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KOSMOS

JEWELLERY, ADORNMENT AND TEXTILES IN THE AEGEAN BRONZE AGE

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Edited by Marie-Louise NOSCH and Robert LAFFINEUR

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To Elizabeth Barber

To the memory of Youlie Spantidaki



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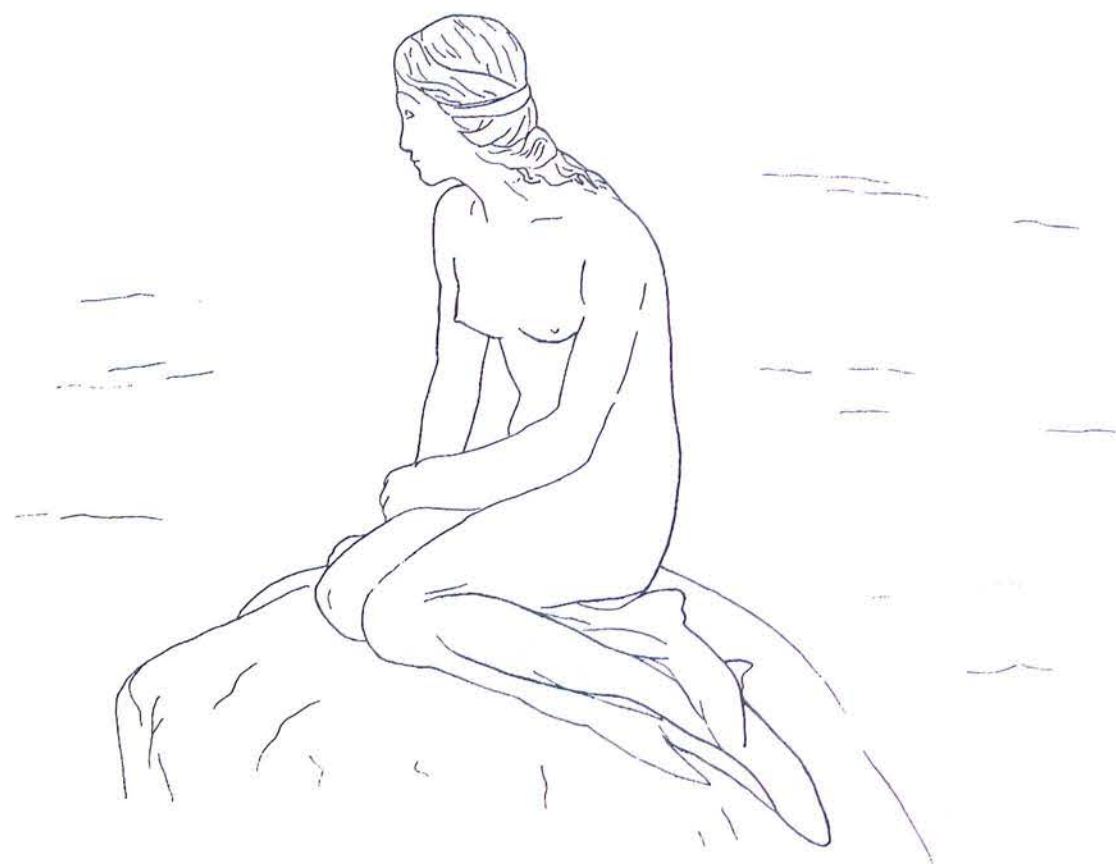
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PREFACE

The subject of KOSMOS in the Aegean Bronze Age includes jewellery, costume, aesthetics, body adornment, colours, pigments, and textiles. The reason for this choice of subject was our wish to merge the textile research carried out currently at the Danish National Research Foundation's Centre for Textile Research, with the major research topic of Robert Laffineur, jewellery.

This KOSMOS volume addresses the issues of textile production, costumes, dyes and pigments, colours, jewellery, aesthetics, body adornment, luxury and exotic items, gender and femininity/masculinity, as well as their social, religious, ideological, economic, technological, administrative and philological connections. In the Bronze Age, men, women and children would dress in garments, wear jewellery and adorn themselves to express their gender, age and status.

During the Bronze Age, societies underwent dramatic changes. Palace cultures rose and fell. The palace-monitored textile industries evolved into strictly controlled systems with sophisticated administrative procedures for monitoring sheep flocks, allocating wool, setting production targets and also sanctioning shortfalls and deficits. It seems likely that nearly all men, women and children would take active part in textile production. Textile research has measured how time-consuming textile production is, and it can be concluded that this activity must have formed a constant occupation for the majority of any population. Textile production equally plays a key role in Greek mythology: Penelope at her loom, Philomela and her tapestry weaving, and Arachne's web. These mythical heroines reflect the importance and status of textile production in Greek society.

Precious metals as well as textiles constituted a valuable resource for trade during the Bronze Age; they were stable, long-term value-added commodities and can even be regarded as a type of currency in this pre-monetary economy. This phenomenon is not novel or specific to the Aegean: earlier in the 2nd millennium BC, in the Near East, textiles, wool and metals were integral and constant elements in the Old-Assyrian trade networks.

The Aegean scholar who has marked research on textiles, adornment and costume most profoundly is without doubt Elizabeth Barber. Her fundamental monograph *Prehistoric textiles* from 1991 and her many scholarly papers have inspired the next generation of scholars who publish in this present volume. Regrettably we were not able to publish the contribution by Youlie Spantidaki, who sadly passed away in March 2010. Youlie Spantidaki was one of Greece's finest textile experts and she was involved in a series of international scholarly networks where she represented Greece. Her training in natural sciences as well as her capacity as textile specialist gave her all the necessary assets to understand textile production of the past. This volume is dedicated to Elizabeth Barber and Youlie Spantidaki.

The 13th International Aegean conference in Copenhagen termed *KOSMOS. Jewellery, Adornment and Textiles in the Aegean Bronze Age* will for many reasons remain unforgettable to the scholarly community. The conference was organised by the Université de Liège and the Danish National Research Foundation's Centre for Textile Research (CTR), University of Copenhagen, to take place in the end of April 2010. For a scholarly community for which the volcanic eruption of Santorini represents a focal point, this Aegean conference has now marked us by yet another volcanic eruption, this time the Icelandic volcano Eyjafjallajökull. More than hundred Aegean colleagues stranded in airports around the world or were blocked at home without any possibility to travel. In Copenhagen, books of abstracts, programs, name-tags, student helpers and assistants, hotel rooms, dinners, receptions at the Copenhagen Town Hall, visits at the National Museum and Carlsberg Glyptotek, all were standing by, anxiously awaiting guests and a sky clear from volcanic ash. As the hours passed, and cancellations and desperate e-mails from all over the world came pouring in, it became necessary to take important

excavation has been labeled with the name of the owner of the excavated plot, followed by the year of excavation: e.g. Kofini 2005. History in Thebes can only be reconstructed through the comparison of the evidence from these various plots, which happen to have been excavated, recorded and published in a wide range of different levels.

As for the last Mycenaean phase of the Kadmeia, the Late Helladic (LH henceforth) IIB, according to previous observations and excavations, two main destruction episodes (i.e. layers) had been identified, one during LH IIB1 and the other at the end of LH IIB2. For many plots, in recent years this phasing identification had begun to be questioned, in favour of a major destruction event during LH IIB2 Late. Such plots would include the Loukou plot ("Ivory Workshop"), the Pavloyiannopoulou plot ("Armoury"), the Lianga plot ("Room of the Sealings") and the Tzortzi plot ("Treasury" and "Room of the Pithoi"). If this hypothesis is accepted, for all these areas the main destruction would therefore have been contemporary with those at the Soteriou-Dougekou plot and the Pelopidou excavations (LH IIB2).² By the way, many of these plots are not fully published and this chronological proposal has to be considered with some caution.

For the project, the plots that have been included in the work are (see Pl. XXVIII): Soteriou Dougekou (1970-71) on the top of the hill, Loukou (1980), Pavloyiannopoulou (1963-64 and 1994-95) and Pelopidou street (1993-95) on the higher eastern slopes, Christodoulou (1983) and Stamatis (1983-4) on the lowest eastern slopes, not far from the hypothetical location of the Homoloides Gates, and Kofini (2005), on the lowest south-eastern slopes, not far from the Elektrai Gates. According to the new dating proposal, the main destruction of these plots would have been occurred contemporaneously with an earthquake at the end of the LH IIB2/transition to the LH IIC Early, giving us hypothetically a picture of the late Mycenaean palatial phase at Thebes. These excavations, with the exception of the Soteriou-Dougekou plot, are known only through preliminary or partial publications or are still under study.

In these structures, the large majority of the pottery assemblage includes coarse, medium-coarse and plain fine wares: storage, cooking, pouring and drinking vessels. Medium-sized storage vessels are specially common. Small amounts of fine decorated pottery are also present. This pattern of shapes fits very well with an utilitarian function of the involved areas. Actually, from the excavation reports it seems that these architectural units were all dedicated to some working or utilitarian activities, with tools of various kinds, including textile tools, and one or more bath-tubs embedded on the floor. Some of these units yielded also traces of administration (Linear B tablets, inscribed and uninscribed nodules, seals and sealings) and/or

Florent: S. DEGER JALKOTZY, S. HILLER, O. PANAGL (eds), *Florent Studia Mycenaea. Akten des X. internationalen mykenologischen Colloquiums in Salzburg vom 1-5 mai 1995* (1999).

Fouilles Cadmée I: V.L. ARAVANTINOS, L. GODART, A. SACCONI, *Thèbes. Fouilles de la Cadmée I. Les tablettes en Linéaire B de la Odos Pelopidou. Édition et commentaire* (Biblioteca di "Pasiphae" 1, 2001).

