where are the furnaces and where are the tuyères? Because of the absence of archaeometallurgical debris consistent with a smelting workshop, I find it difficult to identify Athienou as a copper production centre and, therefore, it cannot be used to support the idea that the copper production was under religious control.

The location of this sanctuary, which is supposed to be involved in copper production is also intriguing. Although rationalized as an ideal site for a copper workshop, because of its proximity to the copper ores and fuel, in other words the forests, neither of these arguments are correct (Maddin, Muhly and Stech Wheeler 1983, 137). The closest mine is Troulli, which lies at the distance, considerable by LBA standards, of 8 km, while trees are sparse in the Mesaoria which receives very little rainfall (although in the Bronze Age environmental conditions and vegetation may have been different from those of the present day). That the location may have been chosen because of its proximity to the route that led from the mines to the coastal towns, as suggested by the excavators, is more logical but it does not explain the nature of the finds.

As stated above workshops, which are possibly related to sanctuaries, have been identified on other Late Cypriote sites, but it is beyond the scope of this paper to discuss all of them in detail. Based on the discussion that was offered in the pages above the following conclusions may be drawn. Taken as a whole, the evidence offered by the two bronze statuettes standing on ingots, the ingot bearers depicted on bronze stands, the miniature ingots and the metalworking workshops do seem to indicate that in the Late Cypriote period some kind of connection between religion and copper production did exist. Whether this was just a natural reaction on behalf of the Cypriots to place under the protection of their gods the industry that provided them with wealth and prosperity or whether as Knapp (1996, 10) suggested '... that these material icons served the politico-economic ends of a newly established secular elite that sought to secure, legitimise and

perpetuate control over the Cypriot copper industry' is equally possible and not necessarily mutually exclusive. However, I think that Catling's suggestion that the copper industry was temple-based was far-fetched and although since 1971, when he first made this proposition, more archaeological evidence has come out to reinforce the connection between metalworking and cult, there is nothing that can really support such a model for the organization of the Cypriote copper industry.

The fact is we are still very far from understanding how Late Cypriote society, in general, was organized; we are not even sure whether the island was governed as one political entity, or was divided into city kingdoms as in the Iron Age. We will only be able to clarify some of these issues if we continue to do research and especially if we enrich the available evidence through further excavations at key sites. Whether we will be able to give some definite answers remains to be seen.

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- Fig. 2. after Karageorghis and Demas 1985, plan V.
- Fig. 3. after Webb 1999, 105.
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- Pl. 19.3. photo courtesy British Museum, London.



1. The Ingot God from Enkomi.
Cyprus Museum, Nicosia.



2. The Bomford Goddess.
Ashmolean Museum, Oxford.



3. The Kourion stand. British Museum, London.

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