MATERIAL AND CRAFTSMANSHIP IN THE MYCENAE SHAFT GRAVES: IMPORTS VS LOCAL PRODUCTION*

Distinguishing in the archaeological record between locally made artifacts and products of import is always a most difficult task, except for such obvious cases as e.g. some inscribed documents or objects of specific and immediately recognizable foreign style. There is certainly no less difficulty when the analysis concen-

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The following abbreviations will be used:

Karo	=	G. Karo, *Die Schachtgräber von Mykenai*, München 1930-1933
Lambrou-Phillipson	=	C. Lambrou-Phillipson, *Hellenorientalia. The Near Eastern Presence in the Bronze Age Aegean, ca. 3000-1100 B.C.*, Göteborg 1990
Peinture en métal	=	A. Xenaki-Sakellariou, *«Peinture en métal» à l'époque mycénienne*, Athens 1989
Ulu Burun 1984	=	G. F. Bass, «A Bronze Age Shipwreck at Ulu Burun (Kaş): 1984 Campaign», *AJA* 90, 1986, pp. 269-296
Ulu Burun 1985	=	C. Pulak, «The Bronze Age Shipwreck at Ulu Burun, Turkey: 1985 Campaign», *AJA* 92, 1988, pp. 1-37
Ulu Burun 1986	=	G. F. Bass *et alii*, «The Bronze Age Shipwreck at Ulu Burun: 1986 Campaign», *AJA* 93, 1989, pp. 1-29
Xenaki-Sakellariou	=	A. Xenaki-Sakellariou, Οἱ θαλαμωτοὶ τάφοι τῶν Μυκηνῶν ἀνασκαφῆς Χρ. Τσούντα, Paris 1985.

References to objects from grave circles A and B will be given by their numbers in Karo's and Mylonas' inventories (preceded by the Greek letter designating the tomb in the second case), respectively Karo and G. E. Mylonas, Ὁ ταφικὸς κύκλος Β΄τῶν Μυκηνῶν, Athens 1972-1973.

trates on a period of transition like the beginning of the Mycenaean era, during which important changes occur and new conditions are stablishing in the balance of powers within a broad geographical context like the Aegean —even though similar exceptions are attested as well [1]. The present paper aims at a renewed approach of the problem based on an evaluation of the extraordinarily rich material uncovered in the shaft graves at Mycenae.

METHODOLOGY

A recent contribution by Michael Cosmopoulos at the *Thalassa* conference could serve as a starting point [2]. Discussing the question of exchange in the third millennium B.C., Cosmopoulos has argued that the evidence points to a distinction between two different exchange networks: a network of exchange of material goods and a network of exchange of knowledge and information. The former is emphasized by «foreign objects found in the Aegean or Aegean objects found abroad» and provides proof for actual contacts. The latter —a network of apparently greater magnitude and wider spatial distribution— covers «typological similarities in architecture and artifacts from distant regions» and essentially influences of technological and artistic nature. Those, however, should be treated with caution since they are often «too vague to be used as proofs for contact», since even «a large number of vague affinities does not necessarily suggest contact» and since they raise the question of differentiating between imported objects and their imitations. Material goods can be exchanged through real trade (freelance trade) or just occasionally imported (random exchange) as prestige gifts to or personal acquisitions by individuals, depending on their respectively high or low quantities. Perishable goods such as agricultural

[1] For the beginning of the Aegean Late Bronze Age, significant imported objects have been examined recently by P. Warren and V. Hankey, *Aegean Bronze Age Chronology*, Bristol 1989, pp. 137-146 and a complete list has been given in Lambrou-Phillipson (especially *Orientalia. A Catalogue of Egyptian, Mesopotamian, Mitannian, Syro-Palestinian, Cypriot and Asia Minor Objects from the Bronze Age Aegean*, pp. 173-401).

[2] M. Cosmopoulos, «Exchange Networks in Prehistory: The Aegean and the Mediterranean in the Third Millennium B.C.», *Thalassa. L'Egée préhistorique et la mer. Actes de la troisième Rencontre égéenne internationale de l'Université de Liège, Station de recherches sous-marines et océanographiques (StaReSO), Calvi, Corse (23-25 avril 1990)*, *Aegaeum* 7, 1991, pp. 155-168.

products or other commodities should be included in the first case, but evidence for them is missing in the archaeological record [3] and can be gained only from written sources, as has been recently summarized by T. G. Palaima from the Linear B archives [4]. Raw materials can be added as well, especially ivory and some metals. The second case can be made more obvious when the objects come mostly from funerary contexts, suggesting that they were considered personal belongings of the deceased, some of them probably in addition prestige symbols, and that their acquisition was controlled by few wealthy individuals. The exchange of information may have been in some cases, according to Cosmopoulos, carried on through trade activities and commercial transactions. Two additions, I think, should be made to that model: first, that artistic influences are not necessarily the result of a deliberate transmission, when e.g. the object of trade is a commodity that needs a container, mostly a vase, to be transported, and second, that artistic and thechnological influences, *i.e.* information or knowledge, can be transmitted by travelling craftsmen and artisans as well.

As far as the distinction between imports and local production is concerned, an additional remark is that the question of imports vs local production is too often considered in absolute terms as if the choice would be limited to the two extreme cases, between objects that have been manufactured locally and those that have been purchased abroad, whether by exchange or as a result of looting. The reality was no doubt much more complex and a careful distinction should be made not only between objects considered as a whole, but further between the different components in them, namely the material in which they have been made, the technique or techniques used for their manufacture, the shape in which they have been modelled, the eventual decoration which has been put on them, as well as its style and meaning. The possibility exists, for each of these components taken separately, and independently of the other components, either of a local or of a foreign origin, according to the following model:

[3] Except in some specific cases, such as shells: D. S. Reese, H. K. Mienis and F. R. Woodward, «On the Trade of Shells and Fish from the Nile River», *BASOR* 264, 1986, pp. 79-84 (there is no sure evidence, however, that shells were used as food).

[4] «Maritime Matters in the Linear B tablets», *Thalassa. L'Égée préhistorique et la mer. Actes de la 3e Rencontre égénne internationale de l'Université de Liège, Calvi, Corse, 23-25 avril 1990, Aegaeum* 7, 1991, pp. 276-284 (I 1: Maritime trade [especially cloth and spices]).

raw material: either locally available or purchased abroad;
techniques, whether used for working the material itself, or for shaping the object, or for its decoration: either locally practised (local know how), when successive stages in development are attested locally in earlier phases or when similar or identical processes are used for other items or on other media in the same context, or initiated by foreign craftsmen, whether travelling or brought by force, when equally or less developed antecedents are missing in the local documentation or when the technique is strictly limited to a small number of objects;
shape and decoration (either through successive stages or both shape and decoration through a single stage [sheet ornaments hammered in a mould, moulded relief beads]): either belonging to a local repertoire, when form or design clearly derives from a locally well attested tradition, or practised by foreign craftsmen or inspired by foreign models, when such a tradition proves to be missing;
style: either corresponding to the apparent local standards and taste, when antecedents are attested, or to foreign taste, when the opposite observation prevails;
meaning and function: either fitting to local concerns and customs or without clear relation to these.

The two options are present in each component and finally give a far wider range of possibilities than the dichotomy of elementary nature referred to above. To take just one example, at the theoretical level first: an object found at Mycenae might have been made of raw material coming from abroad, using long-practised techniques of shaping, and might have been decorated with locally unknown motifs in a technique, style and meaning that suit local features. That this and other possibilities can be more than theoretical cases wil be emphasized by two examples, with a quite different degree of complexity.

The grave stelai from the acropolis circle [5] will be first briefly considered. They are carved from locally available stone, in a technique that is closer to engraving than modelling and thus quite far from the Minoan standards, as are their large dimensions. The decoration on them, on the other hand, appears essentially local

[5] On the stelai, see W. A. Heurtley, «The Grave Stelai», *BSA* 25, 1921-1923, pp. 126-146.

(especially the snake-like meanders and the chariots), as well as their meaning and their function as grave-markers, a feature without equivalents in Minoan burial practices. Such an entirely local character can only be found on some weapons and on most of the tools.

A second example will give a much different and less extreme picture: the ostrich egg vases 552, 828 and 832 from shaft graves IV and V. These are evidently made of exotic material since ostriches are not native to the Mycenaean mainland. The ultimate origin of the material could be Nubia [6] and a possible intermediary in the trade is likely to have been at Marsa Matru on the Libyan coast, where ostrich eggs have been uncovered in the excavations [7], but ostriches were also living in Syria during the 2nd Millennium, as evidenced by the Mari tablets [8] and the presence of a broken ostrich egg among the finds from the late 14th century Ulu Burun shipwreck [9] seems to favour the latter origin. Making a vase from an egg does not imply a sophisticated technical process that has to be learned from abroad [10], even if specimens of the same class are not attested in earlier contexts on the mainland, but only on Crete and in the Cyclades [11]. The addition of functional parts made of faience, necks 567 and 774 and bottom 573, appears quite compatible with the Aegean tradition of faience manufacture [12]. The faience figures of dolphins applied on the egg 828 from grave V perfectly fit to Aegean iconography and style —the decoration is likely to have been inspired by Minoan items such as the well-known MM III stand with dolphins in high relief from Phaistos and

6 This is emphasized by the representation of ostrich eggs (together with feathers and elephant tusks) among the offerings brought by Nubians on a wall painting from the tomb of Rekhmire (reproduced in J. A. Sakellarakis, «The Fashioning of Ostrich-Egg Rhyta in the Creto-Mycenaean Aegean», *Thera and the Aegean World III, Proceedings of the Third International Congress, Santorini, Greece, 3-9 September 1989,* I Archaeology, London 1990, p. 305, fig. 58).

7 D. White, «1985 Excavations on Bates's Island, Marsa Matruh», *JARCE* 23, 1986, p. 79.

8 M. Yon and A. Caubet, *Kition-Bamboula III. Le sondage L-N 13,* Paris 1985, p. 88. Syria is the most probable origin of the ostrich eggs found on Cyprus (on these and for a list of other finds in the eastern Mediterranean, see D. S. Reese, Appendix VIII [B], in V. Karageorghis, *Excavations at Kition* V, II, Nicosia 1985, pp. 371-382).

9 *Ulu Burun 1986,* p. 9.

10 The technique of manufacture of ostrich egg vases has been studied recently by Sakellarakis (*supra* n. 6), pp. 285-308.

11 The examples are listed in Sakellarakis, *op. cit.*

12 K. P. Foster, *Aegean Faience of the Bronze Age,* New Haven and London 1979, *passim.*

a comparison has been made recently by I. Sakellarakis as far as composition is concerned with the dolphins on the south miniature frieze from the West House at Akrotiri [13]—, as do the running spirals on the faience neck 567. C. Lambrou-Phillipson's hesitations as to whether the faience attachments were fitted to the eggs in the Aegean [14] seem thus not justified. No less significant is the type of vessel and its probable meaning in the funerary context: these eggs have been given the shape and function of rhyta, initially because of their resemblance to ovoid rhyta, and they seem to have been used for regenerating libations performed before the closing of the tomb, according to a symbolism that is well documented in the Mycenae shaft graves and has to be viewed as an expression of the hope on the accession of the deceased to a new life in the afterworld. That this was a typically mainland concern and belief —even though a related meaning is attested in the Near East as well [15]— is suggested by the various instances of closely related symbolical expressions in the shaft grave material and it is confirmed, in the particular case of ostrich eggs, by a slightly later find of similar type in the tholos tomb at Dendra [16]. Mainland specificity is also evidenced by the fact that the ostrich egg rhyta from Crete and the Cyclades do not come from tombs but from settlements or shrines, an observation that largely applies to all types of rhyta [17] and em-

[13] *Op. cit.*, pp. 304-306 (the stand from Phaistos is illustrated on fig. 54). Significant in this respect is that the background of egg 828 has probably been painted.

[14] Lambrou-Phillipson, p. 349, no. 464.

[15] Ostrich eggs have also been given as grave offerings in the Eastern Mediterranean: A. Finet, «L'oeuf d'autruche», *Studia Paulo Naster oblata* II, *Orientalia antiqua,* Louvain 1982, pp. 68-77 and A. Caubet, «Les oeufs d'autruche au Proche Orient ancien», *RDAC* 1983, pp. 193-198.

[16] A. W. Persson, *The Royal Tombs at Dendra near Midea,* Lund 1931, pp. 37 and 54 and pl. III; Id., *New Tombs at Dendra,* Lund 1942, p. 146. On ostrich eggs found in the Aegean, see K. P. Foster, *Aegean Faience of the Bronze Age,* New Haven and London 1979, pp. 130-134.

[17] R. B. Koehl, «The Functions of Aegean Bronze Age Rhyta», *Sanctuaries and Cults in the Aegean Bronze Age, Proceedings of the First International Symposium at the Swedish Institute in Athens, 12-13 May, 1980,* Stockholm 1981, pp. 179-188. See also R. Laffineur, «Fécondité et pratiques funéraires en Egée à l'âge du Bronze», *Archaeology and Fertility Cult in the Ancient Mediterranean. Papers presented at the First International Conference on Archaeology of the Ancient Mediterranean,* Malta 1985 (1986), pp. 83-88 and «Weitere Beiträge zur Symbolik im mykenischen Bestattungsritual», *Kolloquium zur Ägäischen Vorgeschichte, Mannheim, 20.-22.2.1986, Schriften des Deutschen Archäologen-Verbandes* 9, 1987, pp. 125-132.

phasizes basic differences in the function of libation vessels in Crete and on the Mainland.

The present example does not appear as a complex one as far as extra-Aegean connections are concerned. It raises the critical problem, however, of the inner Aegean connections, what could be called the 'domestic' connections, as opposed to the 'international' connections, but those —especially the much discussed question of Helladic vs Minoan— are not the main concern here [18] and the analysis would like to concentrate rather on the extra-Aegean connections.

The following investigation of the finds from the two grave circles at Mycenae will proceed from a general classification and consider successively sheet gold jewellery, tools and weapons, objects of ivory, faience, glass, amber and semi-precious stones as well as solid jewellery, and finally vases.