Fouilles Cadmée II.2: E. ANDRIKOU, V. ARAVANTINOS, L. GODART, A. SACCONI, J. VROOM, *Thèbes. Fouilles de la Cadmée II.2. Les tablettes en Linéaire B de la Odos Pelopidou. Le contexte archéologique. La céramique de la Odos Pelopidou et la chronologie du Linéaire B* (Biblioteca di "Pasiphae" II.2, 2006).

Fouilles Cadmée III: V.L. ARAVANTINOS, L. GODART, A. SACCONI, *Thèbes. Fouilles de la Cadmée III. Corpus des documents d'archives en Linéaire B de Thèbes (1-433)* (Biblioteca di "Pasiphae" 3, 2002).

Fouilles Cadmée IV: V.L. ARAVANTINOS, M. DEL FREO, L. GODART, A. SACCONI, *Thèbes. Fouilles de la Cadmée IV. Les textes de Thèbes (1-433). Translittération et tableaux des scribes* (Biblioteca di "Pasiphae" 4, 2005).

PITEROS *et al.* 1990: Chr. PITEROS, J.-P. OLIVIER and J.L. MELENA, "Les inscriptions en Linéaire B des nodules de Thèbes (1982): la fouille, les documents, les possibilités d'interprétation," *BCH* 114 (1990) 103-184.

TT II: Th. SPYROPOULOS and J. CHADWICK, *The Thebes Tablets II* (Minos Supl. IV, 1975).

¹ An overview can be found in K. DEMAKOPOULOU, "Palatial and Domestic Architecture in Mycenaean Thebes," in P. DARCQUE and R. TREUIL (eds), *L'habitat égéen préhistorique* (BCH Suppl. 19, 1990) 307-317 and in V. ARAVANTINOS, "Old and New Evidence for the Palatial Society of Mycenaean Thebes: an Outline," in *POLITEIA* 613-622.

² ARAVANTINOS *et al.* 2006. See also: V. ARAVANTINOS, "Mycenaean Texts and Contexts at Thebes: The Discovery of New Linear B Archives on the Kadmeia," in *Florent* I 45-74 (51); E. ANDRIKOU, "The Pottery from the Destruction Layer of the Linear B Archive in Pelopidou Street, Thebes," in *Florent* 79-102 (87); ANDRIKOU 2006, 56-59; A. DAKOURI-HILD, "The House of Kadmos in Mycenaean Thebes Reconsidered: Architecture, Chronology and Context," *BSA* 96 (2001) 81-122 (106-7).

craft activity, especially ivory working, and were possibly used as storage area for craft products (bronzes, ivories, pottery), raw material (wool) or agricultural products. Their characteristics are shortly presented in the following paragraphs and summarized in Pl. XXIXb.

In the framework of the project, the textile tools and general context from all of these plots have been examined (2006-2007), while a further study of the finds and excavations has been undertaken only for a selection of them (namely Christodoulou, Kofini and Stamatis) and is presently in progress (2006 onwards). The data from the textile tools study were sent to CTR for a more complex and complete analysis. The results will be published in a volume edited by the CTR³ and are incorporated in the present text (see references to the *CTR Technical Report*).

Maria Emanuela ALBERTI and Vassilis L. ARAVANTINOS

Part I: Contexts

Thebes, Kofini Plot 2005

Excavation: Θ' Εφορεία Π.Κ.Α., Vassilis Aravantinos, 2005.

Location: between Pelopidou and Dirkis Streets, in the southeastern part of the Kadmeia, not far from the Elektrai Gates.

Study and publication: preliminary report by Vassilis Aravantinos;⁴ further study in progress, by Maria Emanuela Alberti.

Chronology (provisional): on the present evidence, it appears that the complex dates to a very advanced phase of LH IIB2.

Other information (provisional): two-three rooms, partially carved in the rock. Utilitarian destination, with evidence of ivory working (many fragments of ivory both finished and unfinished were found) and tools of various kinds: stone tools (pounder-grinders, a whetstone), obsidian blades and cores, flint blades and textile tools. A bath-tub was on the floor in a corner, along with two pestels, two pounder-grinders, a cutter, a stone working surface, a plain kylix, a plain bowl, a spindle-whorl, and sherds from kylikes, bowls, cups, jugs or jars. Close to the bath-tub, a mud-brick hearth and another mud-brick installation with burned organic substance and lead fragments were found. In general, the large majority of the pottery includes coarse, medium-coarse and plain fine wares. Bronze pins and other bronze and lead objects, clay figurines and bones are also recorded.

Textile tools: among textile tools, spindle-whorls/"conuli" comprise the large majority. There are 23, mostly of LH types: conical, biconical and convex-conical, made in clay or stone, especially steatite, of small dimensions. Most of them can be classified as "conuli," having a mass equal or inferior to 8 gr. Whorls of 3-4 gr are common. According to the *CTR Technical Report*, the weight/diameter range of the Kofini whorls is quite wide, with no major concentration: various types of threads must have been spun at the plot.⁵

Maria Emanuela ALBERTI

Thebes, Pavloyiannopoulou-"Armoury" plot (1963-4, 1971, 1973, 1980 and 1994-5), Loukou - "Ivory Workshop" plot (1980) and Pelopidou street (1993-95)

General remarks - In the central area of the Kadmeia, on the higher slopes in its southeastern part, between the Pelopidou and Zeggini streets, a large Mycenaean complex has come to light through various excavations of different neighboring plots. The uncovered buildings most likely belong to the same urban unit, but, because of the necessary limits of the rescue excavations,

³ ANDERSSON *et al.* (forthcoming).

⁴ V. ARAVANTINOS, *ArchDelt* (forthcoming).

⁵ ANDERSSON *et al.* (forthcoming).

their relationships are still not clear. The main excavated areas are: the Pavloyiannopoulou plot (or "Armoury," from 1963-64 to 1994-5), the Loukou plot (or "Ivory Workshop," 1980) and the Pelopidou Street itself, that divides the two plots, where a rich Linear B deposit was recently uncovered (1993-1995). These plots are known only through preliminary publications, with the exception of the pottery and tablets from the Pelopidou street. As far as textile activities are concerned, stone and clay "buttons" are reported from the entire area. These tools, along with all the other small finds from the complex, and especially ivories, are currently being studied by Athina Papadaki.

Maria Emanuela ALBERTI

Pavloyiannopoulou - "Armoury" plot (1963-4, 1971, 1973, 1980 and 1994-5)

Excavation: first excavations in 1963-64 (Θ' Εφορεία Π.Κ.Α., N. Platon and E. Touloupa); other rescue interventions throughout the years until 1995 (Θ' Εφορεία Π.Κ.Α.:1970 A. Ioannidou, 1973 and 1980 K. Demakopoulou, 1994 - 1995 V. Aravantinos). Nevertheless, the complex has been brought to light only partially.

Study and publication: preliminary reports by Touloupa, Ioannidou and Dimakopoulou. Reports on recent excavations and other studies by V. Aravantinos.⁶

Chronology: the generic LH IIIB chronology given by the first excavators or the LH IIIB1 date proposed later on by K. Demakopoulou for some of the structures have recently been questioned in favour of a later date at the end of the LH IIIB2 period (see above).⁷

Other information: the "Armoury" was so-called because horse equipment and parts of bronze cuirasses as well as substantial quantities of bronze weapons were uncovered in the plot. However, many ivory items were also found. In the eastern part of the extensive architectural complex, three rooms were still preserved, separated by corridors. Sherds of large pithoi were scattered on the floor of the rooms. In the easternmost corridor many bronze objects were discovered: pieces of armour, horse trappings and harnesses, chariot equipment, spearheads and arrowheads, vases and fragments of sheet metal belonging to cuirasses, and pottery. In the same area a hoard of finished ivories was uncovered. In the second corridor some fragmentary Linear B tablets (Ug) and two lead balance weights were found lying on the clay floor, along with fragments of frescoes, few figurines and pottery. The LH IIIB vessels included kylikes, stirrup jars, cups and jugs. There were also some bone and stone tools, some clay and stone "conuli" or buttons and a stone mortar. Other tablets came to light during successive excavations (Ug, Lf 139 and Ft 140). The excavation yielded also various types of metal vases and a glass ingot.

⁶ The present summary is based on E. TOULOUPA, *ArchDelt* 20 (1965) B', 233-4; A. IOANNIDOU, *ArchDelt* 26 (1971), 209; K. DEMAKOPOULOU, *ArchDelt* 29 (1973-4) B2, 441, and *ArchDelt* 35 (1980) B2, 217-8; V. ARAVANTINOS, *ArchDelt* 49 (1994) B1, 271-6, and *ArchDelt* 50 (1995) B1, 275-281; ID., "Μυκηναϊκά σταθμά από τη Θήβα," in *Β' Συνέδριο Βοιωτικών Μελετών, Λιβαδειά, 6-10 Σεπτεμβρίου 1992* (Επετηρίς της Εταιρείας Βοιωτικών Μελετών, 1995) B', α', 97-131, and "Mycenaean Texts" (*supra* n. 2); ARAVANTINOS and ALBERTI 2006. For a general view see: V. ARAVANTINOS, "Νέα μυκηναϊκά ελεφαντουργήματα από τη Καδμεία (Θήβα)," in *Γ' Συνέδριο Βοιωτικών Μελετών, Θήβα, 4-8 Σεπτεμβρίου 1996* (Επετηρίς της Εταιρείας Βοιωτικών Μελετών, 2000) Γ', α', 31-120 (41-44). Balance weights: V. ARAVANTINOS, "Μυκηναϊκά σταθμά" (*supra*) and ARAVANTINOS and ALBERTI 2006. Texts: *Fouilles Cadmée III* Ug 1-24, 41-43 and 421-428, Lf 139 and Ft 140; V. ARAVANTINOS, "La tavoletta frammentaria TH Ug 43. Un interessante caso di conflitto tra dati di scavo e dati epigrafici," in B. ADEMBRI (ed.), *AEIMNHSTOS. Miscellanea di Studi per Mauro Cristofani* (2006) 25-31. Corselets: E. ANDRIKOU, "New Evidence on Mycenaean Bronze Corselets from Thebes in Boeotia and the Bronze Age Sequence of Corselets in Greece and Europe," in I. GALANAKI, H. TOMAS, Y. GALANAKIS and R. LAFFINEUR (eds), *Between the Aegean and Baltic Seas. Prehistory Across Borders. Proceedings of the International Conference "Bronze and Early Iron Age Interconnections and Contemporary Developments between the Aegean and the Regions of the Balkan Peninsula, Central and Northern Europe", held at the University of Zagreb, 11-14 April 2005*, *Aegaeum* 27 (2007) 401-410. Evidence for previous phases of the same building is frequently mentioned in the reports. None of these successive excavations was published in detail.

⁷ ANDRIKOU (*supra* n. 2) 87; ARAVANTINOS, "Νέα μυκηναϊκά ελεφαντουργήματα" (*supra* n. 6) 52; DAKOURI-HILD (*supra* n. 2) 106-7; ARAVANTINOS *et al.* 2006, 241. All the reports mention generically LH IIIB pottery, except one (DEMAKOPOULOU, *ArchDelt* 29, *supra* n. 6) referring to LH IIIB1 material.

It should be recalled that one of the mentioned balance weights has a mass roughly similar to the Mycenaean unit for weighing and counting wool, i.e. 3 kg ca.

Linear B texts: from the plot 37 Linear B tablets and fragments of tablets were totally uncovered (some of them have been detected in 1996 among the ceramic material stored in the Museum). The texts of the larger group, TH Ug, are obscure.⁸ The other two tablets, Lf 139 and Ft 140, were found in 1994, unfortunately with no context material. The first one is particularly interesting for textile production, since it records a delivery of cloths (see *infra*). The second lists quantities of cereals and olives to be distributed to various Boeotian places (the toponims of Thebes, Euthresis and Eleon are identifiable among others).

Textile tools: various spindle-whorls and loom-weights were found in the plot, along with some bone pointed tools. According to the *CTR Technical Report*, the weight range of spindle-whorls from this plot is similar to that of those from the other examined plots, with a majority of light exemplars.⁹

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Loukou - "Ivory Workshop" plot (1980)

Excavations: Θ' Εφορεία Π.Κ.Α., Adamantios Sampson, 1980.

Location: the plot is adjacent to the western side of Pelopidou Street, close to and opposite the "Armoury."

Study and publication: preliminary reports by Adamantios Sampson.¹⁰

Chronology: destruction dated by the excavator to approximately the end of LH IIIB1, but recent data would seem to support a later date, in LH IIIB2.¹¹

Other information: remains of a two-storey building, only partially excavated, tentatively identified as an ivory workshop. The recovered pottery range is the same as in the other plots, including utilitarian and fine vessels. Many ivory working debris, half-worked and finished ivory items were found.¹² On the floor there were two ivory combs, some "buttons" and spindle-whorls, some vases, and a set of eight stone balance weights.

Textile tools: few light steatite spindle-whorls or "conuli" were on the floor of room I.

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⁸ Inscription on the tablets consist of one ideographic sign O followed by numerals and preceded by personal names, some of them in the genitive. No convincing interpretation has been proposed so far for the contents of this small series (ARAVANTINOS [*supra* n. 1] 620). In the first study on this group, John Chadwick (J. CHADWICK, "Linear B Tablets from Thebes," *Minos* 10 [1970] 115-37) interpreted the sign O as an abbreviation for *o-pa-wo-ta*, cuirass plates, which matched the recovery of bronze cuirass parts North-West of the "Armoury." This hypothesis encountered some major difficulties. Anastasia Dakouri-Hild (DAKOURI-HILD 2005, 216-217) suggests that the Ug series could point to the production of a(n olive-based?) foodstuff. More recently, see ARAVANTINOS, "La tavoletta" (*supra* n. 6).

⁹ ANDERSSON *et al.* (forthcoming).

¹⁰ Excavation: A. SAMPSON, *ArchDelt* 35, B1 (1980) 218-220; ID., "La destruction d'un atelier palatial mycénien à Thèbes," *BCH* 109 (1985) 21-29; ARAVANTINOS, "Νέα μυκηναϊκά ελεφαντουργήματα" (*supra* n. 6). Balance weights: ARAVANTINOS and ALBERTI 2006.

¹¹ See above. The few published sherds from the destruction layer (SAMPSON, "La destruction," *supra* n. 10, fig. 2-3) could as well be dated to the end of LH IIIB2 or to the beginning of LH IIIC (ANDRIKOU 2006, 58).

¹² More than one hundred pieces from only one room. In the workshop, ivory working debris outnumber the finished objects (SAMPSON, "La destruction," *supra* n. 10; ARAVANTINOS, "Νέα μυκηναϊκά ελεφαντουργήματα," *supra* n. 6, 49).

Pelopidou street (1993-5)

Excavation: Θ' Εφορεία Π.Κ.Α., Vassilis Aravantinos, 1993-1995.

Location: between the "Armoury" and the "Ivory Workshop," under the asphalt of the Pelopidou street.

Study and publication: at the moment, only the Linear B texts and the pottery have been fully published. Preliminary reports on the excavations by V. Aravantinos.¹³ Textile tools have been studied by A. Papadaki and M.E. Alberti.

Chronology: the occupation in the area starts from the MH period and continues through many destruction levels until LH IIIC Middle.¹⁴

Other information: For the present work, the most interesting phases are the LH IIIB2 occupation (layer 2) and the LH IIIC phases (layer 1). Layer 2, mainly known from the LH IIIB2 Late destruction deposits, yielded a conspicuous deposit of Linear B tablets. It is likely that part of them was on a shelf between walls 24 and 40 (deposit 2 a), while the others were scattered around. Fine and decorated pottery is prevalent. Storage areas for agricultural products have been identified in the North sector of the plot, still partially unexcavated, with charred cereals and figs. These are also recurrent in the destruction layers of others sectors, along with mill-stones and pounder-grinders, other stone and bone tools, animal bones, spindle-whorls, figurines, lead and bronze objects, glass paste beads and worked and unworked ivories and obsidian. A lead balance weight is also recorded. The successive and last phase of occupation in Layer 1 spans from LH IIIC Early to Middle, through various rebuilding episodes of more domestic character, in which coarse wares are prevalent. After LH IIIC Middle, the area is substantially abandoned.

Linear B texts: among the 248 tablets and fragments of tablets found in the Pelopidou excavations, three deal with wool deliveries (Oh 206, 208, 209, see *infra*).¹⁵ The others record personnel (Av), wheat (Ev), barley and barley flour (Fq), wheat and olives (Ft), spices and other weighed products (Gf), wine, barley flour and cyperus (Gp), vases (Ka), various products (Uo) and individuals (V).

*Textile tools:*¹⁶ the higher number of textile tools from LH IIIC levels is probably linked to the domestic character of the area in this period, while in previous phases, when the plot seems to be dedicated to storage and administration, textile tools are fewer. "Conuli" and spindle-whorls are the most highly attested textile tools and their number is almost equivalent throughout all of the phases.¹⁷ The *CTR Technical Report* underlines that, though the weight range of spindle-whorls from this plot is similar to that of those from the other examined plots, most of the Pelopidou whorls, in every phase, weigh 20 gr or less, with a major concentration under 10 gr (given the high percentage of "conuli" in the sample). Besides, eight bone tools that can be interpreted as pin/stylus/needles/points.¹⁸

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- 13 The tablets have been published in *Fouilles Cadmée I*, the pottery in *Fouilles Cadmée II.2* (ANDRIKOU 2006). As stated above, the small finds are currently under study by Athina Papadaki. The stratigraphy, the small finds and the global interpretation of the contexts are still known only from preliminary reports: e.g. V. ARAVANTINOS, *ArchDelt* 48 (1993-94) B'1, 170-173; ID., *ArchDelt* 40 and 50 (*supra* n. 6), and "Mycenaean Texts" (*supra* n. 2). Balance weight: ARAVANTINOS and ALBERTI 2006.
- 14 All of the following information is taken from the preliminary reports by V. Aravantinos (see n. 13), ANDRIKOU 2006, 11-14 and 55-59 and the work-notes of Athina Papadaki on the Pelopidou small finds.
- 15 *Fouilles Cadmée I* 304-305.
- 16 The present summary on textile and related tools is based mainly on the work by Athina Papadaki on the Pelopidou small finds.
- 17 Anyway, the present separation between the two classes has been made essentially on the basis of the mass: "conuli" weigh 8 gr or less.
- 18 ANDERSSON *et al.* (forthcoming).

Thebes, the Christodoulou - Lianga - Stamatis complex or "Eastern Complex" (1981-4)

Excavation: Θ' Εφορεία Π.Κ.Α.: Christos Piteros excavated the Lianga plot (1981-1983), and Vassilis Aravantinos excavated the Christodoulou and Stamatis plots (1983-84). Indeed, Lianga, Stamatis and Christodoulou are adjacent plots which are part of the same archaeological complex, covering ca. 1000 m². Crossing the three plots, three Mycenaean buildings extend from W to E.

Location: the "Eastern Complex" lays on the lowest slopes of the eastern part of the Kadmeia (between Oidipodos and Oikonomou streets), close to the probable ancient town border and fortification line, in an area where the Homoloides Gates were thought to have been traditionally located.

Study and publication: a series of preliminary reports by V. Aravantinos and Ch. Piteros published the results of all of these excavations, giving a general outline of the archaeological contexts.¹⁹ The full publication of the Christodoulou and Stamatis plots has recently been entrusted by the excavator, Vassilis Aravantinos, to Françoise Rougemont and Maria Emanuela Alberti respectively. The study is in progress. The present summary is based on the preliminary publications of the three plots and on the first results of the study of the material from the Christodoulou and Stamatis plots.