SHEET GOLD JEWELLERY

Items belonging to the category of sheet ornaments form a homogeneous class as far as their material is concerned, since all

[18] An attempt at a definition of specific features of Mycenaean vs Minoan as far as e.g. goldwork is concerned does not seem possible in the present state of the available information, especially when less documented or even rather isolated technical details are concerned. A. Xenaki-Sakellariou has recently concluded her examination of finger rings in this way when noting that the clearly observable difference between engraved and chased decoration does not surely give a possibility of distinguishing between Minoan and Mycenaean finger rings respectively (A. Xenaki-Sakellariou, «Techniques et évolution de la bague-cachet dans l'art créto-mycénien», in *Fragen und Probleme der bronzezeitlichen ägäischen Glyptik, CMS,* Beiheft 3, Berlin 1989, p. 332). Other examples could be referred to, that would emphasize the danger of looking at archaeological finds just in terms of a dichotomy of elementary nature in order to support an eventual regional distinction. A typical example of this is the alleged distinction between the two gold Vapheio cups, one of which would be of cretan origin and the other one of mainland manufacture (see E. N. Davis, *The Vapheio Cups and Aegean Gold and Silver Ware,* New York-London 1977, pp. 1-50; see a critical view on this in J. G. Younger, «Aegean Seals of the Late Bronze Age: Stylistic Groups, IV. Almond- and Dot-Eye Groups of the Fifteenth Century B.C.», *Kadmos* 24, 1985, pp. 54-55). I think that a definition of specific traits is only possible and valid if general trends in the production are concerned and sufficient numeric series are involved, and if in addition these traits prove to have a connection with fundamental specificities of a cultural entity. On the Minoan-Mycenaean question, see also the methodological approach in J. H. Betts and J. G. Younger, «Aegean Seals of the Late Bronze Age: Masters and Workshops. Introduction», *Kadmos* 21, 1982, p. 121.

of them are made of gold (with very few exceptions). This could appear as a much favourable circumstance and the great amount of documents seems at first glance to favor local production rather than import, but the basic problem of the location of the possible sources of supply of raw material still remains unanswered. Contrary to silver that has certainly been exploited in the Lavrion mines and produced by separation from the local argentiferous lead ore as early as the Early Bronze Age, during the third Millennium [19], gold has not surely been extracted from sources situated in the Aegean, whether Siphnos or Thasos, before historical times [20] and this has led most scholars to search for sources of supply outside the

[19] See the Early Helladic finds from Mine 3 (theatre sector) in Thorikos, Attica: P. Spitaels, «The Early Helladic Period in Mine No 3 (Theatre Sector)», in *Thorikos VIII-1972/1976* (1984), pp. 151-174 (exploitation going back at least to the end of EH II). Traces of stone hammers dating from the same period have also been recognized in Mine 3: M. Waelkens, «Tool Marks and Mining Techniques in Mine No 3», in *Thorikos IX-1977/1982* (1990), pp. 115-143 (some traces covered by a reddish filling containing EH II ceramic material). On the distribution of Lavrion ore in the Cyclades, see most recently Z. A. Stos-Gale and N. H. Gale, «The Role of Thera in the Bronze Age Trade in Metals», in *Thera and the Aegean World III, Proceedings of the Third International Congress Santorini, Greece 3-9 September 1989* I, London 1990, pp. 72-92. Fragments of litharge —the residue of the process of cupellation— have been discovered on a late MH level in Thorikos (J. Servais, «Les fouilles sur le haut du Vélatouri», in *Thorikos III-1965* [1967], pp. 22-24 and fig. 16 and N. H. Gale and Z. A. Stos-Gale, «Thorikos, Perati and Bronze Age Silver Production in the Laurion, Attica», in *Studies in South Attica I, Miscellanea Graeca* 5 [1982], pp. 99-100) and, most recently, in an EBA house at Provatsa on Makronisos (excavation not yet published, the find is mentioned in Spitaels [*supra,* present n.], 171) and in EH II contexts at Koropi, Attica (O. Kakavoyanni, «Subterranean Chambers of Early Helladic Date at Koropi, Attica», in R. Hägg and D. Konsola, eds., *Early Helladic Architecture and Urbanization. Proceedings of a Seminar Held at the Swedish Institute in Athens, June 8, 1985* [1986], pp. 37-39). The Laurion ore was the dominant source of Aegean lead and silver at that period: N. H. Gale, Z. A. Stos-Gale, J. L. Davis, «The Provenance of Lead used at Ayia Irini, Keos», *Hesperia* 53, 1984, pp. 389-406.

[20] Lead from Siphnos has been manufactured in the Early Cycladic period, as well as silver: Gale and Stos-Gale (*supra* n. 19), p. 99, n. 3; N. H. Gale, «Some Aspects of Lead and Silver Mining in the Aegean», in *Technological Studies 1979, Miscellanea Graeca* 2, 1979, p. 36 (the composition of the Naxos lead boat models overlaps with the Siphnian field) and pp. 48-49; H. Matthäus, «Sifnos im Altertum», in *Veröffentlichungen aus dem deutschen Bergbau-Museum Bochum* 31, 1985 (= *Monathistorische Zeitschrift Der Anschnitt,* Beiheft 3), p. 30. There is no more evidence for exploitation of the possible sources of gold in Euboea and Macedonia mentioned in K. Branigan, *Aegean Metalwork of the Early and Middle Bronze Age,* Oxford 1974, p. 63 (with a summary of the evidence for Crete).

Aegean. The Egyptian hypothesis has long been accepted —the Pharaoh would have supplied the kings of Mycenae with large amounts of precious metal as a reward for their help in driving the Hyksos out of the Nile valley, as first suggested by A. W. Persson [21]—, but the fact that the enrichment had already begun at Mycenae in the late MH and transitional period at grave circle B, i.e. prior to the end of the Hyksos dynasty in Egypt, has later been considered as a major obstacle to the Egyptian theory [22]. Alternative sources have been suggested, particularly Anatolia and, more recently, central Rumania. The latter —E. N. Davis' 'Transylvanian Connection'— seems to be supported by typological affinities with Mycenae and might have its origin in a mutual and complementary need for metal in both areas, Rumania having much gold but no bronze, whereas early Mycenaean Greece was in a quite opposite situation [23]. Scientific analyses, unfortunately, are not of decisive help in that matter since they do not give the obvious and unequivocal confirmations that might be expected, particularly in regard to whether Bronze Age gold was alluvial gold or mine gold, whether some inclusions should be considered significant —analyzed objects from the Shaft graves at Mycenae have proved to be made of both platinum-bearing and platinum-free gold— or whether smelting and reuse of metal has not altered its original composition [24].

Whatever the source of the precious metal used by the Mycenaeans may have been, a quantitative evaluation of the archaeolo-

[21] On this Egyptian theory, see lastly J. T. Hooker, *Mycenaean Greece,* London 1976, pp. 49-54.

[22] See e.g. G. St. Korres, «Τὸ πρόβλημα τοῦ χρυσοῦ κατὰ τοὺς πρωιμωτάτους πρωτομυκηναϊκοὺς χρόνους», *Praktika* 1976, pp. 501-504. Recent adjustments in the absolute dates of the transition between Middle and Late Bronze age give a confirmation of the anteriority of the Mycenae shaft graves (P. Warren and V. Hankey, *Aegean Bronze Age Chronology,* Bristol 1989, pp. 66, 97-98 and 138-144: beginning of LH I about 1600 and end of XVth dynasty about 1550), even without accepting Betancourt's high dates.

[23] E. N. Davis, «The Gold of the Shaft Graves: the Transylvanian Connection», in *TUAS* 8, 1983, pp. 32-38. Those contacts between mainland Greece and the Balkans seem to have resulted in the development of gold ware manufacture in the latter area, as has been argued recently in H. Matthäus, «Mykenai, der mittlere Donauraum während des Hajdusamson-Horizontes und der Schatz von Valcitran», *Thracians and Mycenaeans, Proceedings onf the Fourth International Congress of Thracology, Rotterdam, 24-26 September 1984,* Leiden 1989, p. 97.

[24] On this, see J. Muhly, «Gold Analysis and the Sources of Gold in the Aegean», in *TUAS* 8, 1983, pp. 1-14.

gical record indicates a clear difference between the prolific finds from Mycenae and those from contemporaneous Minoan Crete that exhibit an obvious opposite trend to economize on gold, to take E. N. Davis' own words [25]. Such a difference is probably not due to mere chance, but rather reflects a basic difference between more general trends: on the one hand the taste or the need of the Mycenaeans for display and their consequently much greater need for gold and other precious materials and on the other hand the comparatively limited propensity of Minoans for luxury items other than those directly related to everyday life. This is probably not just in the first place a matter of availability of sources of supply, since the lack of directly accessible sources of gold no doubt was not essentially different for Minoans and for Mycenaeans. But the very point seems to be that this originally similar want has been faced differently in Minoan Crete and on the Mycenaean mainland, by adjusting to it and accordingly limiting the production in the first case and by searching for rich sources outside the Aegean in the second case. That two different responses were found for the same problem is not without implications on the level of artistic expression as such, but what matters at the present stage are the possible consequences on the production itself.

Even if they were dependant from sources of gold situated most probably outside the Aegean, the people of the shaft graves have certainly been developing and controlling their own production of sheet gold ornaments and for most of them at least were in no need of foreign inspiration and models. Indicative of this is that items decorated in direct or freehand repoussé technique, gold bands or diadems with relief designs consisting mostly of groups of bosses and dots (1, 3, 37, 184, 219, 229-239, 286-287; A-352/353, Γ-359, E-363/364, Λ-380, 381, 382, 383, N-390, Ξ-404, O-410/411, Y-439) and the associated pieces such as half-diadems (5, 7, 185, 187; E-365, 366, 367, 368, 369) and leaves (15, 17, 19, 25, 62, 86-90, 121, 135-136, 188-189, 385; B-355, E-370, 371, 372, 373, Ξ-401, 402, 403, Y-438) correspond to a tradition that can be traced back to Middle Helladic times [26], whether their shape and

[25] Davis (*supra* n. 23), pp. 32-33.

[26] B. Kling, «Evidence for Local Style on the Shaft Grave Diadems», in *TUAS* 6, 1981, pp. 29-38. On that «boss and dot style», see O. T. P. K. Dickinson, *The Origins of Mycenaean Civilisation,* Göteborg 1977, p. 85 and R. Laffineur, «The Recent Finds from Peristeria and the Origins of Mycenaean Goldwork», a still unpublished paper presented

type are considered, or the designs on them and the technique in which they are produced, their style, as well as their function and meaning in the funerary ritual. Tradition, however, does not exclude innovation. The inventory includes types that have no antecedents in the earlier phases, such as masks (253-254, 259, 623-624; Γ-362), funerary suit or shroud (146), breast-plate (252, 625-626) and the so-called «Gamaschenhalter» (267-272, 637, 652-653, 913-914; A-350, Γ-360, I-378/379)[27]. That those new types are related to the symbolic protection of the deceased by concealing the decay of the body or of its essential parts —a kind of substitute for the mummification— might indicate some Egyptian influence. But such an inspiration would have been limited to general funerary beliefs —the continuation of life after death— since equivalents of those specific new types of grave furnishing are missing in Egypt[28].

The processes of manufacture and decoration are also significantly improving by the introduction of the technique of hammering gold sheet over a mould[29] and its application to much more

at the 1st International Mycenaeological Congress «Pre-Mycenaean and Mycenaean Pylos» at Athens in December 1980. Middle Helladic antecedents in a pure «dot style» are known from Asine, Corinth and Argos: S. Dietz, *Asine II,* Fasc. 2, *The Middle Helladic Cemetery, the Middle Helladic and Early Mycenaean Deposits,* Stockholm 1980, pp. 30, 78 and 83 and fig. 20-21; C. W. Blegen *et alii, Corinth* XIII, *The North Cemetery,* Princeton 1964, p. 8, n° 2-12 and pl. 3; *BCH* 102, 1978, p. 662, fig. 46.

27 For the «Gamaschenhalter», see R. Laffineur, «A propos des 'Gamaschenhalter' des tombes à fosse de Mycènes», in *Atti del II Congresso internazionale di Micenologia, Roma-Napoli, 14-20 ottobre 1991* (forthcoming).

28 See the more ironical comment on this —and on the Egyptian origin of Mycenaean gold referred to above— by Emily Vermeule: «The 'romance' of the princes of Mycenae in the Delta is really without any foundation. The fullest version of the scenario runs, that Kamose and Ahmosis invited some poor Middle Helladic farmers down to Memphis by special courier, to help them expel the wicked Asiatic Hyksos from Avaris, and gratefully paid the Mycenaean mercenaries in loot from the Hyksos capital as well as in Egyptian gold. In addition, these primitive Mycenaeans were frightfully impressed with the culture of Egypt and its view of the afterlife, so that on their return home they began to build more capacious tombs, to mark them with stelai representing the false doors of Egyptian tombs through which spirits might return...; they began to cover their faces with gold masks in imitation of mummy cartonnages...; while they were in Egypt they learned to hunt wild animals from chariots..., stimulated brisk trade in Keftiu objects, and possibly brought back brides» (E. T. Vermeule, *The Art of the Shaft Graves of Mycenae,* Norman 1975, p. 19, n. 32).

29 On the technique, see R. Higgins, *Greek and Roman Jewellery,* 2nd ed., London 1980, pp. 14-15. Stone moulds have been found in the excavations. A catalogue of them is given in Th. E. Haevernick, «Beiträge zur Geschichte des antiken Glases, III.

numerous ornaments decorated with identical figurative motifs, either of regular geometric shape (2, 4, 6, 8-14, 16, 18, 20-21, 38, 69, 127, 129, 264, 379, 640-648, 651, 655, 666, 691-722) or cut along the outline of the design (26-32, 36, 39-52, 60, 75, 79-80, 119-120, 128, 138, 242-244, 302, 353-357, 360-361, 364, 373-375, 376, 378, 386-387, 689, 792, 798). A variation of the same process of manufacture consists in repeating an identical relief design several times on a single document through successive hammerings of the sheet in the same cavity of a mould (23: sheet with waz-lily motifs from shaft grave III). This had probably already been used for raising individual designs (bosses, rosettes) on some gold diadems. A third application is illustrated by three-dimensional human and animal figures, the former made of a front half and a rear half soldered together, the latter of a single embossed sheet attached to a flat base. Several identical figures are attested in only one instance in grave circle A (32: 4 small lions from shaft grave III), but the regularity of modelling and details that other single figures exhibit [30] confirms that they could only be achieved by such a process.

That technical improvement and the possibility it gives of a mass-production —in fact the most significant innovation— has certainly to be connected at Mycenae with the activity of craftsmen working for the rulers of grave circle A since ornaments made in this technique are completely missing in grave circle B. But craftsmen working in the southwestern Peloponnisos might have been the very initiators of the technique, since the new process has been applied at an early stage to figural motifs on the handles of the gold kantharos recently found at Peristeria in a context belonging to the transitional period [31]. The very stimulus for improving the

Mykenisches Glas», in *JRGZM* 7, 1960, p. 39, n. 9, E. T. Vermeule, «A Mycenaean Jeweler's Mold», in *Bulletin of the Museum of Fine Arts Boston* 339, 1967, p. 31, n. 4 and J. A. Sakellarakis, «Matrizen zur Herstellung kretisch-mykenischer Siegelringe», in *Studien zur minoischen und helladischen Glyptik, CMS* Beiheft 1, Berlin 1981, p. 167, n. 3. Some moulds have been discovered recently in Mycenae (*BCH* 91, 1967, p. 659, fig. 18; Fr. Schachermeyr, *Die Ägäische Frühzeit,* II, *Die mykenische Zeit und die Gesittung von Thera,* Vienna 1976, pl. 30, b), Nichoria (*Hesperia* 44, 1975, p. 121 and pl. 28, a), Thebes (*AAA* 7, 1974, pp. 164-165 and fig. 1-2) and Knossos (J. N. Coldstream, *Knossos. The Sanctuary of Demeter,* Oxford 1973, p. 121 and fig. 26).

30 Karo, 275 (lion).

31 G. St. Korres, *Praktika* 1976, p. 498, fig. 8 and pl. 263. On the similar decoration that appears on the handles of a nearly identical vessel in the Tôd treasure, see *infra.*

technique and making it appropriate for mass production seems to be the complementary needs of early Mycenaeans both for abundant, simple and non-solid jewellery of exclusively funerary use and for making the symbolism of most of the images more efficient through the repetition of several identical designs —in addition to the almost exclusive use of an unperishable material and to the tautological association of several images of different animals or of hints at both vegetal renewal and animal regeneration to the same burial [32].

That the innovation has been developed —if not introduced— at a relatively late date in the history of grave circle A is further indicated by the fact that the series of ornaments with identical figured designs and the three-dimensional human and animal figures are attested only in shaft graves III, IV and V, attributed to the latest and to the middle phases [33]. A further indication of the obviously local character of gold sheet ornaments are the close connections that the manufacture of hollow moulds implies with gem cutting and which may well account for iconographical and stylistic similarities between gold ornaments and seals and might lead to the suggestion that the engraving was made in both cases by the same people and in the same workshops since it requires much the same skill.

It has been J. Younger's merit to be the first to investigate the possibilities of attributing artifacts in different media to a single workshop on the basis of similarities both in style and techniques [34],

[32] Association of different animals in shaft grave III at Mycenae: Karo, 30-31, 39-40 (poulp), 45-46 (stag), 49, 51 (butterfly); additional reference to vegetal renewal in the same tomb: Karo, 79 (lily), 77 (pomegranate). Both can be associated on a single object, e.g. the association plant-stag: Karo, 45-46.

[33] See lastly I. Kilian-Dirlmeier, «Beobachtungen zu den Schachtgräbern von Mykenai und zu den Schmuckbeigaben mykenischer Männergräber. Untersuchungen zur Sozialstruktur in späthelladischer Zeit», *JRGZM* 33, 1986, pp. 167-176. Manufacture of gold items on moulds was practised by Minoan craftsmen, but the technique seems to have been limited to solid cast objects (e.g. earrings) and apparently not used —with a single notable exception from Poros (St. Alexiou, *AAA* 1, 1968, pp. 253 and 254, fig. 4)— for sheet gold ornaments, a category that is especially suited to funerary needs. For further comments on the relationship between Crete and Mycenae on that topic, see R. Laffineur, «Poluchrusos Mukene —Mycenae Rich in Gold: toward a Definition of Mycenaean Goldwork», in *Proceedings of the International Symposium Ancient Jewelry and Archaeology, Indiana University Art Museum, Bloomington, 26-28 September, 1991* (forthcoming).

[34] For the first time in «The Mycenae-Vapheio Lion Group», *AJA* 82, 1978, pp. 285-299.

and to try to find there among others further evidence for the Minoan-Mycenaean question. The basic idea of multi-media workshops seems highly acceptable, since one can hardly imagine that the shaft graves rulers, however rich they may have been, had at their disposal, in order to satisfy their artistic needs, as many individual craftsmen or workshops as the number of different materials used or as the number of different classes of objects made. Such an overleaping of the arbitrary partitions that are usually set between works of art in different media is also significant since it provides reasonable possibilities of identifying the hand of individual artists and Younger's contribution has been important in that respect. Without questioning the groupings of *seals* and the strict methodology on which they are based [35], since I am not an expert in seals, I must confess, however, that I wonder whether J. Younger is not going too far when he suggests associations with *other classes of objects,* especially whether he is right when he attributes to the earlier stage in the Mycenae-Vapheio Lion Master's workshop some sheet gold ornaments, «the Cup of Nestor 412, ... the arcade cups 220, 627 and 628, the silver nail and goddess 75, ... the electrum mask from Grave O in Grave Circle B, gold masks 253 and 254, ... and [because of the similar ears] the child's gold shroud 146» [36] or when the stag-rhyton 388 is said to be attributable to the «Master of the Gold Box 808-811» because the profile of the former could be a three-dimensional version of the stags on the gold plating of the latter [37]. That e.g. the works to be attributed to the first mentioned workshop could be even greater will be indicated by another example: the running lions on the dagger blade 395 are so close to the

[35] For the basic methodology, see J. H. Betts and J. G. Younger, «Aegean Seals of the Late Bronze Age: Masters and Workshops. Introduction», *Kadmos* 21 1982, pp. 114-121 (especially 118-119 for a distinction between master, workshop, group and style).

[36] J. G. Younger, «The Mycenae-Vapheio Lion Workshop, III», *TUAS* 6, 1981, p. 68. Two stelai are added to the list of items attributed to the later stage of the same workshop, an opinion that has been criticized by G. Kopcke («Treasure and Aesthetic Sensibility - The Question of the Shaft Grave Stelai», *TUAS* 6, 1981, p. 42, n. 1 and 39: «...hands trained to do complicated work in copper and bronze are unaccustomed to carve in stone»), who stresses «the utter disregard of aesthetic considerations to which the stelai bear witness», as well as their «aesthetic indigence». For a more recent list of works of art by the Mycenae-Vapheio Lion Master and by his workshop, see J. G. Younger, «Aegean Seals of the Late Bronze Age: Masters and Workshops, III. The First-Generation Mycenaean Masters», *Kadmos* 23, 1984, pp. 48-49.

[37] J. G. Younger, «The Mycenae-Vapheio Lion Workshop, III», *TUAS* 6, 1981, p. 69.

hunting lions in flying gallop on the hull of the «admiral's ship» on the south miniature frieze in the West House at Akrotiri [38] —in fact much closer than to other images listed in Younger's inventory—, that the two series of images might have equally been made by the same artist, that consequently he should have been goldsmith and painter —not to forget his activity as gem cutter— and that finally one could call him rather the «Mycenae-Vapheio-Akrotiri Lion Master» [39]. It may be asked in addition whether it is really possible, in a classification based on stylistic evidence alone —and even if Younger's thinking has evolved from the notion of «Artists and Workshops» to the less specific notion of «Groups» [40]— to distinguish in such a subtle way between items attributed to the Master, «associated» items, others that are «close, possibly by the Master», and further «related» items and «dependent» items [41] —not to forget the later survivals of earlier styles [42]. Another im-

38 On this similarity see R. Laffineur, «Mycenaeans at Thera: Further Evidence?», in *The Minoan Thalassocracy. Myth and Reality. Proceedings of the Third International Symposium at the Swedish Institute in Athens, 31 May-5 June, 1982,* Stockholm 1984, pp. 134-136.

39 Younger himself admits that some similarities exist between lions depicted on works by the Mycenae-Vapheio Lion Master and on items from much more distant context, such as the axe-blade and dagger of the Egyptian Queen Ahhotep and the well-known gold finger ring from tomb 18 at Enkomi and that his «criteria for determining style are often not specific enough to warrant exclusive attribution of an artifact to a specific individual» («Aegean Seals of the Late Bronze Age: Stylistic Groups, IV. Almond- and Dot-Eye Groups of the Fifteenth Century B.C.», *Kadmos* 24, 1985, p. 49).

40 *Op. cit.*, pp. 48-50. The main reason for a sceptical attitude is not the small amount of artifacts, as suggested, but the lack of firm evidence, provided e.g. by signatures and allowing the sure identification of a first series of works representing the artist's personality to which other unsigned works may be subsequently compared (the method used for archaic sculpture and for Athenian Black Figure and Red Figure vase painting).

41 J. G. Younger, «Aegean Seals of the Late Bronze Age: Masters and Workshops, II. The First-Generation Minoan Masters», *Kadmos* 22, 1983, p. 135 (for the activity of the Master of the Isopata Ring; on the principle of those distinctions, see J. H. Betts and J. G. Younger, «Aegean Seals of the Late Bronze Age: Masters and Workshops. Introduction», *Kadmos* 21, 1982, p. 119). An equally subtle distinction between the 'Mycenae-Vapheio Lion Master', the 'Mycenae-Vapheio Lion Master's workshop', the 'Mycenae-Vapheio Circle' and the 'School of the Mycenae-Vapheio Lion Master' (J. G. Younger, «Aegean Seals of the Late Bronze Age: Masters and Workshops, III. The First-Generation Mycenaean Masters», *Kadmos* 23, 1984, pp. 46-49 and 53-62).

42 Most significant in this respect are the glass seals from Medeon (some of them coming from a LH IIIC context), the style of which goes back to that of the Master of the Gold Box 808-811 (the gold box from the shaft graves): J. G. Younger, «Aegean Seals of the Late Bronze Age: Masters and Workshops, III. The First-Generation Mycenaean Masters», *Kadmos* 23, 1984, pp. 52-53.

portant question that would be worth investigating —further than by identifying a Mycenae subgroup and a Vapheio subgroup— is the way in which items attributed to a single craftsman or workshop have come to the different sites on which they have been uncovered (seals from Vapheio, Rutsi, Nichoria, Argos and Knossos for the Mycenae-Vapheio Lion Master's workshop; seals from Vapheio, Rutsi and from the Vagenas tomb at Pylos for the «Master of the Gold Cup 656»[43]). Is the geographical distribution the consequence of trade within the Mycenaean mainland or have the cratfsmen been travelling? What are the implications, on the other hand, when items considered as originating in a single workshop are found in contexts belonging to different chronological phases? Is the significant time gap between the shaft graves items and the Nichoria seal (LH I-LH IIIA:2-B), all supposed to come from the Mycenae-Vapheio Lion Master's workshop, just a sign that the latter was a heirloom[44]? Accepting this for the latest items in the series and excluding them consequently for the chronological approach, do we have to conclude that the workshop was active between about 1550 and 1450 or that there were in fact two different workshops, or simply two different craftsmen, one in Mycenae in the earlier part of the period, working for the shaft graves rulers, and one in Vapheio in the later part, working for the Vapheio ruler, and that the similarities between the production of the two could better be explained by the fact that they had been in contact at some time between the two dates? Since the evidence of associations appears finally so slight, is it really worth speculating further on the number of craftsmen as J. Younger does: «...at least two artists for the Lion workshop (Master and his apprentice who later takes over), and probably at least two others for the rest of the

[43] J. G. Younger, «The Mycenae-Vapheio Lion Workshop, III», *TUAS* 6, 1981, p. 68.

[44] On this J. H. Betts and J. G. Younger, «Aegean Seals of the Late Bronze Age: Masters and Workshops. Introduction», *Kadmos* 21, 1982, pp. 111-112. Some chronological implications of the groupings, on the other hand, appear as invested with much importance: «The presence at Knossos of three sealings impressed by Rhodian Hunt seals and of a fourth impressed by an I[sland] S[anctuaries] seal raises once again the problem of dating the destruction of Knossos that fired both sealings and tablets... and supports a date later than LM IIIAi end for a fire destruction at Knossos that destroyed the bureaucracy and the production of art objects» (J. G. Younger, «Aegean Seals of the Late Bronze Age: Stylistic Groups, VI. Fourteenth-Century Mainland and Later Fourteenth-Century Cretan Workshops», *Kadmos* 26, 1987, p. 62).

Shaft Grave lions»[45] and even on the time span of their activity[46] as well as on their place of origin and the eventual evolution of their style[47]? A more reasonable approach, I think, should be limited to associations between classes of objects sharing really similar techniques and requiring really similar skills, such as gem cutting and carving stone moulds for beating gold sheet ornaments or pouring faience or glass paste beads[48] —the gilding of stone seals is a further sign of close connections between gem cutting and jewellery[49]— or even for raising the decoration of precious metal vases, as will be suggested later on, or, when different techniques and materials are concerned, between the processes involved in the successive stages in the manufacture of individual items, such as the prestige weapons with gold plating (covering of haft) and additional parts in stone or ivory (haft and pommel). The scale of the objects should be considered as well, not only when the difference between the associated pieces is so significant as between a sealstone and a monumental stele or even the Lion Gate relief[50].

To come back to the technical aspect, and on a more general level, a still closer relation must have existed at a somewhat later date between jewellery and manufacture of coloured glass beads. The perfect identity of design and dimensions that may be observed and measured on some ornaments in the two series gives evidence that cavities on the same moulds must have been used in some cases both for beating sheet gold and for pouring liquid glass paste[51]. This, again, is a sign of further technical improvement, but a first stage has been achieved as early as the shaft grave period,

45 J. G. Younger, «The Mycenae-Vapheio Lion Group», *AJA* 82, 1978, p. 296, n. 16.

46 *Ibidem,* pp. 296-297 (with reference to the career of Benvenuto Cellini!).

47 E.g. J. G. Younger, «Aegean Seals of the Late Bronze Age: Masters and Workshops, III. The First-Generation Mycenaean Masters», *Kadmos* 23, 1984, p. 47: «the M[ycenae]-V[apheio] Lion Master was a Minoan by race who emigrated to Mycenae where his already formal style matured». Also Id., «Origins of the Mycenae-Vapheio Lion Master», *BICS* 26, 1979, pp. 119-120 (close connections with Zakro).

48 For the related technique of manufacturing glass seals, see I. Pini, «Spätbronzezeitliche Ägäische Glassiegel», *JRGZM* 28, 1981, pp. 63-69.

49 On gilded seals, see J. G. Younger, «Aegean Seals of the Late Bronze Age: Masters and Workshops, II. The First-Generation Minoan Masters», *Kadmos* 22, 1983, p. 130.

50 J. G. Younger, «Aegean Seals of the Late Bronze Age: Masters and Workshops. III. The First-Generation Mycenaean Masters», *Kadmos* 23, 1984, pp. 62-64 (a series of seals attributed to the «Master of the Lion Gate Relief»).

51 For references to examples of such identity, see Laffineur (*supra* n. 33).

preliminary to its standardization during the subsequent phases, since the few identical faience relief beads found in the grave circles (71; Ξ-241, Y-243/245) were obviously manufactured by pouring into the cavity of a mould [52]. The picture we gain from the above observations is that craftsmen working in different media, gold ornaments and faience beads —and later glass paste beads (a relation between the three materials is also attested slightly later in the case of three-dimensional figures [53])— as well as seals were technically dependant from each other. A still closer connection for the latter is indicated by the manufacture of seals of glass paste on matrices with relief designs, a variety of mass production that I. Pini considers as having probably been initiated on the mainland [54]. Whatever the consequences on possible attributions to specific workshops or hands may be, this very circumstance no doubt emphasizes the essentially local character of the production —the faience relief beads have been made on the mainland according to K. Foster [55]—, as well as the direct and strict control that the palatial administration must have exercised on the activities —though evidence for this can be attested in later phases only.

It should finally be pointed out that the high majority, if not the whole of early Mycenaean sheet gold jewellery belongs to the category of funerary ornaments made exclusively for funerary use and intended to suit specific funerary beliefs, i.e. beliefs of essentially local nature. A strictly local production has even been suggested recently. The tiny pieces of gold sheet found near one of the skeletons in the tholos tomb at Kazarma have been interpreted by E. Protonotariou-Deïlaki as the scraps fallen to the ground while the carftsman was cutting the pieces of the funerary ornamentation [56]. Such a practice of manufacturing gold ornaments in the

[52] About the casting of faience beads and trinkets in moulds, see K. P. Foster, *Aegean Faience of the Bronze Age,* New Haven and London 1979, pp. 6-7 and 120-121.

[53] The identity between the specimens of a series or the regular modelling of individual figures may be observed, respectively on 20 small glass paste female figures from chamber tomb 2 at Mycenae (Xenaki-Sakellariou, pp. 55-56, no 2286 and pl. 1 [5 specimens illustrated]) and on two faience ox figures from chamber tomb 82 (Xenaki-Sakellariou, p. 233, no 3124 and pl. 111 and II), which give evidence of manufacture by pouring the material into a mould.

[54] Pini (*supra* n. 48), p. 77.

[55] K. P. Foster, «Faience from the Shaft Graves», *TUAS* 6, 1981, pp. 10-11.

[56] «Burial Customs and Funerary Rites in the Prehistoric Argolid», in *Celebrations of Death and Divinity in the Bronze Age Argolid, Proceedings of the Sixth International Sympo-*

tomb itself, while laying down the deceased and the offerings, was probably not used systematically, but it gives additional insight into the conditions in which the goldsmiths were working, as well as a final indication of the local character of Mycenaean sheet gold jewellery.

TOOLS AND WEAPONS

The great majority of tools and weapons found in the shaft graves belong to types that are of distinctly local or at least Aegean origin [57] and for which antecedents are attested in earlier phases. Imported objects are relatively few in that category and they appear only in somewhat later contexts, as has been recently reassessed by Lambrou-Phillipson. The earliest example from the Greek mainland is the well-known fenestrated axe from the tholos tomb at Vapheio [58].

Since the great majority of tools and weapons from the shaft graves are made of bronze (or copper) the main question, however, is the origin of the raw materials, copper and tin, used for their manufacture —a situation that is much the same as for gold jewellery.

The provenance of copper has been the subject of extensive investigation in the recent years, for the whole Bronze Age, but especially for the Late Bronze Age, using scientific analyses, and the picture we can get at present has been summarized by the Gales at the Third Thera Congress in 1989 [59]. Since evidence is missing for the early Mycenaean period, a tentative evaluation of the problem has to rely on data available for early Late Minoan Crete, even

sium at the Swedish Institute at Athens, 11-13 June, 1988 [1990], pp. 79-80 and fig. 15. A similar interpretation for small fragments of thin gold foil from grave circle A at Mycenae (Karo, 108), «...offenbar Abfälle, die beim Ausschneiden von Plättchen aus einem grösseren Blech übrig blieben».

57 See the summary in R. Treuil, P. Darcque, J.-C. Poursat and G. Touchais, *Les civilisations égéennes du Néolithique et de l'Age du Bronze,* Paris 1989, pp. 342-344 (as far as the swords are concerned, a Minoan origin appears undisputable for type A, whereas type B is considered as helladic).