Chronology: according to Vassilis Aravantinos, the three Mycenaean buildings were not contemporary and three major building phases can be identified.²⁰ Presently, it is not yet clear how these three building phases relate to the two main destruction phases identified by both excavators: the first has been dated to the end of LH IIIB1 (possibly referring to the end of Building Phase 1) and the other to the end of LH IIIB2 (possibly encompassing Building Phases 2 and 3).²¹ However, as mentioned above, recent studies have questioned the validity of such a chronology.²² After the examination of a good sample of the Christodoulou and of Stamatis material, the bulk of the evidence seems to be close to the deposits 2a and 2b of the Pelopidou excavation (see ANDRIKOU 2006), and therefore can be dated to the LH IIIB2 Late period. However, some hints of a slightly later chronology can also be found (i.e. LH IIIC Early) and some contexts could also be considered earlier in LH IIIB (LH IIIB1?). Obviously, there are also substantial traces of MH and previous LH levels, as well as of layers dating to historical periods, ranging from Classical to Ottoman times.

Other information: crossing the three plots, three Mycenaean buildings extend from W to E: the Northern Building, the Central Building and the Southern Building(s) (Piteros Buildings I, II and III). They consist of rows of rooms one after the other, and are separated by narrow paved streets. During the last Mycenaean phase, drain and outlet systems were also in place, in addition to at least four bath-tubs.²³ The buildings seem to have been used as more storage and work structures rather than as habitation quarters: there are many indicators of craft

- 19 See: V. ARAVANTINOS, *ArchDelt* 38 (1983) B1, 129-131; ID., "Nuovi elementi sulle catastrofi nella Tebe micenea. Osservazioni preliminari", in D. MUSTI (ed.), *Le origini dei Greci. Dori e mondo egeo* (1985); ID., "Η μυκηναϊκή οχύρωση της Καδμείας. Προκαταρκτική ανακοίνωση", in *Α' Συνέδριο Βοιωτικών Μελετών* (Επετηρίς της Εταιρείας Βοιωτικών Μελετών, 1988) A', 113-136; ID., "The Mycenaean Inscribed Sealings from Thebes: Preliminary Notes", in P.H. ILIEVSKI and L. CREPAJAC (eds), *Tractata Mycenaea. Proceedings of the Eighth International Colloquium on Mycenaean Studies, held in Ohrid, 15-20 September 1985* (1987) 13-27; ID., "The Mycenaean Inscribed Sealings from Thebes: Problems of Content and Function", in T.G. PALAIMA (ed.), *Mycenaean Inscribed Sealings from Thebes: Problems of Content and Function*, in *Proceedings of the Program in Aegean Aegean Seals, Sealings and Administration. Proceedings of the NEH-Dickson Conference of the Program in Aegean Aegean Seals, Sealings and Administration. University of Texas at Austin, January 11-13, 1989*, *Aegaeum Scripts and Prehistory of the Department of Classics*, 131-134; ID., "Τοπογραφικές παρατηρήσεις στην ακρόπολη της Καδμείας", in *Α' Συνέδριο Βοιωτικών Μελετών* (*supra* this note) A', 89-112; PITEROS *et al.* 1990. For the nodules, see now *Fouilles Cadmée III*.
- 20 V. Aravantinos, Stamatis excavation notebook, *passim*.
- 21 ARAVANTINOS, "Nuovi elementi" (*supra* n. 19) 351-3, and "Η μυκηναϊκή οχύρωση" (*supra* n. 19); PITEROS, *ArchDelt* 38 and "Τοπογραφικές" (*supra* n. 19).
- 22 The nodules (i.e. the first destruction phase in the Lianga plot) have to be dated to LH IIIB2 Late period according to Aravantinos *et al.* 2006, 57; DAKOURI-HILD 2005 211, fn. 13.
- 23 Description from the preliminary reports by V. Aravantinos and Chr. Piteros quoted *supra* n. 19. The denominations of the Mycenaean structures, however, are new and mostly inspired by the excavation notebooks of Christodoulou and Stamatis (Vassilis Aravantinos).

activities, among which textile processing can also be recognized.²⁴ The eastern edge of the area (Stamatis plot) is framed by the remains of a fortification wall, which should be later than the LH IIIA2 - B1 early period, according to the excavator, Vassilis Aravantinos. The wall would seem to have been part of the Mycenaean fortifications of the town and to have been probably connected to the Homoloides Gates, which were hypothetically located not far away.²⁵

The "Eastern Complex" seems to have covered a wide range of functions: administration (inscribed and uninscribed nodules are documented, as well seals and sealings), staple storage (a number of medium and large-sized containers was found, especially jars and stirrup jars), pottery storage (possibly, given the presence of abundant plain drinking ware and of some decorated drinking sets) and craft activities (indicated by the occurrence of bronze, bone and ground-stone tools and obsidian blades). Among those, textile production, cereal processing and possibly shell working can be detected. The diffused presence of molten lead sheet objects (containers?) and of larnakes, both decorated and plain, some of which were found embedded in the floor, is also particular noteworthy. Possible bone *styli* are also attested from the three plots, thus matching the evidence of the inscribed nodules.²⁶ Some Handmade Burnished Ware examples were also found.²⁷ The same pattern of activities seem to be attested, at least for the Lianga plot, in both main phases of use.²⁸

Nodules and other Linear B inscriptions: 60 sealed nodules were found in room Z2 of the Northern Building (Piteros Building III), 56 of which bore Linear B inscriptions (TH Wu 44-99). The seals attested are 23. The inscriptions are composed mainly of ideograms of animals (OVIS, CAP, SUS, BOS, WE) with some other specifications added by means of syllabograms. The nodules clearly record transactions regarding a series of animals from various places and with assorted qualifications. This assemblage has been interpreted as reflecting the preparation of a religious celebration which involved sacrifice and feasting.²⁹ Quite interestingly, from these nodules the existence of a differentiated animal-rearing organization can be detected, composed of various entities which are not all internal to the palace structure.³⁰ From the E side of the Lianga plot, three vases bearing Linear B inscriptions are also reported.³¹

Seals and sealings: it is interesting to note the presence of traces of administrative activities, in the form of a sealing (CMS V suppl. 1B, n. 353, n. inv. 12933) and a seal (CMS V I B, n. 352, n. inv. 12933), both of which have already been published by the excavator, Vassilis Aravantinos.

Textile tools: among the ca. 30 tools from the Christodoulou plot dating from periods ranging from the MH to the end of the LH there is a majority of spindle-whorls and spool-shaped loom-weights, but also some pointed bone implements, some of which probably would have been used to handle the threads. Same assemblage from the Stamatis plot (15 spindle-whorls, three spool-shaped loom-weights, bone implements, including a needle and a possible "weaver's point"). According to the *CTR Technical Report*, the weight/diameter range of the Stamatis whorls is quite wide, with no major concentration: various types of threads must have been spun in the plot.³²

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- 24 ARAVANTINOS, "Η μυκηναϊκή οχύρωση" (*supra* n. 19) 118; PITEROS, *ArchDelt* 38, 133 and "Τοπογραφικές," (*supra* n. 19) 98; PITEROS *et al.* 1990 105.
 25 ARAVANTINOS, "Η μυκηναϊκή οχύρωση" (*supra* n. 19).
 26 PITEROS *et al.* 1990, fig. 2, p. 106.
 27 Some HBW sherds have been found in the Pelopidou excavations, very similar to some of the Stamatis items wishes to give her warmest thanks to Marco Bettelli, Elisabetta Borgna and Lucia Vagnetti for their advice on some of the Stamatis finds.
 28 PITEROS, *ArchDelt* 38 and "Τοπογραφικές" (*supra* n. 19).
 29 ARAVANTINOS, "The Mycenaean Inscribed Sealings" (*supra* n. 19, 1987 and 1990); PITEROS *et al.* 1990; *Fouilles Cadmée III*. Other recorded goods in the nodules include *171, PYC, *190.
 30 DAKOURI-HILD 2005 212.
 31 PITEROS, *ArchDelt* 38 (*supra* n. 19) 133.
 32 ANDERSSON *et al.* (forthcoming).

Thebes, Soteriou-Dougekou plot - "Archive" (1970-71)

Excavation: Θ' Εφορεία Π.Κ.Α., Th. Spyropoulos, 1970-71.

Location: the plot is situated in the central part of the Kadmeia, adjacent to the today's central square of the city.

Study and publication: the excavation and the Linear B tablets were published respectively by Th. Spyropoulos and John Chadwick.³³

Chronology: LH IIIB2.

Other information: The excavation revealed parts of three square rooms as well as a good amount of pottery, 16 Linear B tablets, textile tools and an assortment of other important small finds. The excavated rooms belonged possibly to the west part of the palace complex. In one room, a pithos and a stirrup jar were still *in situ* close to a bath-tub embedded in the floor. In another, where the tablets were also found, some channels and pits were uncovered. All of these were made watertight with a thin coating of lime and had been carved in the floor. The recovered pottery assemblage included plain drinking ware and many storage vases. Heavy traces of burning on the vessels led to the hypothesis that oil was stored in the structure. A mass of clay, once a stopper of an amphora, sealed several times by the same seal-stone, showed provenance or authority over the content of the vase.