58 Lambrou-Phillipson, pp. 363-364, no 508.

59 Z. A. Stos-Gale and N. H. Gale, «The Role of Thera in the Bronze Age Trade in Metals», *Thera and the Aegean World III, Proceedings of the Third International Congress, Santorini, Greece, 3-9 September 1989,* I Archaeology, London 1990, pp. 72-92.

though specific conditions might have been prevailing in the two geographical units. Lead isotope analyses and neutron activation analyses of gold and silver trace elements «make it clear that the sources of copper for the LM I oxhide ingots excavated on Crete [LM IA: Ayia Triada, Kato Zakro, LM IB: Gournia, Tylissos] were not in Cyprus and not in Lavrion or Kythnos», but most probably in Syria and Mesopotamia [60]. A significant change in copper supplies must have occured in the succeeding LM II period, since bronze objects from the Unexplored Mansion at Knossos appear to have been made of copper from Lavrion (15 items) and from Cyprus (3 items) [61], a quite similar conclusion being achieved for bronzes from Western Crete (LM IA to LM IIIB), with very similar proportions, Lavrion being again a major source and Cyprus a minor one [62]. Relatively identical results for bronze objects from Akrotiri on Thera show that the access to the Lavrion and Cypriote sources must have begun earlier [63]. That geographical conditions certainly have played a decisive role is indicated by the relative proximity of Attic sources, that are evidently nearer to Akrotiri than to Crete. Since Mycenaean Argolid appears in an even more favourable situation of proximity, should it be surprising that the shaft graves rulers were using Lavrion ore as the main source for the manufacture of bronze objects at musch the same time as Therans were? And are those probable economic contacts between Therans and early Mycenaeans not one of the main reasons, if not the very reason, of the affinities that can be detected between theran and mainland productions at the beginning of the Late Bronze Age? A confirmation of contacts between Thera (and other island such as Kea and Melos) and Attica, as well as of the source of early Mycenaean economic power is given by lead isotope analyses of fragments of lead and litharge from Akrotiri, Ayia Irini and Phylakopi that show a correspondence with the Lavrion field —and significant differences with Cycladic galenas— and indicate that silver smelting was practised on the islands using Lavrion ore and not local ores, that prove to have a much lower silver content [64]. The quantitative import-

60 *Op. cit.*, p. 80 and fig. 10 and 12.
61 *Ibidem* and fig. 14.
62 *Ibidem* and fig. 15.
63 *Ibidem* and fig. 16.
64 *Op. cit.*, p. 86 and fig. 20.

ance of the finds of litharge from Akrotiri is perhaps indicative of the predominant role played by Thera in the re-distribution of extracted silver and manufactured objects in the Cycladic area and even as far as Crete and this in turn could well account for the close relations that appear to have existed between Thera and both LM IA Crete and early Mycenaean mainland.

As far as the eastern source is concerned, the evidence from analyses points to an increasing importance of Cypriot ore from about the end of the 15th century till the end of the Bronze Age [65], e.g. at Mycenae, Tiryns and Perati, an observation that perfectly fits the data available from the Ulu Burun and Cape Gelidonya shipwrecks, both having revealed ingots made of Cypriot copper travelling from east to west [66]. The Cypriot source, however, does not appear as vital for the Mycenaeans and the contribution of Lavrion must have remained substantial, as emphasized by finds from Kea, Tiryns, Menidi and Perati and by the result of recent examination of bronze double axes and tripods from Mycenae [67]. The present conclusion of the Gales is that «the copper from Cyprus was reaching the Aegean as a sideline trade» and that «the Minoan and Mycenaean long distance trade in Late Bronze Age II and III times may not have been chiefly concerned to obtain copper; it may rather have been concerned more with the import of tin and perhaps gold» [68].

What now about tin sources? Since it is not available in the Aegean [69], nor in significant quantities in Anatolia [70], tin had to be imported from farther. The evidence for such a trade is very scanty indeed but a suggestion made by the Gales is worth considering, namely that «silver was perhaps a very useful commodity in the trade for tin» —as seems to be corroborated by references to silver

65 *Op. cit.*, p. 84 and fig. 10 and 13.

66 *Op. cit.*, fig. 13.

67 *Op. cit.*, p. 84 and fig. 17.

68 *Op. cit.*, p. 89.

69 J. D. Muhly, «Sources of Tin and the Beginnings of Bronze Metallurgy», *AJA* 89, 1985, p. 285.

70 Muhly (*supra* n. 69), pp. 277-278 and 284-285. Tin has been recently discovered in the Taurus mountains: K. A. Yener, «Tin in the Taurus Mountains: the Bolkardag Mining Survey», *AJA* 90, 1986, p. 183 (stannite found in argentiferous galena ores) and K. A. Yener and H. Özbal, «Tin in the Turkish Taurus Mountains: the Bolkardag Mining District», *Antiquity* 61, 1987, pp. 220-226.

and gold used as exchange for the purchase of tin in the Mari archives[71]— and that «together with largely sufficient resources of copper for local needs, it might have been a sound basis for the Mycenaean economic power»[72]. The Ulu Burun ship, wrecked along the sourthern coast of Turkey near Kaş while sailing from east to west sometime in the late 14th/early 13th century[73], provides precious, though isolated information about the probable eastern origin of the material since it was carrying tin ingots[74] —as the Gelidonya ship some decades later[75]. Such an eastern source would no doubt better fit the general picture of the development and diffusion of metallurgical activities in the ancient world than the traditionally suggested sources in the West, western Iberia, Brittany and Cornwall, and as recently emphasized by J. D. Muhly, «the discovery of major tin deposits in Afghanistan is one of the most exciting recent developments regarding sources of Bronze Age tin»[76], not to forget that Afghanistan is the most likely source of lapis lazuli and that it has also rich deposits of gold. A confirmation of the east-west direction of tin trade, that could have travelled as far as Crete, is given by a tablet from Mari, dated to the beginning of the 18th century (early in the reign of Zimri-Lim) and recently discussed in detail by M. Heltzer. The text mentions amounts of tin coming from the east, most of it from Elam, parts of which have then to be sent to individuals in Qatna, Hazor and Ugarit, as well as to a Caphtorite[77], who is said to have enjoyed the status of

71 M. Heltzer, «The Trade of Crete and Cyprus with Syria and Mesopotamia and their Eastern Tin-Sources in the XVIII-XVII Century B.C.», *Minos* 24, 1989, pp. 17-23 (the ratios of gold-tin and silver-tin are indicated).

72 *Op. cit.*, pp. 88-89.

73 The provisional interpretation is that «the ship sank sometime during, and most likely at the end of, the Amarna period, or slightly later, and there really is no substantial evidence for a refinement of this date» and that «a date at the end of LH IIIA:2, or probably just after the Amarna period but still within the 18th Dynasty, would not be unrealistic» (*Ulu Burun 1985*, p. 34)

74 *Ulu Burun 1984*, pp. 276-277; *Ulu Burun 1985*, pp. 8-10.

75 On the identification of the tin ingots from the Gelidonya shipwreck, see *Ulu Burun 1984*, p. 272, n. 9.

76 Muhly (*supra* n. 69), p. 281. Elam is a possible source as well: M. Heltzer (*supra* n. 71), p. 13 and 20.

77 Muhly (*supra* n. 69), p. 282. On this text, see also S. Dalley, *Mari and Karana. Two Old Babylonian Cities*, London and New York 1984, pp. 64-65.

«chief trader» (*tamkar*) in Ugarit [78]. The alternative sources that Tuscany and Sardinia could have been for Mycenaean Greece [79], according to Muhly, as well as, most probably through indirect contact, northwestern Europe —in much the same way as baltic amber does not imply a Mycenaean presence on the baltic shores [80]— or, less likely since apparently not exploited before Medieval times, the Erzgebirge in Bohemia, are certainly worth considering, but they are not supported by such obvious archaeological evidence as the one provided by the Ulu Burun shipwreck. Whether tin has been traded along quite the same route, from the East through the eastern Mediterranean to the Aegean during early Late Bronze Age, is not confirmed [81], but the 18th century evidence from Mari and

78 See the most recent and thorough discussion of the text by Heltzer (*supra* n. 71), pp. 10-13.

79 The use of tin in Mycenaean Greece is not limited to its association with copper for making bronze. A coat of metallic tin has often been applied to the outer surface of clay vases, most probably in order to give them the appearance of metal vessels, particularly silver vessels (S. A. Immerwahr, «The Use of Tin on Mycenaean Vases», *Hesperia* 35, 1966, pp. 381-396 and M. Pantelidou, «Επικασσιτερωμένα ἀγγεῖα ἐξ 'Αθηνῶν», *AAA* 4, 1971, pp. 433-438). A further, though isolated use of tin is the lining of the inside of the ivory pyxis from the Athenian agora (S. A. Immerwahr, *The Athenian Agora,* XIII, *The Neolithic and Bronze Ages,* Princeton 1971, p. 166).

80 See the general statement in A. Harding and H. Hughes-Brock, «Amber in the Mycenaean World», *BSA* 69, 1974, p. 145: «...its presence [of amber] in a given context does not imply cultural contact, but only some sort of exchange system».

81 The first part of the trade route can just be conjectured, as suggested by Muhly: tin seems to have been transported through the Gulf (and through Dilmun, since at Ebla gold and tin are weighed according to the standard of the Dilmun shekel), «up the Euphrates to Mari from undisclosed sources in the east, perhaps from Afghanistan» (Muhly [*supra* n. 69], p. 282), and then further westward till Ugarit. The second part of the route can be reconstructed from the evidence of shipwrecks or underwater discoveries along the coasts of southern Turkey: «The Ulu Burun wreck, then, appeared to be another indication of a sea-route for the east-to-west transport of copper in the eastern Mediterranean throughout the Late Bronze Age: ships hugged the coast around the bay of Antalya, as evidenced by a probable 16th- or 15th-century B.C. wreck near Side, continued past Gelidonya Burnu, as shown by the ship which sank there around 1200 B.C., then rounded the next cape, Ulu Burun, before passing Deveboynu Burnu (Cape Krio [off Knidos]), where a copper ingot is reported to have been netted in water more than 100 m. deep by sponge-dragger Mehmet Imbat» (*Ulu Burun 1984,* pp. 270-272). The early date for the Side wreck —if it proves indeed to be a wreck, since attempts at a precise location have been so far unsuccessful— is suggested by the fact that the copper ingots recovered by sponge divers belong to Buchholz's Type 1, that appears more common in the 16th and 15th centuries than in the 14th and 13th centuries. Ingots of Type 1, however, are depicted in 14th century Egyptian art and the Ulu Burun find «provides the first concrete evidence for the contemporaneous use of ingots of Types 1 and 3» (*Ulu Burun 1984,* pp. 270-272, n. 7 and p. 276).

the evidence from Kaş indicate that the origin of the material must have remained unchanged in nearly five centuries [82] —only the equally important role of Mari must soon have been taken over (by Halab?) since the site is definitely destroyed in 1757 [83].

Techniques for shaping tools and weapons are also carrying on earlier Aegean traditions and do not imply new processes that would have been learned from abroad. The decoration of precious weapons, however, deserves special attention since unprecedented features appear in the shaft graves material. Plating the haft and hilt of swords and daggers with gold sheet and inlaying it with coloured materials are not innovations to be attributed to early Mycenaean craftsmen, as empasized by the recently discovered weapons from Quartier Mu at Malia [84] and from a MH tomb on Aegina [85] and the dagger of early protopalatial date in the Mitsotakis collection [86]. Coloured inlays in cloisonné technique are attested in the Aegean as well, even though not surely earlier than the earliest examples from the Mycenae shaft graves [87]. Assembling a weapon from separately made parts, blade, hilt, haft and pommel

82 That Ugarit continued to play a major role in the trade connections between the Near East and Crete as late as the middle or the end of the 13th century is evidenced by the texts of Ugarit: M. Heltzer, «Sinaranu, Son of Siginu, and the Trade Relations between Ugarit and Crete», *Minos* 23, 1988, pp. 7-13 (Sinaranu, a prominent Ugaritic merchant [*tamkar*], contemporary of King Ammistamru II, son of Niqmepa, waiting for one of his ships coming from Crete). A trans-Anatolian route has also been suggested for tin, however: J. D. Muhly, «On the Shaft Graves at Mycenae», *Studies in Honor of Tom B. Jones* (*Alter Orient und Altes Testament* 203), Kevelaer 1979, p. 322.

83 M. Heltzer, «The Trade of Crete and Cyprus with Syria and Mesopotamia and their Eastern Tin-Sources in the XVIII-XVII Century B.C.», *Minos* 24, 1989, pp. 25-27.

84 B. Detournay, in *Fouilles exécutées à Mallia. Le Quartier Mu II* (*Études crétoises* XXVI), Paris 1980, pp. 147-149, no 219. See also the swords from the palace (F. Chapouthier, *Mallia. Deux épées d'apparat* [*Études crétoises* V], Paris 1938), the chronology of which has been the subject of a detailed examination by O. Pelon, «L'épée à l'acrobate et la chronologie maliote», *BCH* 106, 1982, pp. 165-190 and «L'épée à l'acrobate et la chronologie maliote (II)», *BCH* 107, 1983, pp. 679-703.

85 H. Walter, *AAA* 14, 1981, p. 182 and fig. 8, right (the same tomb contained a bronze sword with gold pommel).

86 A. Xenaki-Sakellariou, «Poignard minoen de la collection Mitsotakis avec poignée en or ouvragée», *RA* 1986, 2, pp. 235-244.

87 E.g. on a ring from Phaestos (S. Hood, *The Arts in Prehistoric Greece,* Harmondsworth 1978, fig. 207A; Higgins [*supra* n. 29], pl. 11A) and on a bead from Sellopoulo (K. Kristalli-Votsi, «Τὰ δακτυλίδια ἀπὸ τὰ 'Αηδόνια Κορινθίας», Φίλια Ἔπη εἰς Γ. Ε. Μυλωνᾶν, Γ, Athens 1988, pl. 9b).

(generally made of alabaster), using studs and rivets, it not a more complicated process that would require foreign models. Even the repoussé decoration on precious metal parts of weapons clearly derives in some cases from Minoan models, as is especially evidenced when comparing the circular composition on sword pommel 295 from shaft grave IV and the well-known gold pommel with the acrobat motif from Mallia [88].

But the situation appears quite different when metal inlaying is concerned. The inlaid bronze daggers from grave circle A are the first specimens of the technique in the Aegean and though without antecedents on the Greek mainland or in Crete they appear to reach at once a high degree of technical skill and artistic quality [89]. Only a foreign origin seems to account for such a paradox and the area from where the inlaid daggers could have been imported into Greece would be the Levantine coast, since the only true parallels for the daggers from Mycenae are inlaid weapons such as the blade (harpe) of Ypchemouabi from Byblos, found in a context of Amenemhat IV [90], and similar specimens from Sichem [91] and in Mün-

[88] The comparison has been made recently by G. Walberg (*Tradition and Innovation. Essays in Minoan Art,* Mainz 1986, p. 91).

[89] On Mycenaean metal inlay see R. Laffineur, «L'incrustation à l'époque mycénienne», *AC* 43, 1974, pp. 5-37 and *Peinture en métal.* On the possible occurrence of inlay in Crete, it should be reminded that the Egyptian tomb-paintings with Keftiu people carrying inlaid vases are later than the shaft graves period (tombs of Senenmut, Ouseramon, Rekhmarê and Menkheperreseneb, from the end of the reign of Hatchepsut and the reign of Tutmosis III, first half of the XVth century, tomb of Amenemheb, from the reign of Amenophis II, third quarter of the XVth century). Even if the equation Keftiu = Minoans is accepted —what seems at present the most likely interpretation—, we cannot consequently use that indirect testimony as evidence for the existence of inlaid vases in LB I Crete. The inlaid Vapheio cup in London, on the other hand, which has been considered by some scholars as the only specimen of the technique possibly found on Crete (E. N. Davis, «Metal Inlaying in Minoan and Mycenaean Art», *TUAS* 1976, p. 3, and *The Vapheio Cups and Aegean Gold and Silver Ware,* New York and London 1977, p. 122; most recently W.-D. Niemeier, «Mycenaean Elements in the Miniature Fresco from Thera?», *Thera and the Aegean World III, Proceedings of the Third International Congress, Santorini, Greece, 3-9 Septemper 1989,* I Archaeology, London 1990, p. 270) could come in fact, according to P. Åström, from chamber tomb 12 at Dendra, the «cuirass tomb» (see most recently *Peinture en métal,* pp. 31-32, no 22b), that has yielded fragments of at least one other inlaid Vapheio cup (*Peinture en métal,* pp. 30-31, no 22a).