Linear B tablets: above the floor of the room which contained channels and pits, a group of 16 tablets was revealed (TH Of, see *infra* for a wider discussion). These tablets constitute a closed group and record distributions of small quantities of wool.³⁴

Textile tools: the re-examination of the material coming from the excavation showed that among the findings there are many small steatite spindle-whorls. According to the *CTR Technical Report*, the weight/diameter range of these whorls is much narrower (but still covering a range) than that of the other plots; all of the whorls from LH IIIB2 Late contexts from this area weigh 13 g or less. This would suggest that a narrower range of yarn types was being spun in this location, hinting at a more focused production of particular thread types.³⁵

Comments: the combined presence of probable water-management facilities and tablets recording deliveries of wool has to be stressed. These installations, as well as the bathtub of the adjacent room, could have been used for washing and drying the wool, and perhaps for its treatment (of weighing) and storage, as suggested by Spyropoulos.³⁶ After a thorough review of the evidence, Cynthia Shelmerdine has concluded that the building was a clearing house, where the wool was collected and then sent away to workers, and that there is no reason to regard this building as a textile workshop.³⁷ The new data on textile tools, however, seems to point to a quite focused production of fine threads, even if it can not be excluded that the whorls were not used, but only kept in the structure and delivered along with the wool.³⁸ Moreover, the fact that on the floor, around the channels and pits, some complete small stirrup jars were found, whereas other pots were smashed in sherds, in contrast with the latter that were kept was being used when the building was collapsed, is a secure indication that the content of the first was being used when the building was collapsed, in contrast with the latter that were kept higher in shelves. This possibly indicates that the processing of wool, if this activity was actually conducted there, included also its treatment with oil, perhaps perfumed, a practice that is well known from Linear B tablets of Knossos and the ancient tradition.³⁹ The same could be

- 33 TT II.
 34 Th Of 25-40; J. CHADWICK, "The Linear B Tablets," in TT II 82-107; *Fouilles Cadmée I*, 304-305; *Fouilles Cadmée III* 131-133 and *passim*.
 35 ANDERSSON *et al.* (forthcoming).
 36 Th.G. SPYROPOULOS, "Excavations of Part of the Mycenaean Palace (Kadmeion) of Thebes," in TT II 9-81 (122).
 37 C. SHELMEKDINE, "Workshops and Record Keeping in the Mycenaean World," in *TEXNH* 387-389.
 38 DEL FREO and ROUGEMONT (forthcoming) fn. 47.
 39 C. SHELMEKDINE, "Shining and Fragrant Cloth in Homeric Epic," in J.B. CARTER and S.P. MORRIS (eds), *The Ages of Homer. A Tribute to Emily Townsend Vermeule* (1995) 99-107.

suggested also for the stirrup jar found near the bathtub. Unfortunately, the old treatment of the pots with acid in order to be cleaned does not allow us to investigate with new scientific methods of analyses their original content.

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Part II

Economy and production at Thebes

As the evidence from the Linear B texts suggests, the administrative action of the Mycenaean palaces was not evenly distributed among the various economic domains. Rather, some key-sectors were highly directed and controlled and others were variously managed in a more indirect way, while some others recur only sporadically in the documents or not even at all. In the absence of direct involvement, different types of taxation assured an adequate level of "mobilization" towards the palatial "centre." In this framework, large non-palatial economic sectors should have existed, linked (or not) with the palatial organization in an extremely variable and multiform network of relationships.⁴⁰

The wool textile industry - from the rearing of sheep to textile finishing - along with extensive large scale agriculture, metal working and production of perfumed oils, was one of the major concerns of the Mycenaean palaces. Within these spheres, the palaces were directly involved, controlling and recording the main steps of the production processes, in order to provide resources and finished items for distributing rations and accumulating prestige objects and trading goods. Other sectors, largely known from archaeological sources, such as pottery production, intensive agriculture and trade, receive only scanty mention in the archives, and were probably delegated to non-palatial social forces. As well, within the palatial organization itself, various strategies and structures can be observed, varying according to the site and economic field: Knossos, Pylos, Thebes and Mycenae seem to have had slightly different administrative approaches and solutions.⁴¹ Variety/uniformity, centralization/decentralization and specialization/household production are some of the issues involved in the debate. Mycenaean Thebes offers an excellent case study in this regard, with the parallel presence of archive documents and excavations in various parts of the town, from the top of the Kadmeia to its lowest slopes and probable fortifications.

Research on production and more broad economic activities in Thebes has been recently improved especially thanks to the work of Vassilis Aravantinos and Anastasia Dakouri-Hild, who collected the large and widespread archaeological evidence for the "palatial" production of stone, ivory, bone, glass and small metal artifacts (mostly gold) and tried to combine it with the epigraphic data issued from the Linear B documents uncovered in the town.⁴² Until the

40 Articulated discussion of these topics in S. VOUTZAKI and J. KILLEN (eds), *Economy and Politics in the Mycenaean Palace States. Proceedings of a Conference held on 1-3 July 1999 in the Faculty of Classics, Cambridge* (Cambridge Philological Society Suppl. 27, 2001), especially the contributions by P. de Fidio, J. Driessen, P. Halstead, C. Knappett, S. Voutsaki and T. Whitelaw. See also: P. HALSTEAD, "The Mycenaean Palace Economy: Making the Most of the Gaps in the Evidence," *PCPS* 38 (1992) 57-86; ID., "Agriculture in the Bronze Age Aegean. Towards a Model of Palatial Economy," in B. WELLS (ed.), *Agriculture in Ancient Greece. Proceedings of the Seventh International Symposium at the Swedish Institute at Athens, 16-17 May 1990* (1992) 105-117; ID., "Texts, Bones and Herders: Approaches to Animal Husbandry in Late Bronze Age Greece," in J. BENNETT and J. DRIESSEN (eds), *A-NA-QO-TA. Studies Presented to J.T. Killen (= Minos 33-34, 1998-99)* 149-189; ID., "Surplus and Share-Croppers: The Grain Production Strategies of Mycenaean Palaces," in Ph.P. BETANCOURT, V. KARAGEORGHIS, R. LAFFINEUR, W.-D. NIEMEIER (eds), *MELETEMATATA. Studies in Aegean Archaeology Presented to Malcom H. Wiener as He Enters His 65th Year*, *Aegeum* 20 (1999) II 319-326.

41 See e.g. SHELMEIRDINE (*supra* n. 37) and EAD., "A Comparative Look at Mycenaean Administration(s)," in *Florent II* 556-576, with references.

42 See especially ARAVANTINOS (*supra* n. 1) and DAKOURI-HILD 2005 with references. The importance of craft production in Mycenaean Thebes has been clear since the first archaeological research: see A. KERAMOPOULLOS, "Αἱ βιομηχανικαὶ καὶ τοῦ ἐμπορίου τοῦ Κάδμου," *ArchEph* 1930, 29-58.

present study, however, the evidence for textile industry was poor.⁴³

The known difficulties of reconstructing ancient settlement structures through a grid of scattered excavations, a problem typical of urban archaeology and therefore of the history of the research in Thebes, hampers the full assessment of the "palatial" character of most of these work areas and productions. Ivory working, stone carving and jewellery manufacture belong almost surely to the "palatial" domain, but it is still impossible to determine the exact (structural and bureaucratic) connections between the uncovered productive quarters and the "central" administration or palatial organizational core. Besides, the location of a typical Mycenaean central palace structure, i.e. the "megaron" suite, in the "House of Kadmos" is only hypothetical. Anyways, this building(s) (also known as "Old Kadmeion," probably destroyed in early LH IIIB1) is generally believed to have been part of the "central" complex.⁴⁴

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Late Mycenaean Thebes (LH IIIB2 Late)

As far as can be seen at the moment, during the late palatial Mycenaean phase in Thebes (i.e. LH IIIB2 Late) there were many organizational units, disseminated throughout the ancient town. In these areas, many activities took place side by side (e.g. ivory and stone working, or weaving and storage). A widespread feature is the presence of larnakes (bath-tubs), some found embedded in the floor. However, in many cases, it is difficult to understand if the evidence relates to work activities or to storage facilities. Multi-functional work units have also been hypothesized for the previous phase (LH IIIB1).⁴⁵

Piecing together the main characteristics of the examined contexts, some interesting associations appear, suggesting a more articulated picture for these organizational units. Two other excavations (not originally included in the project) have been added to the sample, most likely datable to the same destruction phase: the Tzortzi plot ("New Kadmeion," containing the "Treasury" and the "Room of the Pithoi," whose chronology still has to be assessed) and the Public Congress Center excavations (LH IIIB2 layers) (Pl. XXIXa).⁴⁶ The units from all of the plots can be grouped together as follows:

Group I (Soteriou-Dougekou, Pavloyiannopoulou, Pelopidou and Tzortzi plots) - major units, with large-scale storage activity, tablet recording, other elements of administration/measuring, storage of finished craft products (Tzortzi and Pavloyannopoulou) and traces of

43 DAKOURI-HILD 2005, 214.

44 See DAKOURI-HILD (*supra* n. 2) with references, for a reconsideration of the evidence and a discussion on the chronology. The identification of rooms A, B and Γ with a "megaron" suite is considered "not implausible," though hypothetical (*ibid.* 85). See also: A. KERAMOPOULLOS, "Η οική του Κάδμου," *ArchEph* 1909, 57-122; KERAMOPOULLOS (*supra* n. 42); S. SYMEONOGLOU, *ArchDelt* 21 (1966) B', 177-180; ID., *Kadmeia I. Mycenaean Finds from Thebes, Greece. Excavation at 14 Oedipus Street* (1973); SPYROPOULOS (*supra* n. 36) 61-67; DEMAPOPOULOU (*supra* n. 1) 317.