[90] P. Montet, *Byblos et l'Egypte,* Paris 1928, pp. 174-176, no 653 and Pl. XCIX-CI. Associated items in the same technique listed in *Peinture en métal,* pp. 20-21.

[91] C. Watzinger, *Denkmäler Palestinas* I, Leipzig 1933, p. 35 and Pl. 24, fig. 52.

chen[92], on which both metal inlays and niello are used —i.e. hot inlaying and not cold inlaying by hammering[93]— for the decoration of a central rib. That the Mycenae inlaid weapons belong to the same type as undecorated specimens of local manufacture and that metal inlays have been applied to a silver vase of distinctly mainland type, stemmed cup 390 from shaft grave IV, make the suggestion of import very unlikely. The only possible way to account for the paradox, then, is to admit that the inlaid weapons and vase have been manufactured on the Greek mainland by foreign craftsmen who were familiar with the technique. A foreign presence in the Aegean has been recently argued by C. Lambrou-Phillipson as the only possible explanation for the occurrence of some specific techniques. Examining first the evidence from the palace workshops at Thebes, that «show certain unique occurrences in exotic raw materials, specialized industries, advanced technology», Lambrou-Phillipson concludes that «this evidence, together with the facts, one, that the lapis lazuli found at Thebes is of a deep blue colour preferred in the Near East and not the royal blue preferred in the Mycenaean world and, two, that the skill to use these techniques effectively can be acquired only through years of training and practice, make it unlikely that these techniques were mastered by visiting Mycenaeans, sailors, merchants, warriors or official envoys. These factors would seem to suggest the presence of an enclave colony of Near Eastern craftsmen in Thebes during the LH III period»[94] and this echoes the classical tradition naming Kadmos the Phoenician as founder of Thebes. A similar echo of classical tradition is found by the same scholar as far as eastern presence in Thera is concerned when she suggests that «the Classical tradition includes two distinct migrations of Near Easterners in the Aegean area, one of relatively early date, associated with King Minos of Crete and his colonial expansion in the Aegean [and his driving out of the Aegean islands the Carian and Phoenician settlers] reported by Thucydides, and a later one associated with Kadmos

92 *Staatliche Sammlung Ägyptischer Kunst,* München 1972, pp. 50-51, no ÄS 2907 and Col. Pl. between Pl. 24 and 25.

93 For examples of cold inlay by hammering, see Laffineur (*supra* n. 89), p. 34.

94 C. Lambrou-Phillipson, «Thera in the Mythology of the Classical Tradition: an Archaeological Approach», *Thera and the Aegean World III, Proceedings of the Third International Congress, Santorini, Greece, 3-9 September 1989,* I Archaeology, London 1990, p. 164.

and the foundation of Thebes [and his landing on Thera and leaving there a number of Phoenicians to colonize the island] related by Herodotus» and further that «the early Classical tradition of Thucydides is associated with pre-eruption Akrotiri», whereas «the later Classical tradition of Herodotus is associated with the period after the eruption»[95]. The post-eruption eastern presence on Thera is not documented in the archaeological record, but it could be situated as late as the Iron Age, since it has been suggested that eastern craftsmen have settled in Geometric Greece and orientalizing Crete[96] and since evidence for a Phoenician presence in late 9th and 8th century Crete has been revealed by the discovery of a tripillar shrine in Temple B at Kommos[97], a testimony that contrary to movable objects cannot be explained just by commercial relations[98]. The possibility of a near eastern presence on Thera before the eruption is of course much more relevant to our subject. According to Lambrou-Phillipson, some specific techniques used in Akrotiri appear to have no equivalents in the Aegean and to correspond to distinctly Near Eastern traditions and practice: the use of

95 Lambrou-Phillipson (*supra* n. 94), p. 167.

96 J. N. Coldstream, *Geometric Greece,* London 1977, p. 132; J. Boardman, *The Greeks Overseas: Their Early Colonies and Trade,* London 1980, pp. 56-59.

97 J. W. Shaw, «Phoenicians in Southern Crete», *AJA* 93, 1989, pp. 165-183 (with a summary of the evidence for Phoenician presence in the Aegean, pp. 180-181). Shaw's interpretation is that «the tripillar shrine is at least inspired by the Phoenician models and may even have been made by the Phoenicians using readily available building materials at Kommos» (p. 182). Finds of Phoenician pottery made in Temples A and B give a confirmation.

98 See the pertinent comment by W. W. Cummer, «Itinerant Aegean Builders», *TUAS* 5, 1980, p. 3: «...a great building could not be packed up and traded like pottery or bronze vessels, and its foundations and inner structure remained hidden, even to the most perceptive visitor». Also L. Woolley's statement: «one cannot export a palace on board of a ship, nor is the 'art and mystery' of fresco-working a form of merchandise» (*The Forgotten Kingdom,* 1953, p. 74), quoted by W.-D. Niemeier while discussing the affinities of the newly discovered floor paintings at Tel Kabri with Minoan painting («Minoan Artisans Travelling Overseas: The Alalakh Frescoes and the Painted Plaster Floor at Tel Kabri [Western Galilee]», *Thalassa. L'Égée préhistorique et la mer. Actes de la 3e Rencontre égéenne internationale de l'Univerité de Liège, Calvi, Corse, 23-25 avril 1990, Aegaeum* 7, 1991, p. 196). The possibility, however, that vase painters could have travelled as well has been suggested by P. P. Betancourt, «The Crocus and Festoons Motif: Evidence for Traveling Vase Painters?», *TUAS* 7, 1982, pp. 34-37 (specimens from the islands and the mainland, with decoration of Cretan style, on non-Cretan shapes using non-Cretan clays).

ashlar corner-stones on building walls, the use of the manganese black technique in order to produce black paint on ceramic products, and, though less surely, the technique of mixing glaucophane and Egyptian blue pigments for use in wall-paintings and the matt-painting technique in the decoration of polychrome vase-painting, i.e. techniques requiring «apprenticeship and perhaps years of practice to be used effectively» and that «would not have been learned in the normal course of trade relations» [99]. That «all the finds using these foreign techniques are clearly of Theran local workmanship» allows to favor the idea of near Eastern craftsmen living in Akrotiri as members of an enclave colony or *paroikia* and working there, rather than the idea of Theran learning those techniques and processes in the near East on the occasion of episodic commercial ventures.

To come back to the Mycenae shaft graves, it seems that all the conditions suggesting a Near Eastern presence in Thera are fulfiled in Mycenae as well, as far as the inlaid bronze weapons are concerned: a technique previously unpractised on the Greek mainland and not attested in neighbouring areas in the Aegean, the true antecedents of which are known only in the Levantine area, a technique requiring «apprenticeship and perhaps years of practice to be used effectively» and that «would not have been learned in the normal course of trade relations», its application to items of distinctly local type manufactured locally. The relative contemporaneity between the Akrotiri and Mycenae finds makes the interpretation more plausible, and so does the fact that the only inlaid bronze weapon found outside the Peloponnisos, the sword blade with inlaid gold axes in the Danish National Museum, comes from Thera [100]. The date at which the inlaid daggers and the inlaid silver stemmed cup are likely to have been manufactured in Mycenae by Levantine craftsmen —in the same way as the dagger from the tomb of Ahhotep [101], the mother of Ahmosis, is likely to have been made by Levantine artisans working in Egypt— is relatively easy to establish. Inlaid weapons or vases are missing in grave circle B —except a simplified and isolated variety on a dagger from grave Nu with a sheet of electrum inserted in the blade [102]— and all the

[99] Lambrou-Phillipson (*supra* n. 94), p. 168.
[100] *Peinture en métal,* p. 28, no 12 and Pl. IX, 1.
[101] *Peinture en métal,* pp. 21-22 and Pl. IX, 3.
[102] *Peinture en métal,* p. 33, no 28 and Pl. XIV, 1.

items worked in that technique found in grave circle A come from tombs IV and V, which are attributed to a late phase. This gives the impression of a sudden and relatively late appearance, even though the inlay and niello technique fits well to the obvious taste of early Mycenaeans for colour effects in metal objects, which they could achieve with gold plating [103] or cloisonné technique [104], the former originating in Crete and the latter of possible Egyptian origin. It seems in fact that it is this particular taste that has put them in a situation to appreciate the Levantine production and to try to have the same technique applied on objects of local types bearing a decoration which they were more familiar with. The majority of motifs appearing on the inlaid daggers and vase prove to have antecedents or equivalents in the Minoan repertory —e.g. the animals in flying gallop or the branches growing out of a flower-stand [105]— or echoes on other finds from the shaft graves. The latter similarities are in some cases even so close, as shown by J. Younger [106], that some precious metal plaques are likely to have been cut and engraved by mainland craftsmen before being inlaid in the blade by foreigns artisans who were more expert in using niello and in inserting the metal plaques.

The only possible exception to an Aegean derivation is the so-called «nilotic scene» on dagger 765 from tomb V which has traditionally been considered as evidence of the adoption of an Egyptian

[103] For an investigation of the processes involved in the gold plating of early Mycenaean weapons, see A. Sakellariou, «Poignées ouvragées d'épées et de poignards mycéniens», *Aux origines de l'hellénisme. La Crète et la Grèce. Hommage à H. van Effenterre,* Paris 1984, pp. 131-134.

[104] For weapons with decoration in cloisonné technique, Sakellariou (*supra* n. 103), pp. 134-135. A third technique, «chryssokentissi» (χρυσοκέντηση: thin gold wires or nails in the shape of a Γ, the shorter part of which is driven into the wooden or ivory hilt and the longer part bent at right angle and applied to the surface), identified and investigated in Sakellariou (*supra* n. 103), 135-137 (e.g. Karo, 435 and later examples from the chamber tombs at Mycenae and from Kakovatos and Dendra), appears as a variety of gold plating and has probably been invented on the mainland (a reference to this technique could be given by the words *de-so-mo* and *a-ra-ru-wo-a* on a Linear B tablet from Knossos mentioning swords [*ibidem*], p. 137).

[105] Compare with the wall painting from Amnisos: S. Marinatos and M. Hirmer, *Kreta, Thera und das mykenische Hellas,* München 1973, Pl. XXIII.

[106] E.g. similarities between lions on the dagger blades 394 and 395, on sheet gold ornaments for plating weapons (295a) and on an ivory pommel (295b), and lions engraved on finger rings and seals: J. G. Younger, «The Mycenae-Vapheio Lion Group», *AJA* 82, 1978, pp. 286-295.

theme in the Aegean repertory. The discovery of a quite similar decoration on the east frieze of the miniature fresco in the West House at Akrotiri [107] has given a new dimension to the problem. The most satisfying explanation for the presente of that exotic theme in the Aegean seems at present, since the dagger from Mycenae belongs to a local type and cannot be considered as an import from Egypt, that the theme of the painting in the West House has been known in Egypt by Aegeans travelling to the Eastern Mediterranean —whether artists, as already suggested by Evans [108], or not— and that the decoration on the dagger has then been inspired by the Akrotiri painting —in much the same way as the 'swimmers' dagger from the tholos tomb at Vapheio [109] could have been inspired by the episode of drowning men on the north frieze of the West House [110] or by related compositions. But a reverse process is worth considering in the light of the above suggestion that metal inlay has been initiated in the Aegean by Near Eastern craftsmen: the painting inspired by the theme on the dagger, that could have been «imported» from the East together with the technique of metal inlay. This Levantine intermediary would account for the significant differences between the «nilotic» Aegean scenes and their ultimate Egyptian models, differences which I had the opportunity to investigate in a paper delivered at the 1987 Athens Conference [111] and

107 L. Morgan, *The Miniature Wall Paintings of Thera,* Cambridge 1988, Col. Pl. B. The «Monkey fresco» from the House of the Frescoes at Knossos provides a similar though somewhat different example of the theme (S. A. Immerwahr, *Aegean Painting in the Bronze Age,* Philadelphia-London 1990, fig. 16).

108 *PM* I, p. 18. Cf. also S. Immerwahr's suggestion of «direct Minoan acquaintance with Egypt and Egyptian painting rather than indirect influence through the medium of small articles of trade» («A Possible Influence of Egyptian Art in the Creation of Minoan Wall Painting», *L'iconographie minoenne. Actes de la Table Ronde d'Athènes (21-22 Avril 1983), BCH* Suppl. XI, Athens 1985, pp. 49-50).

109 *Peinture en métal,* p. 29, no 16 and Pl. VIII, 4.

110 Morgan (*supra* n. 107), Pl. 139.

111 R. Laffineur, «'Nilotic' Scenes in the Aegean: The Evidence Reviewed», *Proceedings of the 6th International Colloquium on Aegean Prehistory. The Prehistoric Aegean and its Relations to Adjacent Areas, Athens, 30 August - 5 September 1987* (forthcoming). Most significant in the Aegean 'nilotic' scenes are the less regular geometric arrangement of vegetation, the bird's eye perspective instead of strict profile, the absence of human beings, the more 'dramatic' and less quiet general atmosphere. Aegean feedback influence is observable on later Egyptian compositions.

which would thus appear as the result of the Levantine interpretation of the original theme rather than of its Aegean adaptation [112].

Another question is whether the slightly later inlaid weapons and vases were still being manufactured by foreign craftsmen or whether Mycenaean artisans had learned enough from their eastern teachers to be able to carry on the production by themselves. The more simple decoration of most of the later objects [113] —especially the fact that they do not show real scenes like the hunt dagger or the «nilotic» dagger from grave circle A, but rather isolated motifs in the typical Ephyrean manner or rows of identical designs— would favor the latter interpretation —and suggest an integration of the technique to the aesthetic rules of mainland art—, but there are exceptions as well, e.g. the inlaid dagger with swimming human figures from the tholos tomb at Vapheio [114]. A similar example of integration of a foreign theme in Aegean standards —in a traditional technique, however— can be detected on the ivory comb from tholos tomb 2 at Rutsi, to be dated to the first half of the 15th century [115]: the carved decoration of cats hunting waterbirds is of course reminiscent of the «nilotic» scenes investigated above, but the typical landscape elements of the original models, river and exotic plants, have been replaced by the traditional and conventional Minoan rocks or clouds at both the top and the bottom edges of the composition.

Whe should ask also whether the inlaid fragments from Peristeria [116] that are more or less contemporary with the specimens from the shaft graves at Mycenae have been manufactured locally —what would imply the presence of Near Eastern craftsmen in the southwestern Peloponnisos as well— or imported from Mycenae. The

[112] That some Aegean conventions are present as well, such as the flying gallop, emphasizes a probable but limited contribution of Aegean art to the evolution of the theme.

[113] Daggers from Prosymna, Rutsi, Katarraktis-Pharai, Vapheio and vases from Dendra, Mycenae and Pylos (Laffineur [*supra* n. 89], pp. 9-15 and *Peinture en métal,* pp. 27-33, no 7-29).

[114] *Peinture en métal,* p. 29, no 16 and Pl. VIII, 4. The very similar dagger which has been recently on sale (*Gold. Important Ancient and Ethnic Jewellery and Work of Art in Precious Metal,* Habsburg, Feldman [Geneva 1990], pp. 170-173, no 259) is suspected to be a forgery (E. N. Davis and M. Wiener, personal communication).

[115] J.-C. Poursat, *Catalogue des ivoires mycéniens du Musée National d'Athènes,* Paris 1977, p. 138, no 410 and Pl. XLI.

[116] *Peinture en métal,* pp. 32-33, no 26a-b and Pl. XVI, 4-5.

question, of course, is difficult to answer, but the latter interpretation seems to fit better to the relatively limited number of occurrences of the inlay technique at Peristeria —an observation that applies also to the finds from Rutsi some decades later [117]. An even closer relation between the Argolid and southwestern Peloponnisos is evidenced at a later date for the same technique by the strong similarity between the small human heads found in the palace at Pylos [118] and inlaid heads on a silver shallow cup from chamber tomb 24 at Mycenae [119].

OBJECTS OF IVORY, FAIENCE, GLASS, AMBER AND SEMI-PRECIOUS STONES, SOLID JEWELLERY

The first question regarding those items is the origin of the raw materials in which they have been made. Some of them are likely to have been available locally, such as some semi-precious stones, or prepared on the mainland from locally available or imported components. Faience belongs probably to the latter category, since the few objects in this material found in the shaft graves at Mycenae are to be connected to Minoan faience tradition [120] and since most of them correspond to Cretan iconography (the faience attachments to ostrich eggs referred to above) and types (the «sacred knots», fragments of gaming boards and triton-shaped rhyton), as is the case with stone vases (592, 600, 854, ...) [121]. Some of the faience items, however, could have been manufactured on the mainland and it is likely, as argued by K. Foster, that «we have a few products of this nascent industry in the beads, ornaments, and miniature vessels of the Shaft Graves» [122]. Other raw materials had obviously to be imported, especially ivory and amber, but also semi-precious stones such as amethyst, lapis lazuli and carnelian. No precise evidence is available for trade in those raw materials at the period of the shaft graves and we have to rely on later testimonies and suppose that the

117 *Peinture en métal,* pp. 27-28, no 9-10 and Pl. V, 2 and VI.

118 *Peinture en métal,* p. 32, no 25 and Pl. X, 1.

119 *Peinture en métal,* p. 30, no 19 and Pl. X, 2.

120 Foster (*supra* n. 12), *passim.*

121 P. Warren, *Minoan Stone Vases,* Cambridge 1969, *passim* (e.g. p. 48, type 22D for alabaster jug 592).

122 K. P. Foster, «Faience from the Shaft Graves», *TUAS* 6, 1981, p. 11.

sources of supply must not have been basically different in the 16th century than in the 14th century.

The last mentioned date makes reference, once more, to the Ulu Burun shipwreck, that has yielded a considerable quantity and variety of raw materials being transported from east to west and, as stated by C. Pulak, «has already supplemented our knowledge of trade, especially in raw materials, gained from the approximately contemporaneous Amarna tablets» [123]. In addition to the copper and tin ingots —and to the ostrich egg—, the ship was carrying glass ingots of cobalt blue colour, reported to be chemically identical to Egyptian cored vessels and to Mycenaean glass amulets [124], part of an unworked elephant tusk, probably of Syrian origin and «of the exact size needed for carving a pyxis and lid of the type represented at, for example, Mycenaean Athens» [125], hippopotamus unworked teeth [126], amber beads of Baltic origin [127], faience beads [128], stone beads [129] and a cylinder of rock crystal [130]. Those finds give additional evidence of the high variety of unworked raw materials that were being traded from the Near East to the Aegean —long-distance trade with the Eastern Mediterranean is confirmed slightly later in the Linear B tablets for much the same variety of non-perishable items, which are designated by Semitic or Anatolian loan words or by loan words of unknown or debated origin [131]. The

123 *Ulu Burun 1985,* p. 1.

124 *Ulu Burun 1984,* pp. 281-282 and ill. 15-16; *Ulu Burun 1985,* p. 14 (green and amber colour is attested as well).

125 *Ulu Burun 1984,* pp. 282-283 and ill. 18 («Syrian ivory came to Egypt, presumably taken from Indian elephants living in Syria, and in the 15th century, Tuthmosis III hunted elephants for ivory in Syria»).

126 *Ulu Burun 1984,* p., 283 and ill. 19; *Ulu Burun 1986,* p. 11 and fig. 20 (Hippopotamuses are likely to have been living in the Levant during the 2nd Millennium and «hippopotamus ivory was used more extensively than previously known». On the use of hippopotamus ivory, see also D. S. Reese, *Shells, Ostrich Eggshells and Other Exotic Faunal Remains from Kition,* Appendix VIII.D in V. Karageorghis, *Excavations at Kition* V II, Nicosia 1985, pp. 391-398).

127 *Ulu Burun 1984,* p. 286 and ill. 26; *Ulu Burun 1985,* pp. 24-25.

128 *Ulu Burun 1985,* p. 25.

129 *Ulu Burun 1985,* p. 25 and fig. 27 (perhaps agate).

130 *Ulu Burun 1985,* p. 25 and fig. 28.

131 Y. Duhoux, «Les contacts entre Mycéniens et Barbares d'après le vocabulaire du Linéaire B», *Minos* 23, 1988, pp. 75-83; T. G. Palaima, «Maritime Matters in the Linear B tablets», *Thalassa. L'Egée préhistorique et la mer. Actes de la 3e Rencontre égéenne internationale de l'Université de Liège, Calvi, Corse, 23-25 Avril 1990,*

dependence from foreign sources of supply was certainly basically the same two centuries earlier, if not even greater.

As far as imported objects in those materials are concerned, the only example attested in the shaft graves is the lapis lazuli scarab from grave P (P-466), but in has been argued that it belongs in fact to the LH IIA built tomb [132] —of obviously Levantine inspiration— and not to the original early Mycenaean shaft and that it should be dated to an advanced stage in the Eighteenth Dynasty and not to the Hyksos period as had been first suggested [133].

The find of beads of amber in the shaft graves (100-101, 208, 513 [1290 beads!], 757-759; Γ-445, I-331, O-332) and in some contemporaneous or slightly later contexts at Peristeria (tholos tomb 3), Kakovatos and Pylos (tholos tomb IV) raises the question of possible contacts of early Mycenaean Greece with Northern and Central Europe [134]. Systematic examinations have been devoted in the recent years to the similarities between some types of objects from the Mycenae tombs and their decoration and items from continental Europe [135]. Affinities are real indeed, but they seem in most cases to be a consequence of the connection to a common cultural background, a kind of *koine,* resulting from the ultimate northern origin of the Helladic population and from a common «nomadic way of life with the wealth of the culture invested in small portable objects, usually of gold, transported with the warrior during life and buried with him at death» [136]. A confirmation is

Aegaeum 7, 1991, p. 278-279 (I 1 c: similar designations for some perishable commodities; relations with Cyprus attested by the adjective *ku-pi-ri-jo:* I 1 f, pp. 280-281).

132 As do the lentoid seal (P-465) and the Palace Style jars (P-225, 226 and 227).

133 O. T. P. K. Dickinson, *The Origins of Mycenaean Civilisation,* Göteborg 1977, p. 44. See also Lambrou-Phillipson, pp. 342-343, no 436.

134 Infra-red spectroscopy has shown that most of the amber objects from early Mycenaean Greece are of Baltic origin, but there are few items of non-Baltic origin as well: A. Harding and H. Hughes-Brock, «Ambar in the Mycenaean World», *BSA* 69, 1974, pp. 170-172. For Mycenae, see also C. W. Beck *et alii,* «Analysis and Provenience of Minoan and Mycenaean Amber, IV. Mycenae», *GRBS* 13, 1972, pp. 384-385.

135 Lastly K. Goldmann, «Die mitteleuropäische Schwertentwicklung und die Chronologie der Altbronzezeit Europas», *Acta Praehistorica et Archaeologica* 11-12, 1980-1981, pp. 131-181, P. Schauer, «Spuren minoisch-mykenischen und orientalischen Einflusses im atlantischen Westeuropa», *JRGZM* 31, 1984, pp. 137-186 and especially J. Bouzek, *The Aegean, Anatolia and Europe: Cultural Interrelations in the Second Millenium B.C.*, Göteborg 1985.

136 J. D. Muhly, «On the Shaft Graves at Mycenae», *Studies in Honor of Tom B. Jones (Alter Orient und Altes Testament* 203), Kevelaer 1979, p. 317.

that the connections between the two areas do not appear as a regular exchange of common trade goods, such as pottery —Mycenaean pottery is missing in the Balkans during early Mycenaean times and extremely rare in subsequent phases [137]—, but that they consist rather in the imitation or adaptation of objects belonging essentially to goldwork, prestige weapons and harness pieces, i.e. items used by the highest class, the possession of which is also typical of the early Mycenaean period and thus emphasizes basic social and ethnic similarities [138]. Relations with the Balkans would account for specific designs and types, such as the meanders, spirals and triskele motifs on gold buttons (series 314-338) and discs (series 692-722) from circle A, or the gold wire bracelets with spirals (63-68, 133) and the solid earrings with double spirals (53-55). But it seems to account for more generic features as well, such as the so-called «nomadic» character or «steppic» style of some pieces of the funerary furnishing, among which the well-known gold plating of the wooden hexagonal chest 808-811 from shaft grave V [139] —not to

[137] See the distribution map in K. Kilian, «Nordgrenze des ägäischen Kulturbereiches in mykenischer und nachmykenischer Zeit», *Jahresbericht des Instituts für Vorgeschichte der Universität Frankfurt A.M.* 1976, pp. 117-118, fig. 5-6.

[138] For the specific nature of those contacts with the North, see H. Matthäus, «Mykenai, der mittlere Donauraum während des Hajdusamson-Horizontes und der Schatz von Valcitran», *Thracians and Mycenaeans, Proceedings of the Fourth International Congress of Thracology, Rotterdam, 24-26 Semptember 1984,* Leiden 1989, pp. 89, 91 and 97 («Wo sich Kontakte abzeichnen, scheinen sie sich weitgehend im sozialen Umfeld mykenischer Aristokratie und entsprechender Bevölkerungsschichten auf dem Balkan abzuspielen ... im diametralen Gegensantz zum Verhältnis Ägäis-Orient»). The situation is basically different with the Eastern Mediterranean: even though exchange of luxury items is attested (see among others the *Keftiu* images in Egypt), relations are evidenced essentially by pottery trade.

[139] Those «nomadic» features (opposed to the 'Mediterranean' elements) are listed in E. T. Vermeule, *The Art of the Shaft Graves of Mycenae,* Norman 1975, pp. 22-26. The comment on the decoration of chest 808-811 is worth quoting: «Here the decorative exaggeration of 'nomadic' art is paramount: the clutter of the dense background, the surprising leaps of the hunter, the dancing collapse of the victim, the emphasis on leg, horn, neck, mouth, and eye, the concentration on the surface and not on the story. In the plants one finds a contrast to normal Cretan handling; here the curled palms and leaf sprays have a neat authority in themselves, but also display a capacity for ambiguous metamorphosis, turning into a ruff along the lion's back or mirroring the deer's horns from corner to corner; there is the curious distortion of the floating bull's head with eyes front and mouth in profile whose horns sprout and frame leaves» (pp. 24-25).

forget, in a much intuitive way, however, the burial customs themselves and the obvious concern of early Mycenaeans in displaying richness.

Those stylistic affinities would require careful examination, which is beyond the scope of the present paper, and, as has been summarized by E. Vermeule, «No documentation is yet possible, no Middle Helladic tradition is discernible beyond. The parallels are physically persuasive, but there is a transformation at Mycenae which keeps them slightly indirect. The Maikop burials are too early; the Trialeti barrows are close in time but geographically distant; the Lake Sevan wagon burials have not produced the same kind of art; Pazyryk and other groups with analogous rites and art are a millennium later» [140]. The reference to finds from South Russia, however, allows some more specific and relevant observations, as has been investigated most recently by St. Hiller as far as the whole Pontic area is concerned. The material evidence indicates a Late Bronze Age penetration of Mycenaeans into the Black Sea, most probably through Troy as an intermediary port, and this is likely to have an echo in the classical tradition of the expedition of the Argonauts [141]. But those Pontic relations, which appear more numerous during the early Mycenaean period, were working in the opposite direction as well, from North to South, and seem to account for the horse burials in Grece, and, more specifically, to similarities such as between a kind of spiral ornament of unknown Aegean type on the gold plated haft of a sword from the shaft

[140] Vermeule (*supra* n. 139), pp. 25-26. J. D. Muhly's suggestion of a migration from the northeast around 1700 B.C. is much speculative (*supra* n. 136, p. 319).

[141] S. Hiller, «The Mycenaeans and the Black Sea», *Thalassa. L'Egée préhistorique et la mer. Actes de la 3e Recontre égéenne internationale de l'Université de Liège, Calvi, Corse, 23-25 Avril 1990, Aegaeum* 7, 1991, pp. 207-216, esp. 213: «clay vessels belonging to the later Mycenaean period (LH III A/B) are found in the South [Masat]; stone anchors, difficult to date, and metal ingots in the West [Cape Kaliakra and Cerkovo on the Bulgarian coast], where also some double axes occur; more double axes, some of which are rather late (Kilindir and Hermones types) while others may be earlier, occur in the North West, along with cheek-pieces of horse bits and related bone carvings [Trachtemirov near Kiev] which have Early Mycenaean parallels [cf. also a bone disc from Iljicevka with an ornament similar to that of a Mycenaean gold discs, Karo, 320 and 685, and the spiral ornament on the pin-head from the Borodino Treasure, near Odessa, similar to designs on brooches from Mycenae, Karo, 343]; and, finally, offensive weapons [Trialeti culture] which again depend from Early Mycenaean models [swords of type A, spear heads of Höckmann's type G], in the North-East».

graves (723) and on a spear head from Cjurupinsk (Ukraine)[142]. This might well be a further evidence that the gold from the Shaft Graves has «really something to do with early Mycenaean contacts to the Pontic area which is well-known to be rich in gold»[143] and might allow to speak of a «Pontic connection» rather than, or better, in addition to E. N. Davis' «Transylvanian connection» —not to forget, once again, the possible echo in the legend of the Golden Fleece.

Besides the spiraliform bracelets and earrings referred to above the class of solid jewellery includes two gold finger rings (240-241) and three gold cushion-shaped seals (33-35) from the acropolis circle. They are closely connected to Minoan tradition and types and they should certainly be considered as imports from Crete if their decoration was not showing such a predilection for warlike and aggressive iconography (men fighting or hunting, wounded lion). The choice of these essentially non-Minoan motifs has certainly been imposed by the mainland clients as a hint at their claim on power —as has been the case on most inlaid weapons— and the high value of engraved finger rings or seals both as personal belongings and as status-marking items[144] was no doubt intended to add much to the concern of early Mycenaean rulers in displaying and legitimizing their power. The evaluation of the components involved is much similar to that of e.g. the ostrich egg rhyta. The material comes most probably from abroad (eggs/gold), shape and technique are related to Minoan tradition (additional elements in faience/engraving), meaning and function correspond rather to local concerns (symbolism of regeneration/symbolism of power). The iconography is the only significant difference (dolphins of

142 Hiller (*supra* n. 141), p. 215.

143 Hiller (*supra* n. 141), p. 215. See also R. Treuil, P. Darcque, J.-C. Poursat and G. Touchais, *Les civilisations égéennes du Néolithique et de l'Age du Bronze,* Paris 1989, p. 360. In the same way, the oxhide ingots from the Bulgarian coast could indicate a Balkanian origin for some of the copper ore used in the Aegean.

144 I. Kilkian-Dirlmeier, «Beobachtungen zu den Schachtgräbern von Mykenai und zu den Schmuckbeigaben mykenischer Männergräber. Untersuchungen zur Socialstruktur in späthelladischer Zeit», *JRGZM* 33, 1986, p. 161 («Siegel und Siegelringe kommen in den Schachtgräbern nur in Inventaren der höchsten Qualitätsstufe vor»). That seals and related items, especially when imported (scarabs), were highly prized and often kept during a long period is emphasized by the considerable difference between the time of manufacture and the time of deposit in tombs (Lambrou-Phillipson, *passim*).

Minoan derivation/non-Minoan warlike and aggressive motifs). That the gold finger rings and seals, however, had apparently been associated to female burials (in shaft graves III and IV) [145], makes real problem, unless the recorded associations are the result of a disturbance of the original ones.