45 DAKOURI-HILD 2005, 211.

46 For the Tzortzi plot see: E. TOULOUPA, *ArchDelt* 19 (1964) B', 194-5 and 20 (1965) 230-2; SYMEONOGLOU, *ArchDelt* 21 (*supra* n. 44); Th. SPYROPOULOS, *ArchDelt* 26 (1971) B', 202-207; V. ARAVANTINOS, *ArchDelt* 21 (*supra* n. 44); Th. SPYROPOULOS, *ArchDelt* 26 (1971) B', 359-63; ID., "Contenu, contexte et fonction du 'trésor' du palais 51 (1996) B', 262-4, and 52 (1997) B', 359-63; ID., "To Have and to Hoard: a Gold Disc from the mycénien de Thèbes (Béotie): une approche économique et administrative," in P. CARLIER (ed.), *Journées égéennes, Nanterre, 8-10 mars 1999*, *Ktéma* 26 (2001) 87-99; ID., "To Have and to Hoard: a Gold Disc from the Palace of Thebes," in DAKOURI-HILD and SHERRATT (*supra* n. *) 252-258. The "Room of the Pithoi" yielded large pithoi with traces of oil, ground-stone and bronze tools, obsidian blades, spindle-whorls and two Linear B tablets. In the "Treasury," there were jewellery and indicators of jewellery making (lapis lazuli, agate, gold and glass paste), a fragment of a Linear B tablets, three inscribed nodules and sealings. The date of the destruction has been discussed, but is surely later than the "Old Kadmeion" one. Recently, a LH IIIB2 date has been proposed (see ARAVANTINOS, "To have," *supra*, 255, and ARAVANTINOS *et al.* 2006). According to Th. SPYROPOULOS (*supra* n. 36, 60), the published sherds belong to the LH IIIB Advanced. At the Public Congress Center (ΔΣΚ - Δημοτικό Συνεδριακό Κέντρο) site, in the LH IIIB2 layer, boar tusks, ivory working, stone "buttons," small finds of faience and glass-paste were recovered (E. ANDRIKOU, *ArchDelt* 50 [1995] B' 1, 290-4).

craft activities. The Tzortzi plot ("New Kadmeion") stands out as the most complex and multi-functional structure.

Group II (Loukou and Congress Center plots) – specialized (?) units, with intensive large-scale craft activity (mainly ivory working) and some elements of measuring.

Group III ("Eastern Complex") – medium-sized units, with medium-scale storage facilities, nodules recording and other elements of administration/measuring (but no tablets), traces of craft activity and possible storage of finished craft products.

Group IV (Kofini plot) – small units, with medium-scale storage facilities, no indicators of administration/measuring and evidence of craft activity.

Medium-scale storage facilities and textile tools are present everywhere. Stone working/jewellery manufacture is less attested than in the previous phase.⁴⁷ Ivory carving is largely and variously attested and seems to be quite important.

These results could give some insights into the general organization of the economy and administration in Thebes, suggesting a more or less standardized differentiation amongst various type of units, which coped in different ways with the key activities of record keeping, storing and craft working and were possibly related to a general hierarchical framework. However, it should be recalled that most of these excavations are known only from preliminary publications or are presently under study and that in most cases only a part of the ancient structure(s) was uncovered. No statistical treatment of data is possible at the moment. Difficulties arising from the chronological phasing have already been largely discussed. These results are therefore absolutely provisional.

The combined presence of administrative documents and storage facilities recalls the evidence from the Mycenae "West House Group" or "Ivory Houses" (LH IIIB1).⁴⁸ This complex has been interpreted as a group of repositories and clearing houses, tied to each others and to the "central" palatial system. However, in this group clear indicators of production activities are seemingly not attested.

As for Thebes, the comparison between archaeological finds and epigraphic data has been variously attempted, especially for the Pavloyiannopoulou – Loukou – Pelopidou complex and the Pelopidou texts on one side and the Soteriou-Dougekou evidence on the other.⁴⁹ The presence of horse harnesses and other military equipment in the Pavloyiannopoulou plot has been connected to the few references to *i-qi-ja* (V 159) and to *i-qi-po-qi* (Fq 198.3, 247.2) and *i-qi-po-qi-i* (Fq 214.6, -252.3, -254[+]255.6, -272.3, -276.8, -305.4, -367.[1]) in the Pelopidou texts. However, reference to weapons and related matters is very scanty in the Thebes tablets. Another important case can be made for storage and delivery of foodstuff in the Pelopidou area: not only the large majority of texts are concerned with this topic, but storage areas can be located both in the Pavloyiannopoulou plot and the Pelopidou street, as the widespread presence of pithoi seems to indicate. In the Pelopidou street itself this evidence comes along with the diffused record of charred cereals and figs, mill-stones and pounder-grinders from the destruction debris, pointing to storage and transformation activities (see *infra*). Textile industry is another privileged theme, with three delivering areas for textiles and wool matching a widespread presence of textile tools: the connection seems especially clear for the Soteriou – Dougekou plot (see *infra*). On the other hand, ivory carving, which is so largely attested in the archaeological record and presumably so important for the palatial "wealth-economy", is completely absent from the Thebes texts, both as working activity and finished products or (inlaid) furniture.

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47 See i.e. the Koropouli plot (IIIB1) and the Kordatzi plot (IIIA2-IIIB1) (DAKOURI-HILD 2005 for a wider discussion and references). According to Eleni Andrikou (ANDRIKOU 2006, 57), however, in the Kordatzi plot the ivory workshop should be dated to the LH IIIB1 and the jewellery workshop to the LH IIIB2.

48 I. TOURNAVITOU, *The 'Ivory Houses' at Mycenae* (BSA Suppl., 1995); SHELMEIRDINE (*supra* n. 37 and 41).

49 E.g. TT II; SHELMEIRDINE (*supra* n. 37); ARAVANTINOS, "Νέα μυκηναϊκά ελεφαντουργήματα" (*supra* n. 6) *passim* (especially 58, 61 and 73); DAKOURI-HILD 2005; M. DEL FREO and F. ROUGEMONT *infra*; I. FAPPAS *infra*.

Textile production

Summary of the archaeological evidence⁵⁰

The distribution of textile tools suggests that textile production was quite a diffuse craft in late Mycenaean Thebes: the artifacts have been found in each examined plot and in almost every phase of use. Spinning (i.e. spindle-whorls) is the most attested activity, but also weaving (i.e. loom-weights) is documented. Bone pointed objects, possible "weavers' points" and needles, complete the picture.

To be stressed, however, is the low number of tools recorded in the various buildings, pointing to a small- or medium- scale activity in each structure. It is not possible thus far to locate "central" textile workshops, which would have enrolled groups of dependent workers, such as those which have been hypothesized for Pylos on the basis of the local Linear B texts.⁵¹

As illustrated in the *CTR Technical Report*, in most cases (e.g. in the Soteriou-Dougekou, Pelopidou and Pavloyiannopoulou – "Armoury" assemblages), a concentration of whorl-masses on light values (under 10 gr for Pelopidou, under 13 gr for Soteriou-Dougekou and under 20 gr for the "Armoury") points to a specialized production of thin thread types. The number of loom-weights from all the examined plots does not allow any proper statistics for a single building complex. Nevertheless, the high percentage of spool loom-weights weighing about 100 gr or less in all of the assemblages (especially from Christodoulou and Pelopidou) could fit well the usage of fine threads, for the production of light fabrics, on an open warp.⁵² For other plots, such as Stamatis and Kofini, the range of the spun thread types seems to be wider, given the presence of some heavier whorls. Unfortunately, given the multi-functional character of the excavated structures, it is not possible to determine if the recorded tools were there to be used, thus indicating a work area, or to be distributed, in a storage context.

Archaeobotanical research carried out on the pollen remains from the Copais Lake in Boeotia indicate the existence during the Bronze Age of various plants that could have been used for dyeing.⁵³

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The Linear B documents

Until now the excavations on the Kadmeia have brought to light 20 Linear B tablets with records of wool and textiles: 16 from the Soteriou-Dougekou plot, at the corner of Epameinondas and Demokritos streets, 3 from the Pelopidou street area, and 1 from the Pavloyiannopoulou plot, the so-called "Armoury." These findspots are located in the central area of the Kadmeia at a distance of about 200 m from each other.

50 See ANDERSSON *et al.* (forthcoming) for details. Our warmest thanks to M.-L. NOSCH for making available the following articles before their publication: M.-L. NOSCH, "The Mycenaean Textile Industry on the Kadmeion," in Δ' Συνέδριο Βοιωτικών Μελετών, Λεβαδεία, Σεπτέμβριο 2000 (Επετηρίς της Εταιρείας Βοιωτικών Μελετών, 2009) 191-202; EAD., "Les allocations de laine des tablettes en Linéaire B de Thèbes," *Kadmos* 48 (2009) 77-92.

51 J.T. KILLEN, "The Textile Industries at Pylos and Knossos," in T.G. PALAIMA and C.W. SHELMEIRDINE (eds), *Pylos Comes Alive. Industry and Administration in a Mycenaean Palace* (1984) 49-63.

52 It should be recalled that most of the evidence from the Pelopidou excavations dates to LH IIIC Middle.

53 Such as *Corylus avellana* (hazelnut, dye), *Pistacia terebinto* (pistachio, tanner agent and dye), *Quercus sp.* (oak, dye), *Juniperus* (juniper, dye) and *Fraxinus ornus* (ash, dye): evidence summarized in NOSCH (*supra* n. 50), on the basis of J.R.A. GREIG and J. TURNER, "Some Pollen Diagrams from Greece and their Archaeological Significance," *JAS* 1 (1974) 177-194; IID., "Some Holocene pollendiagrams from Greece," *Review of Palaeobotany and Palynology* 20 (1975) 171-204; H. ALLEN, "The Environmental Conditions of the Kopais Basin, Boeotia, during the Post Glacial with Special Reference to the Mycenaean Period," in J.L. BINTLIFF (ed.), *Recent Developments in the History and Archaeology of Central Greece. Proceedings of the 6th International Boeotian Conference* (1997) 39-58.