VASES

Precious metal plate is another much developed production for the beginning of the Mycenaean period. The fact that the figural decoration on some gold and silver vases has been produced by beating the metal sheet over a solid core of hard material, most probably stone [146], indicates close connections with the techniques of funerary sheet gold jewellery —and again with stone cutting— and emphasizes the basically local character of the production. The local derivation of the shapes of some vessels —stemmed cups and kantharoi— and the Aegean origin of most of them give a confirmation, as well as the Aegean affinities in the iconographic repertory.

Besides obvious evidence of local manufacture, the category of vases also provides the most numerous examples of possible imports from the Near East. The specimens have been listed recently by C. Lambrou-Phillipson and should now be looked at in some detail (the case of the ostrich egg rhyta has already been examined).

The first item —in fact a container rather than a vase— is the so-called jewel box 812 from shaft grave V. It is made of wood, said to be Egyptian sycamore, and has four ivory figures of dogs applied on two sides. Some scholars have identified the animals as deriving from Egyptian images [147], but the comparison with animals on the shaft grave stelai, suggested by Hood [148], appears equally convincing. The type of decoration has in fact its ultimate origin in Aegean relief ornamentation on vases, especially in the

[145] On this, see R. Laffineur, «The Iconography of Mycenaean Seals and the Status of their Owners», *Aegaeum* 6, 1990, p. 123 (the association of stone seals to female burials is already predominant in grave circle B).

[146] Comments on this technique in Laffineur (*supra* n. 33).

[147] References to this in Lambrou-Phillipson, p. 342.

[148] S. Hood, *The Arts in Prehistoric Greece,* Harmondsworth 1978, p. 115.

series of MM II vessels with appliqué reliefs of cats, trees and shells from Quartier Mu at Mallia [149] —the cat of one specimen is standing on a plinth like on the wooden box from Mycenae— and in Kamares and related wares with relief decoration [150], exactly like the ornamentation of faience figures of dolphins on the ostrich egg 828 from tomb V is likely to have found its inspiration in items such as the well-known MM III stand with dolphins in high relief from Phaistos [151]. This does not exclude the possibility of an iconographic influence from Egypt, but this has been working at an earlier date than the shaft grave period and it has reached Crete [152] and not the mainland, and the latter has reveived it most probably through the intermediary of Minoan works of art rather than directly from Egypt. Once again, an isolated design or figure is not a sufficient evidence of foreign influence. The technique in which it has been worked and the type of object on which it appears —i.e. appliqué reliefs on a container— are much more relevant and in the present case they obviously point to inner connections within the Aegean.

The second possible import from the near East is the famous rock crystal vase from grave O in circle B with a handle in the shape of a duck's head (O-459). The eastern origin of the motif has been widely recognized and parallels have been listed especially by J. Sakellarakis [153]. Lambrou-Phillipson considers it as an Egyptian import, to be dated to the Sixth Dynasty or to the Middle Kingdom [154]. But the uniqueness of the object may be misleading, as well as the fact that the vase is the earliest specimen worked in that material from the mainland. Rock crystal is attested in the shaft graves for manufacturing objects of probable local type such as pin's heads (Karo 102, 103, 104), inlays (574), beads (111, 114-

149 J.-C. Poursat, «Reliefs d'applique moulés», in *Fouilles exécutées à Mallia. Le quartier Mu* II (*Études Crétoises* XXVI), Paris 1980, pp. 120-122, no 172-174 and fig. 170-174 (additional fragmentary cat-reliefs).

150 E.g. the bridge-spouted jar from Phaistos with an *agrimi* (K. P. Foster, *Minoan Ceramic Relief,* Göteborg 1982, Pl. 39) and the pithos from Arkhanes-Anemospilia with a bull (S. A. Immerwahr, *Aegean Painting in the Bronze Age,* Philadelphia-London 1990, pl. 8-9).

151 Foster (*supra* n. 12), Pl. 40.

152 For the Egyptian affinities of the vases with appliqué relief from Mallia, see Poursat (*supra* n. 149).

153 *AE* 1971, pp. 188-233.

154 Lambrou-Phillipson, p. 341.

115, 830, 831) and sword pommel (105), but it has been used in Crete during the Second Palace period for carving vessels and veins of crystal occur in Crete [155]. The vase from grave O, consequently, should be related rather to Minoan tradition [156] and this seems to be confirmed by the naturalistic proportions of the duck's head that appears to fit better the Minoan style of animal representations than the more elongated proportions of Near Eastern models, even if a precise parallel is missing in Crete. Anyway, the duck-vase from grave circle B is a real technical masterpiece since it has been carved from one single block of crystal, the dimensions of which (originally longer than the length of the carved vessel, which is 13.2 cm) are in themselves a matter of surprise and a sign of rarity (the only comparable piece is the LM I libation jug from the palace at Zakro [157], where a big core of rock crystal has been found in the workshops of the south wing [158]), and this has certainly contributed to increase its value as a prestige item. That it must as such have drawn attention and influenced slightly later Mycenaean precious ware is indicated by the four LH II gold stemmed cups from the Acropolis Treasure in Mycenae with two handles in the shape of dog's head biting the rim [159].

Next comes the gold plated alabaster vase 829 from shaft grave V, with two handles and a hole at the shoulder for fastening a separately made spout. P. Warten interprets it as an alabastron of Egyptian origin and of baggy, flat-bottomed type which has been transformed in the Aegean for a use in an upside down position: «The base cut out to form the new mouth, on which was put a bronze fitting covered with gold leaf. The new base (i.e. the original Egyptian mouth) was plugged, wooden handles with a gold leaf covering were added, a hole was cut out and tiny holes drilled

155 P. Warren, *Minoan Stone Vases,* Cambridge 1969, pp. 136-137.

156 Cf. J. A. Sakellarakis' opinion in «Mycenaean Stone Vases», *SMEA* 17, 1976, pp. 176-177. Also Hood (*supra* n. 148), p. 142.

157 N. Platon, *Zakros. The Discovery of a Lost Palace of Ancient Crete,* New York 1971, fig. on p. 139.

158 *Ibidem,* p. 217 and fig. p. 218. For a similar, though somewhat smaller core of rock crystal from the palace workshops at Thebes, see *Das mykenische Hellas. Heimat der Helden Homers,* Athens 1988, p. 217, no 202.

159 R. Laffineur, *Les vases en métal précieux à l'époque mycénienne,* Göteborg 1977, pp. 109-110, no 70-73 and fig. 30-32.

round it for the separate spout» [160] and the two gold plated wooden handles and the spout were added. The shape was probably completed by a neck made separately —perhaps of metal to fit the gold plating of the actual rim— and now lost, like on ovoid stone vases from Mycenae [161]. The hypothesis of a transformation is quite convincing, since imported alabastra of a much similar shape have been found on Crete [162], but also on the mainland, in Mycenae, Dendra, Nauplia and in the tholos tomb at Vapheio [163] and especially since the profile of the alabaster vase 829, when standing on its narrow end, does not correspond to Mycenaean or Minoan ovoid vessels that exhibit a more rounded transition at the shoulder —the closest profile is that of neck-hydriae of the late Athenian Black-Figure. It would seem likely that the conversion of the shape was made in Crete during MM III/LM I, as suggested by Warren, and that the new vase was imported from there to the mainland since two other examples of the transformation of Egyptian stone vases in the Aegean are known from the palace at Zakro [164], but the additional gold plating of vase 829 fits better the taste of Mycenaeans for mixing materials as well as for coloured effects and the use of wood for the handles does not correspond to the standards of quality of Minoan stone vase industry [165].

160 Warren (*supra* n. 155), p. 104. See also Sakellarakis (*supra* n. 156), pp. 177-178 and Hood (*supra* n. 148), p. 148.

161 Sakellarakis (*supra* n. 156), Pl. III (one specimen with neck preserved, two with neck lost).

162 Warren (*supra* n. 155), p. 112 (P606, 609, 610 and 614: from A. Triada and the Royal Tomb at Isopata, respectively in contexts of LM I and LM II/IIIAI date).

163 Warren (*supra* n. 155), p. 114 (some specimens have a much similar shape); Sakellarakis (*supra* n. 156), p. 179 and Pl. IV, 11 (Vapheio). A faience imitation is known from shaft grave I (Karo, 202).

164 Hood (*supra* n. 148), p. 148: «The more attractive is a fluted bowl of porphyritic rock with white crystals in a brown matrix. Most of the original rim was removed by the Minoan craftsman and used to make a ring base. The stump of the rim was then carved with ribs to convert it into a rim of Cretan type, while holes were bored through the solid lugs for the insertion of wire loop-handles [= Warren (*supra* n. 155), p. 109, P591]. The other vase, of similar stone, was deprived of its Egyptian lug-handles, and transformed into a standard Cretan type by the addition of new handles (now missing) and a spout with holes for inlays to match the white crystals of the original bowl [= Warren (*supra* n. 155), p. 109, P593]».

165 A similar baggy, flat-bottomed alabastron of Egyptian type, reused and turned upside down, has been found in chamber tomb 68 at Mycenae: Xenaki-Sakellariou, p. 196, no 3080 and Pl. 84 (the original mouth or new base similarly plugged). Another one, with a more ovoid shape, comes probably from tomb 81 (Xenaki-Sakellariou, p. 266, no 3252 and Pl. 130).

The rhyton 388 from shaft grave IV, in the shape of a stag and made from an alloy of silver and lead, is generally considered as an import from Anatolia. The arguments have been summarized some years ago by Emily Vermeule: «Four-legged drinking-cups with the spout centred in the back have a long history in Anatolia; the wonderful early clay examples from Kültepe include stags, lions and bulls. Since the third millennium the stag had been a charged symbol in Anatolia... The stag drinking-cup... has an unusually high proportion of lead in the silver, which might point to the Cyclades, and the scheme is not drastically different from Cycladic or Cretan bulls with a hole in the back. The ultimate model should be Anatolian, and possibly the piece itself, but if so, it is the only import from that region» [166]. This is very scanty evidence indeed and it should be noted that recent analysis has made clear that the vase is made of 99 % silver [167].

Faience vessels are also included in C. Lambrou-Phillipson's list of possible imports from Egypt. The first is the squat jar 223 from shaft grave II which K. Foster considers rather as a local production even if its shape has some features reminiscent of Egyptian ware [168]. S. Hood's observation that is has been made on the fast wheel instead of by hand or in a mould [169] does not seem to be such a sophisticated process as to follow Lambrou-Phillipson's opinion and to reject a manufacture on the mainland [170]. A Cretan origin is in fact the most probable for the whole series, especially in view of the obvious Minoan affinities of other faience vases from the shaft graves: the shallow cup 566, similar to Minoan stone examples [171], the neck of jug 166 with double mouth, paralleled in Phylakopi and Gournia [172], the ovoid rhyton 153, the elongated one-handled

166 Vermeule (*supra* n. 139), pp. 15-16.

167 Z. Stos-Gale, «A Puzzle of the Bronze Age Silver-Lead on Cyprus», in Πρακτικὰ τοῦ δευτέρου διεθνοῦς Κυπρολογικοῦ συνεδρίου 1982 (Nicosia 1985), p. 72. See also E. Cline, «Hittite Objects in the Bronze Age Aegean», *Anatolian Studies* (forthcoming; I am grateful to the author for providing a copy of his manuscript).

168 Foster (*supra* n. 12), pp. 121-122. An opposite interpretation in J. D. S. Pendlebury, *Aegyptiaca,* Cambridge 1930, p. 55, no 89.

169 Hood (*supra* n. 148), p. 134.

170 Lambrou-Phillipson, p. 348.

171 Foster (*supra* n. 12), p. 122. A nearly identical equivalent in alabaster has been found in grave III (Karo, 165).

172 Foster (*supra* n. 12), p. 122.

cup from grave A in circle B, the equivalents of which are among the finds from the Temple Repositories at Knossos, and which is likely to have been manufactured in the same workshop [173], the triton shell 166 [174], and, in another class, the sacral knots 553-554, 557-564 and 567-571 [175] and the inlays for gaming-boards 555, 556, 558 and 572. Evidence for Minoan import comes also from the fact that the finds from the shaft graves are the earliest faience items found on the mainland and that local production seems highly unprobable without at least some earlier tradition in working the material, even if the objects are not masterpieces, or without evident signs of homogeneous production as is the case with the LH IIIB finds of both monochrome and polychrome faience from the House of Shields at Mycenae [176]. Even though much limited in number, relief beads seem to make the only exception since they represent the adaptation of the technical process of mass production typical of local sheet gold jewellery to a new medium. The fragments of the faience beaked jug 123-124 with helmeted warrior's heads in relief should finally be considered here. They have sometimes been given an Egyptian origin [177] but a careful examination of its shape, technique —the relief technique as opposed to the painting or appliqué techniques usual in Minoan faience— and decoration has led K. Foster to the conclusion that «the jug was modeled on a Minoan vessel type, but decorated in a distinctive Mycenaean manner with a particular client in mind» [178].

CONCLUDING REMARKS

The picture we get from the above examination of the finds from the shaft graves at Mycenae as far as foreign contacts are con-

[173] Foster (*supra* n. 12), p. 123. A manufacture on the mainland is suggested because of the slight differences between the Mycenae and the Knossos specimens.

[174] Foster (*supra* n. 12), pp. 137-138, with a list of Minoan parallels in different materials (to which the stone specimen from Mallia should now be added: C. Baurain and P. Darcque, «Un triton en pierre à Malia», *BCH* 107, 1983, pp. 3-73).

[175] Foster (*supra* n. 12), pp. 140-141.

[176] Foster (*supra* n. 12), pp. 130-136.

[177] Pendlebury (*supra* n. 168), p. 56, no 90.

[178] Foster (*supra* n. 12), pp. 125-126 (the suggestion of a particular client comes from the observation of some individualisation in the heads, like on the gold masks and the portrait gem from grave Γ in circle B). See also K. P. Foster, «Faience from the Shaft Graves», *TUAS* 6, 1981, p. 10.

cerned is rather paradoxical and disappointing. Raw materials such as gold, tin, ivory, amber, some semi-precious stones, ostrich eggs and perhaps glass, were certainly being traded from the Eastern Mediterranean, as is evidenced for later phases, and such a dependence is no doubt a major one, especially for metal supply —which could possibly also originate in the Balkan and Pontic areas. Artistic influences are also attested, for iconographic motifs and composition, as has been remarkably demonstrated by J. Crowley [179], and even though the mainland craftsmen usually show some independence from the models they use. Imported objects, however, are remarkably few, since the only sure foreign item to have reached Mycenae during the shaft grave period is the alabaster vase 829 —the lapis lazuli scarab from grave P does not belong to the shaft grave period as indicated above. The situation appears quite different in LM I Crete, where Egyptian imports, mainly stone vessels, have been found in much greater number [180] and where probable Cypriot imports are attested as well [181]. An equally significant difference appears on Thera, where a Canaanite jar from Room Δ9 in Akrotiri and three Tell el Yahudiyeh jugs [182] emphasize Levantine contacts, which are confirmed by a gypsum alabastron from the West House [183] and eight other vessels carved from the same material [184], and possibly by the tripod stone mortars [185]. Objects of foreign origin, which were certainly highly prized, are likely to have been even more numerous at Akrotiri, but have probably been taken away by their owners, together with other precious items, while escaping the destruction of the site. This is worth con-

179 *The Aegean and the East. An Investigation into the Transference of Artistic Motifs between the Aegean, Egypt, and the near East in the Bronze Age,* Jonsered 1989.

180 See Lambrou-Phillipson, pp. 403-406, Table I (Archanes, Ayia Triada, Katsamba, Knossos, Palaikastro, Zakro).

181 Lambrou-Phillipson, Table XI.

182 Lambrou-Phillipson, pp. 396-398, repectively no 607 and 608-610.

183 Lambrou-Phillipson, p. 398, no 611. On the vase, see P. Warren, «The Stone Vessels from the Bronze Age Settlement at Akrotiri, Thera», *AE* 1979, pp. 88, 102 and 106.

184 On the Syro-Palestinian origin of gypsum vases, which do not appear on Crete before LM II/LM IIIA, see Warren (*supra* n. 155), p. 106 and Id. and V. Hankey, *Aegean Bronze Age Chronology,* Bristol 1989, p. 140.

185 Lambrou-Phillipson, p. 398, no 612-613. On these, see H.-G. Buchholz, «Some Observations Concerning Thera's Contacts Overseas during the Bronze Age», *Thera and the Aegean World II, Papers and Proceedings of the Second International Scientific Congress, Santorini, Greece, August 1978,* London 1980, pp. 228-229.

sidering in the light of the above suggestion of a Near Eastern presence on the island.

That objetcs imported from outside the Aegean are nearly absent in Mycenae at the time of the shaft graves is not haphazard since they are also missing on contemporaneous sites in the Peloponnisos —with the only exception of a fragment of a faience pyxis with hieroglyphs from the Osmanaga (Koryphasion) tholos tomb [186]. It may be a matter of surprise, indeed, that the early Mycenaean rulers, who were obviously much concerned in displaying the signs of their newly acquired richness, have not tried to procure those exotica which are welcome insigna of high rank and would have contributed to the affirmation of their social status. It is even stranger that the only foreign item that they have ever owned, the alabaster vase 829, has been deliberately disguised and transformed into a shape that is closer to those of the Aegean repetory. Does this mean that at that early stage of the Late Bronze Age mainlanders had no direct contact with the Eastern Mediterranean and were completely dependant from the Minoan intermediary for the indispensable supply of eastern products? But further that such a dependence was counterbalanced by a corresponding dependence of Crete from sources of silver and copper situated on the mainland, as seems to be indicated by the Lavrion evidence, or even farther in the Balkan area, central Europe and the Pontic area? J. Hooker has suggested some years ago that the decisive rise of Mycenaean civilization at the beginning of the Late Bronze Age was the result of an intensification of commercial contacts between the mainland and Crete [187] and this is amply demonstrated by the close affinities of many finds from the shaft graves with Minoan productions. The very *reason* of that considerable increase of exchanges could well be the mutual dependence of the two areas [188], the mainland offering metals and Crete offering some exotic materials, as well as Minoan works of art, and the prominent position of Thera woul fit perfectly in such an

186 Lambrou-Phillipson, p. 367, no 515. The faience scarab from Koukounara (*ibidem,* p. 366, no 512) should be dated to a slightly later date, about 1500.

187 J. T. Hooker, *Mycenaean Greece,* London, 1976, pp. 45-58.

188 A similar opinion in R. Treuil, P. Darcque, J.-C. Poursat and G. Touchais, *Les civilisations égéennes du Néolithique et de l'Âge du Bronze,* Paris 1989, p. 360: «Peut-être la prospérité des centres proto-mycéniens s'explique-t-elle en partie par le rôle d'intermédiaire qu'ils on pu jouer, dans ce domaine [supply of copper and gold], entre l'Europe et la Crète».

economic system, especially as a centre of re-distribution. Besides gold and copper, Minoan Crete had probably also access through the Mycenaean intermediary to other metal sources, especially tin. As suggested by J. D. Muhly, it is even conceivable that «tin from eastern Kazakhstan came into the Aegean across a Transcaucasian trade route... through a 'port of trade' such as Troy», that «The trans-Anatolian aspect of this trade could explain the presence of Mycenaean pottery far into central Anatolia» and further that «It was this trade in raw materials... that brought Mycenaean Greece into the world of the Late Bronze Age and made possible the increasing prosperity and economic expansion of Greece after 1600 B.C.» [189]. Other raw materials, though in comparison much less urgently needed, might have been offered in exchange by Mycenaean Greece, e.g. some unworked stones such as *rosso antico* or *Lapis lacedaemonius*. The former (the so-called «Taenarian marble») comes from the quarries of Kyprianon in Laconia and has been used for carving vases as early as MM IA and, more regularly during MM III [190]. *Lapis lacedaemonius* or «Spartan basalt» is known only from the Psephi quarries, between Krokeai and Stephania, Laconia. It is especially documented by the partly worked and unworked blocks from the «Lapidary's Store» at Knossos, probably of LM II date [191], but the quarries could have been opened as early as the latter part of the Middle Helladic period [192]. The best candidate for the role of an intermediary, this time, would be Kythera.

That early Mycenaean Greece, however, could have had direct contact with the east, even though on a much limited scale and sporadically, is emphasized by the origin of the metal inlay technique and the possible way in which it could have been known and learned by the mainlanders, as has been suggested above.

189 Muhly (*supra* n. 136), pp. 322-323. A similar suggestion by G. Cadogan, quoted by Muhly: «The reason may be that at this time [the shaft grave period] the Aegean began to receive copper and tin from Central Europe. This could explain the purchasing power of the Mycenaeans, who were acting as commodity brokers for the Minoans...».

190 H. Waterhouse and R. Hope Simpson, «Prehistoric Laconia: Part II», *BSA* 56, 1961, pp. 119-121. The vases and lamps probably carved from *rosso antico* are listed in n. 45, p. 121. Evidence from Thera should now be added: Warren (*supra* n. 183), pp. 92-93, 102 and 110-112. On *rosso antico* see also Warren (*supra* n. 155), p. 126.

191 It has been used for vases (a rhyton from Zakro: Platon [*supra* n. 157], p. 139, top left fig.) and for seals: Warren (*supra* n. 155), pp. 132-133.

192 H. Waterhouse and R. Hope Simpson, «Prehistoric Laconia: Part I», *BSA* 55, 1960, pp. 105-107 (with a list of finds).

A well known find from Egypt, much unexpectedly, seems to provide a very specific confirmation of such direct contacts at an early date between the Mycenaean mainland and the Eastern Mediterranean, namely the Treasure found at el Tod. The treasure includes 153 silver cups, mostly of shallow open shape, with a decoration of fluting, torsional fluting, meanders, arcades or rosettes [193]. It is beyond doubt, as has been stressed on several occasions by P. Warren [194], that the equivalents of those shapes and motifs can be found in clay vessels from the Old Palace period in Crete, especially MM IB/MM II cups from Phaistos [195], and the Cretan affinities have been confirmed by a fragmentary fluted clay vessel found in Quartier Mu at Mallia [196]. But other metal cups in the treasure, even though not the most numerous, exhibit obvious affinities with mainland metal ware of slightly later date, as I have suggested recently [197] and as has been argued simultaneously but quite independently by J. Maran [198]. These are the two cups with high vertical handles [199], a shape of distinctly Helladic type. An exact parallel for one of them [200] is a gold kantharos uncovered in the recent excavations at Peristeria in the southwestern Peloponnesos [201]. The vessel belongs to a burial of the transitional period found in a small rectangular

193 For the treasure as a whole and for individual objects, see F. Bisson de la Roque, *Tôd (1934 à 1936),* Cairo 1937, Id., *Catalogue général des antiquités égyptiennes du Musée du Caire, n.° 70501-70754. Le trésor de Tôd,* Cairo 1950 and Id., G. Contenau and F. Chapouthier, *Le trésor de Tôd,* Cairo 1953.

194 «Problems of Chronology in Crete and the Aegean in the Third and Earlier Second Millennium B.C.», *AJA* 84, 1980, p. 496 and Id. and V. Hankey, (*supra* n. 184), pp. 132-133 and Pl. 5-11. More nuance in the approach of the Minoan affinities in G. Walberg, «The Tod Treasure and Middle Minoan Absolute Chronology», *Opuscula Atheniensia* 15, 1984, pp. 175-176.

195 Parallels cited in Warren and Hankey (*supra* n. 184).

196 *Fouilles exécutées à Mallia. La quartier Mu II* (*Études crétoises* XXVI), Paris 1980, p. 89, no 120 and fig. 119; J.-C. Poursat, «Une thalassocratie minoenne au Minoen Moyen II?», *The Minoan Thalassocracy. Myth and Reality. Proceedings of the Third International Symposium at the Swedish Institute in Athens, 31 May-5 June, 1982,* Stockholm 1984, p. 87.

197 R. Laffineur, «Réflexions sur le trésor de Tôd», *Aegaeum. Annales d'archéologie égéenne de l'Université de Liège* 2, 1988, pp. 17-30.

198 «Die Silbergefässe von et-Tôd und die Schachtgräberzeit auf dem griechischen Festland», *Prähistorische Zeitschrift* 62, 1987, pp. 221-227.

199 F. Bisson de la Roque, *Catalogue général des antiquités égyptiennes du Musée du Caire, n.° 70501-70754. Le trésor de Tôd,* Cairo 1950, no 70590-70591.

200 *Ibidem,* no 70591.

201 G. St. Korres, *Praktika* 1976, p. 498, fig. 8 and Pl. 263, α-β.

grave under the west portion of the peribolos wall around the large tholos tomb. The relatively low shape of the two vessels is so similar, and the floral decoration on their handles so close that a manufacture in the same workshop cannot be excluded. The second kantharos from Tod [202], with a higher body, is paralleled by the gold kantharos 440 from shaft grave IV at Mycenae and by similar and probably contemporaneous finds from Sotirianika near Kalamata [203]. The most significant implication of those comparisons is that the precious metal vessels of the Tod treasure, even though found together in copper chests, do not make a homogeneous whole and do not have a unique and identical origin, as accepted by Warren [204], but that the treasure has most probably been gathered from at least two different parts, originating from two different areas, Crete and the Greek mainland, and from two different periods, MM IB/MM II and the transitional period between Middle and Late Helladic. That at least a small part of the treasure has been collected at a later period than that of Amenemhet II (Twelfth Dynasty, 1917-1882), whose name has been engraved on two of the copper chests, and that still another origin can be suggested for some other items is further indicated by the Cappadocian seal included in the treasure [205], the style of which, according to P. Yule, is not documented before Kaneš II, between ca. 1850 and 1730 [206].

But if the Tod treasure has not been constituted as a whole at the same time and sealed as such under Amenemhat II, and if its content has probably rather been increased maybe at several successive periods, new questions arise: *when* and *how* have the two kantharoi been added?

The extremely thin fabric of the vessels seems to favor the suggestion that relatively short time has elapsed between the manufacture of the two kantharoi and their arrival in Egypt. They would

202 Bisson de la Roque (*supra* n. 199), no 70590.

203 Laffineur (*supra* n. 159), p. 119, no 102-104 and fig. 42-43; Davis (*supra* n. 18), 1977, pp. 305-307, no 134 (only one specimen mentioned). The two kantharoi in the Metropolitan Museum (Davis [*supra* n. 18], pp. 324-326, no 147-148) are probably contemporaneous.

204 Most recently in Warren and V. Hankey (*supra* n. 184), pp. 131-134.

205 *Un siècle de fouilles françaises en Egypte 1880-1980,* Paris 1981, p. 147, no 161.

206 P. Yule, *Appendix* to P. Åström, «The Middle Minoan Chronology again», Πεπραγμένα τοῦ Ε διεθνοῦς κρητολογικοῦ συνεδρίου Α, Herakleion 1985, pp. 42-44.

thus have been included in the copper chests sometime during the shaft grave period, and have joined objects collected earlier —some of them probably to be dated as early as the reign of Amenemhet II. That the whole treasure would have been buried only after that addition had been made to it is certainly a possibility: a careful re-examination of the architectural remains by B. J. Kemp and R. S. Merrillees has shown that the courses of the stone foundations of the Tod temple, in which the chests were concealed, do not belong to a Middle Kingdom building, but to a temple built under Tuthmosis III and that, consequently, the chests are not likely to have been buried and definitely sealed before the reign of Tuthmosis III and maybe even later [207]. This being so, «there need have been no primary chronological association between chests and treasure» and the most probable conclusion is that «it may have seemed at the time a prudent measure to take the opportunity afforded by the burial of the treasure for the sake of safety to pack it into valuable chests already possessed by the temple, so rendering them also secure from pilfering» [208]. Regarding the possible relations between the Aegean and the East at an early stage in the Late Bronze Age, the two kantharoi from Tod appear as the earliest imports from the Mycenaean mainland in the Eastern Mediterranean —Mycenaean pottery is not attested in the Eastern Mediterranean before LH IIA [209]. They seem at the same time to give evidence that Aegean precious vases could have reached Egypt before the period of the

[207] *Appendix II.* «The el-Tod Treasure, with particular Reference to its Archaeological Context», in *Minoan Pottery in Second Millennium Egypt,* Mainz 1980, pp. 290-296: «...our interpretation is that Tuthmosis III demolished the Middle Kingdom temple, which may have been an amalgam of Eleventh Dynasty work towards the rear and Twelfth Dynasty towards the front, removing its floor until the mud foundations of the Old Kingdom temple were exposed. A thin layer of sand was sprinkled over the ground, and a stone foundation was laid down for his own temple... The third and final major building phase took place in the Ptolemaic period and included total rebuilding of the temple itself and the addition of a pronaos, both at a new higher floor level» and «...the chests could have been put in place at any time between the construction of the temple... (in our opinion the reign of Tuthmosis III) and the rebuilding in Ptolemaic times» (p. 294). *Contra,* P. Warren, review of Kemp and Merrillees, *op. cit., The Classical Review* 35, 1985, p. 148, no 3.

[208] Kemp and Merrillees (*supra* n. 207), p. 296.

[209] The sherds from Kerma are described as «apparently LM I/LH I», but more precise identification is impossible (Warren and Hankey [*supra* n. 184], p. 138). The sherds from Kom Rabia (Memphis) are most probably Minoan and of LM IB date, rather than Mycenaean (*ibidem,* p. 139).

earliest *Keftiu* representations in Egyptian tombs, i.e. before the reign of Hatshepsout [210], and this is certainly a most significant contribution to the problem. But is this really so evident?

The answer to the «how» question is of central interest here. The fact that items of distinctly Helladic type are not attested on Crete during the shaft grave period seems to exclude a role of intermediary played by Minoans in the transfer of the vases to Egypt and to favor rather a direct trade. One could wonder, however, why early Mycenaean Greece would not have received in exchange a greater number of Egyptian objects than the isolated specimen, the alabaster vase 829 from circle A. Does this mean that the treasure has been gathered for the most part —excluding the chests at least— rather in the Levantine area, as usually suggested in order to account better for its Levantine, Mesopotamian and perhaps Anatolian affinities [211], and that the addition of the two kantharoi has been made in the Levant, prior to the expedition of the whole from there to the Nile valley? The value of the kantharoi from Tod as evidence of early trade with Egypt would greatly decrease in that case, but evidence of early exchange with the Levant would accordingly increase and this last picture would fit better indeed with the origin that has been postulated above for the metal inlay technique. It would also agree with the possible signs of Levantine presence on Thera and the island would appear as the most prob-

210 S. Wachsmann, *Aegeans in the Theban Tombs,* Leuven 1987, pp. 27-40 (list of tombs, the earliest one is Senmut's tomb).

211 On this J. Vandier, *Syria* 18, 1937, pp. 179-182, H. J. Kantor, *The Aegean and the Orient in the Second Millennium* B.C., Bloomington 1947, pp. 19-20, Kemp and Merrillees (*supra* n. 207), p. 283 and 296 and Walberg (*supra* n. 194), p. 174. It should be noted in that respect that the ingots included in the treasure seem to conform to a Syrian weight system (Laffineur [*supra* n. 197], pp. 20-24). For the Anatolian connections, see F. Schachermeyr, *Ägäis und Orient,* Vienna 1967, p. 58 (the shapes of the metal vessels, as well as, more generally, the nearly exclusive use of silver that would point to Anatolia —but this could equally point to an origin on the Greek mainland), Davis (*supra* n. 18), pp. 71-73 (the cup with a handle of the Vapheio type) and, most recently, H. Matthäus, «Mykenai, der mittlere Donauraum während des Hajdusamson-Horizontes und der Schatz von Valcitran», *Thracians and Mycenaeans, Proceedings of the Fourth International Congress of Thracology, Rotterdam, 24-26 Sempember 1984,* Leiden 1989, pp. 97-100 (with the following statement: «Wünschenswert wäre natürlich ein Vergleich mit originalen westanatolischen Metallarbeiten. Diese jedoch fehlen in Kleinasien»!).

able candidate for a role of intermediary between mainland Greece and the Levant, if the trade was not a direct one between the two regions.

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