The 16 tablets from the Soteriou-Dougekou plot (Of series),⁵⁴ found in the South room of a large building of palatial type destroyed by fire towards the end of LH IIIB2, constitute a homogenous group of texts related to allocations of wool.⁵⁵ From the archaeological context it is difficult to determine if, at the time of the destruction, they were already inside the room or fell into it from the upper storey.⁵⁶

The 3 tablets from Pelopidou street excavation (Oh series) record allocations of wool⁵⁷ and come from a disturbed layer characterized by LH IIIB2 pottery as well as by clear traces of fire.⁵⁸ The analysis of the finds suggests that this area was used, at least in part, to store agricultural commodities.⁵⁹ This hypothesis is confirmed by the fact that the tablets from the Pelopidou street record almost exclusively GRA, HORD, OLIV, CYP and VIN.

The tablet from the "Armoury" (Lf 139) comes from an area close to the Pelopidou street, and may be dated towards the end of LH IIIB. Its aim was to record the allocation of a number of TELA+PO textiles to a named individual.⁶⁰ It was found on the floor near a totaling tablet recording wheat and olives (Ft 140) and probably belonged to a separate archive.⁶¹ The objects found in this area (parts of armours, ivory inlays, horse bits, etc.) suggest that this was a storage and redistribution area for precious materials, many of them of military use.

According to these data, all the wool and textile tablets from Thebes seem to record distributions of goods and come from contexts datable to the end of LH IIIB, perhaps belonging to the same destruction layer. In particular, the individual findspots show the existence of three different places for storage and redistribution, two of them related to wool (building of the Soteriou-Dougekou plot and Pelopidou street area), and one to textiles ("Armoury" area).

Judging from the surviving figures, the outgoing quantities seem relatively modest: ca. 225 kg of wool and 13 TELA+PO textiles.⁶² The TELA+PO cloth is attested only on Lf 139, so that its features cannot be specified. M.-L. Nosch, however, in her discussion of 'Aravantinos' conjecture about PO being the abbreviation of *po-ki-ro-nu-ka* /*poikilonuk'a*/ ('textiles') with multicolor *o-nu-ke*' (a type of decoration or finishing)⁶³, has hypothesized that these textiles may have been, just as at Knossos, of the *pa-we-a* /*p'arweha*/ type.⁶⁴ If this is correct, since at Knossos each *pa-we-a* cloth was made up from 5 kg of raw wool,⁶⁵ it is possible that, in order to produce the textiles recorded on Lf 139, ca. 65 kg of wool were used.

54 On these tablets, see in particular M.-L. NOSCH, "The Textile Industry at Thebes in the Light of the Textile Industries at Pylos and Knossos," in I. RADOVÁ and K. VÁCLAVKOVÁ-PETROVICOVÁ (eds), *Graeco-Latina Brunensia. Festschrift in honour of A. Bartoněk* (2001-2002) 177-189; NOSCH (*supra* n. 50); DEL FREO and ROUGEMONT (forthcoming).

55 TT II 15-16, 18, 22, 54-55, Figg. 1, 4, 5 (see also *Fouilles Cadmée III* 11; *Fouilles Cadmée II* 58). In the Of series the logogram LANA is frequently preceded by the adjunct *ku*, whose meaning is presently unknown. J.L. MELENA in E.L. BENNETT Jr., J.M. DRIESSEN, L. GODART, J.T. KILLEN, C. KOPAKA, J.L. MELENA, J.-P. OLIVIER, M. PERNA, "436 raccords et quasi-raccords de fragments inédits dans KT 5," *Minos* 24 (1989) 199-242, 204, has suggested to interpret it as *ku-pi-ri-jo* 'cypriote (wool)', but see *contra* J.-P. OLIVIER, "El comercio micénico desde la documentación epigráfica," *Minos* 31-32 (1996-1997 [1999]) 275-292 (288).

56 The tablets were found in a layer of burned mudbricks along with pieces of melted lead and carbonized wood ca. 15-30 cm above the room floor (cf. TT II 18). The fact that fragments belonging to the same tablets have been found ca. 2 m from each other (cf. TT II 16) can suggest that they fell from an upper storey (cf. *Fouilles Cadmée III* 11). However, Th. Spyropoulos observes that "there were no indications in the excavation of area 5 of the existence of an upper storey" (TT II 26).

57 *Fouilles Cadmée I* 80-82, 304-305, 323, 371.

58 *Fouilles Cadmée II*, 55.

59 *Fouilles Cadmée II*, 56.

60 *Fouilles Cadmée I* 13-14, 138, 303, 371; *Fouilles Cadmée III* 13.

61 Aravantinos, "La tavoletta" (*supra* n. 6) 28.

62 Ca. 205 kg in the Of series, plus ca. 20 kg in the Oh series - if PA = 1 kg as suggested in TT II 96; for a different suggestion, see P. DE FIDIO, "On the Tracks of Aegean Bronze Age Wool and Weights," in BENNET and DRIESSEN (*supra* n. 40) 39-64 (especially 57 and n. 59). The LANA unit weighed ca. 3 kg.

63 ARAVANTINOS (*supra* n. 2) 54.

64 NOSCH (*supra* n. 54) 183.

65 E. ANDERSSON and M.-L. NOSCH, "With a Little Help of My Friends: Investigating Mycenaean Textiles with Help from Scandinavian Experimental Archaeology," in K.P. FOSTER and R. LAFFINEUR (eds), *METRON. Measuring the Aegean Bronze Age. Proceedings of the 9th International Aegean Conference, New Haven, Yale University, 18-21 April 2002, Aegaeum* 24 (2003) 197-208 (200, with bibliography).

That these are relatively small quantities becomes clearer if one thinks that they correspond to the wool of ca. 300 or 400 sheep⁶⁶ and if one compares them, for example, with the entries on the Mycenae tablet **Oe 111** (at least 600 kg) or to the deliveries registered on the Knossos tablet **Od (1) 562** (606 kg).

The quantities of wool recorded in each entry are also relatively small, ranging from 1 to 30 kg in the Of series and from 3 to 9 kg in the Oh series,⁶⁷ like in the Mycenae Oe tablets from the House of the Oil Merchant (from 3 to 45 kg).⁶⁸

As for the aim of the allocations recorded in the Of series, different hypotheses have been made. J. Chadwick, on the basis of the god's names *e-ra*, *e-ma-a₂* and *po-ti-ni-ja*, which are registered as recipients of wool quantities, put forward a religious interpretation.⁶⁹ J. T. Killen relying on the attestations of a number of occupational names characteristic of the textile industry (*a-ra-ka-te-ja*, *te-pe-ja*, *no-ri-wo-ki-de* and *a-ke-ti-ra₂*) suggested that the wool was allocated in order to be worked, possibly also by craftsmen belonging to religious institutions.⁷⁰ St. Hiller, coming back to an idea by J.T. Killen about the Mycenae Oe tablets, hypothesized that, at least in some cases, the wool quantities were distributed as rations.⁷¹ On the whole, M.-L. Nosch's idea⁷² that the wool quantities recorded in the Of series were intended for various purposes, like those registered in the Knossos Od and in Mycenae Oe tablets, can be accepted. Nonetheless, the general impression is that they were mainly intended for production activities.

This impression can also be extended to the Oh tablets, since there the recipients are recorded by occupational designations which are typical of the textile industry (*o-nu-ke-wi* and *pe-re-ke-we*).

On the other hand, another occupational designation belonging to the textile industry, *ka-na-pe-u*, is attested at Thebes in a simple list of persons.

Pl. XXIXa gives an overview of the occupational designations used in the textile industry at Thebes, with parallels from the other Linear B archives. It is apparent that all professional designations attested at Thebes are also documented on other sites. Those who can be interpreted are: *a-ke-ti-ra₂* /*askētria*/ 'finisher', *a-ra-ka-te-ja* /*alakateia*/ 'spinner', *ka-na-pe-u* /*knap^heus*/ 'fuller', *o-nu-ke-u* /*onuk^heus*/ 'o-nu-ke maker', *pe-re-ke-u* /*plekeus*/ 'weaver' and *te-pe-ja* /*tepeia*/ 'te-pa maker' (a type of textile often attested in the Linear B archives). The only difference with the other archives is that in the other palatial centres the production of *o-nu-ke* is attested only as a female craft.

Not all the occupational terms known for the Mycenaean textile production are attested at Thebes. For example *pe-ki-ti-ra₂* /*pektria*/ 'comber' (Pylos), *i-te-u* /*histeus*/ 'male weaver' and *i-te-ja* /*histeia*/ 'female weaver' (Pylos), *ko-u-re-ja* 'pa-we-a ko-u-ra maker' (Knossos), *ra-pi-ti-ra₂* /*raptria*/ 'seamstress' (Pylos), etc.⁷³

The attested designations, however, document for Thebes the spinning, weaving, fulling and decorating/finishing phases. The logogram TELA+PO, if PO is an abbreviation for *po-ki-ro-nu-ka*, may be an indirect indication of the dyeing process. As observed by M.-L. Nosch, it is possible that the aim of Lf 139 was to record the allocation of textiles to a dependant named

66 The Knossos Linear B texts show that the average wool production was ca. 750 g per sheep.

67 For the Of series, see for example **Of 26.1-3** (LANA PA 1) and **Of 37.2** (LANA 10); for the Oh series, cf. **Oh 206.2** (LANA 1) and **Oh 209** (LANA 3).

68 The data of the Knossos Od series are less clear because of the fragmentary state of many documents and of the uncertainty about their classification: cf. M.-L. NOSCH, *The Knossos Od Series. An Epigraphical Study* (2007). In any case, if we exclude some exceptions and take into account the reclassifications proposed by M.-L. Nosch, the wool quantities seem to vary from 1 to 42 kg, cf. e.g. **Od 487.a** (LANA M 1) and **Od(1) 563** (LANA 14).

69 TT II 86-98 (esp. 91-94).

70 J.T. KILLEN, "The Linear B Tablets and Mycenaean Economy," in A. MORPURGO DAVIES and Y. DUHOUEX (eds), *Linear B: A 1984 Survey* (1988) 241-305 (especially 295 n. 89).

71 St. HILLER, "a-pi-qo-ro *amphipoloi*," in J.T. KILLEN, J.L. MELENA and J.-P. OLIVIER (eds), *Studies in Mycenaean and Classical Greek presented to John Chadwick* (= *Minos* XX-XXII, 1987) 239-255, especially 246 n. 25 (cf. KILLEN [*supra* n. 70] 294-295 n. 88).

72 NOSCH (*supra* n. 54) 185.

73 Cf. Fr. AURA JORRO, *Diccionario micénico*, 2 voll. (1985-1993) s.vv.

to-po-ne (dat. sg.).⁷⁴ The allocation of 13 TELA+PO to one individual shows, implicitly, the storage phase, as well as, explicitly, that of redistribution.⁷⁵ The direct or indirect attestation of these phases proves that at Thebes the palace controlled the entire production process.

Most of the textile professional designations are not further specified. It can be supposed that in these cases the individuals depended directly on the palace. Other persons recorded in the Of series, on the contrary, are qualified by designations indicating that they depended on the king (*a-ke-ti-ra₂ wa-na-ka[-le-ra]*), the Potnia (*po-ti-ni-ja wo-ko-de a-ke-ti-ra₂*) or the so-called "collectors" (*ko-ma-we-te-ja te-pe-ja; a-ka-i-je-ja pu₂-ke-qi-ri-ne-ja; ma-ri-ne-we-ja*).⁷⁶ This shows that at Thebes, just as in other palatial centres, the textile production was partly decentralized and controlled by separate authorities closely linked to the palace.

In a number of Of tablets, moreover, small quantities of wool (probably equal to 1 kg) are sent to the houses (*do-de /dōn de/* 'to the house') of various individuals, perhaps for finishing or decoration purposes. It is possible that these production units, which are at the moment not attested in other Mycenaean archives (and were certainly different from the unit called *wo-ko / woikos/*), were located in the town of Thebes and organised on a family scale.⁷⁷

The level of decentralization of textile industry within the Mycenaean kingdom of Thebes is also shown, in some cases, by the fact that important wool quantities (ranging from 9 to 30 kg) are sent to places relatively far away from the administrative centre (*a-ma-ru-to-de / Amarunt^hon de/* 'to Amarynthos' in Euboea; *a-ki-a₂-ri-ja-de / Aigihaliān de/* 'to Aigihalia', a place likely to be located on the coast). It is not excluded that sending these quantities was part of a productive circuit linked to the *ta-ra-si-ja*, which is well attested for the textile industry at Knossos.⁷⁸ This, however, cannot be proved at the moment, since the word *ta-ra-si-ja* itself never appears in the Thebes texts.

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Conclusions: the organization of production in Late Mycenaean Thebes

As has already been underlined, most of the LH IIIB structures excavated in Thebes seem to include indicators of a wide range of activities: storage, administration, ivory and metal working, textile production, etc. Despite the denominations given to various plots, in the absence of systematic publications (except for the Soteriou-Dougekou excavation) it is not easy to choose a principal vocation for each context: a multi-functional interpretation seems the most likely so far.

74 NOSCH (*supra* n. 54) 182. Since we do not know if TELA+PO were finished textiles, it can not be excluded that *to-po-ne* was a craftsman who received them to decorate or finish them (cf. NOSCH, "The Mycenaean Textile Industry," *supra* n. 50).

75 Attested mainly at Knossos.

76 The "collectors" are *ko-ma-we*, *a-ka-i-jo* and **ma-ri-ne-u*; cf. Fr. ROUGEMONT, *Contrôle économique et administration à l'époque des palais mycéniens (fin du II^e millénaire av. J.-C.)* (BEFAR 332, 2009) 438-439, 452-459. After the publication of the Of tablets, J.T. Killen noted that some of the collectors' names were appearing at more than one site, either as personal names or as possessive adjectives (J.T. KILLEN, "The Knossos Ld(1) Tablets," in E. RISCH and H. MÜHLESTEIN [eds], *Colloquium Mycenaicum. Actes du sixième colloque international sur les textes mycéniens et égéens tenu à Chaumont sur Neuchâtel du 7 au 13 septembre 1975* [1979] 151-181; ID., "Mycenaean Possessive Adjectives in *-e-jo*," *TPhS* 113 [1983] 66-99). This observation was one of the starting points of his interpretation of "collectors" as a kind of international aristocracy. For a discussion of these ideas, see Fr. ROUGEMONT, "The Collectors as an International Elite in the Mycenaean World," in C. GILLIS and B. SJÖBERG (eds), *Crossing Borders. Proceedings of the 7th, 8th and 9th International Workshops, Athens, 1997-1999* (2008) 175-190; ROUGEMONT, *supra*, this note, 272-277.

77 The *woikoi* are attested in association both with deities (*po-ti-ni-ja wo-ko-de / Potniās woikon de/* 'to the Potnia's *woikos*') and "collectors" (cf. KN As[2] 1519: *ma-ri-ne-wo wo-ko-de*). For a detailed discussion of *wo-ko* and *do-de*, see DEL FREO and ROUGEMONT (forthcoming).

78 M.-L. NOSCH, "Acquisition and Distribution: *ta-ra-si-ja* in the Mycenaean Textile Industry," in C. GILLIS, C. RISBERG and B. SJÖBERG (eds), *Trade and Production in Premonetary Greece. Acquisition and Distribution of Raw Materials and Finished Products. Proceedings of the 6th International Workshop, Athens, 1996* (2000) 42-62; EAD., "The Geography of the *ta-ra-si-ja* Obligation," *Aegean Archaeology* 4 (1997-2001) 1-18.

As far as the textile industry is concerned, the hypothesis of small-scale organizational units issued from the analysis of the textual evidence is especially interesting. Indeed, the Theban archaeological evidence points to small-scale activity in almost every structure: that is, no large concentration of tools has been found yet.⁷⁹ On the other hand, no one of the examined structures can be convincingly defined as purely "domestic," nor is "domestic" the documented textile activity, which seems to have been mostly devoted to the production of fine threads and textiles. It should be recalled that, as far as general Mycenaean textile production is concerned, a decentralization of the production units has been variously pointed out in recent years, especially for Crete, in contrast with the picture of the more centralized industry that can be seen from the Pylos texts.⁸⁰

Therefore, the parallel administrative and archaeological evidence for small-scale decentralized textile production should be stressed, even though it is obviously impossible to locate concretely the various types of productive units that are attested in the tablets, as well as to decide if the uncovered structures belong more to one or the other class.⁸¹

Nevertheless, the combined textual and material evidence suggests a global picture of the organization of LH IIIB2 Kadmeia: decentralized production both in "palatial" and "peri-/non palatial" contexts and administration in various parts of the town. The units with a more "palatial" character would have hosted some form of administration and ideally may have been directly dependent of the palace or attached to a "collector" or a religious institution, possibly enrolling typical dependent workers. Hypothetically, these structures, or part of them, at least in some cases could have functioned as clearing houses, in parallel with the examples from Mycenae, and ultimately would have acted as the "interface" of the palatial administration. Craft activity could have been located in the same buildings, perhaps under the responsibility of the same group of administrators. Such units can be viewed as "hubs" in the net of the diffused palatial organization in Thebes.

From an archaeological point of view, on the basis of the (highly provisional) grouping proposed above, the most complex and "central" of these units would have been those in Group I, with large-scale storage, tablet recording, craft activity and the storage of finished products. At the same high level could also have possibly belonged the structures included in Group II, the specialized workshops. A different role was probably played by the units in Group III, with small-scale storage and craft activity and nodule recording, which perhaps were more linked to the "interface" function with the non-palatial sectors of the society. Some others units seem not to have been directly linked to the administration, but were possibly connected to a more personal (and perhaps kin-based) form of responsibility (Group IV - Kofini plot).

To sum up, according to the archaeological evidence it would seem that in late palatial Thebes (LH IIIB2 late) activities were indeed specialized (i.e. high-quality ivory carving, stone working and textile production) but were carried out within multi-functional structures. Administrative units (possibly offices or clearing houses) were decentralized and scattered throughout the town, each of them dedicated to various kinds of production, storage and

79 DEL FREO and ROUGEMONT (forthcoming). At Thebes, hints of decentralization (in animal-rearing) seem to come also from the Lianga nodules, especially as far as the *pa-ro* establishments are concerned (PITEROS *et al.* 1990, 152; DAKOURI-HILD 2005, 212, n. 17). The hypothesis of non-palatial productive units perhaps interfacing but not absorbed by the palace system (and thus continuing in the post-palatial period) has been advanced also by Anastasia Dakouri-Hild (DAKOURI-HILD 2005, 217-8), on the basis of archaeological data regarding the pottery production and mainly on textual evidence for other domains.

80 NOSCH (*supra* n. 50). On the decentralization of the textile industry in Mycenaean Crete see especially Nosch (*supra* n. 68) on the KN Od tablets: the author concludes that the more likely interpretation is that the palace centralized the information on wool, rather than the wool itself. See also M.E. ALBERTI, "The Minoan Textile Industry and the Territory from Neopalatial to Mycenaean Times: Some First Thoughts," *Creta Antica* 8 (2007) 243-263 (with references), for a comparison between Neopalatial archaeological evidence of textile production and the Mycenaean Knossos texts. The textile production in Mycenaean Crete, as reconstructed from the Knossos Linear B tablets, has been widely studied and a further discussion is outside of the scope of the present work. On the topic see most recently J.T. KILLEN, "Cloth Production in Late Bronze Age Greece: the Documentary Evidence," in *Ancient Textiles*, 50-58; Fr. ROUGEMONT, "Flax and Linen Textiles in the Mycenaean Palatial Economy," in *Ancient Textiles*, 46-49, with references.

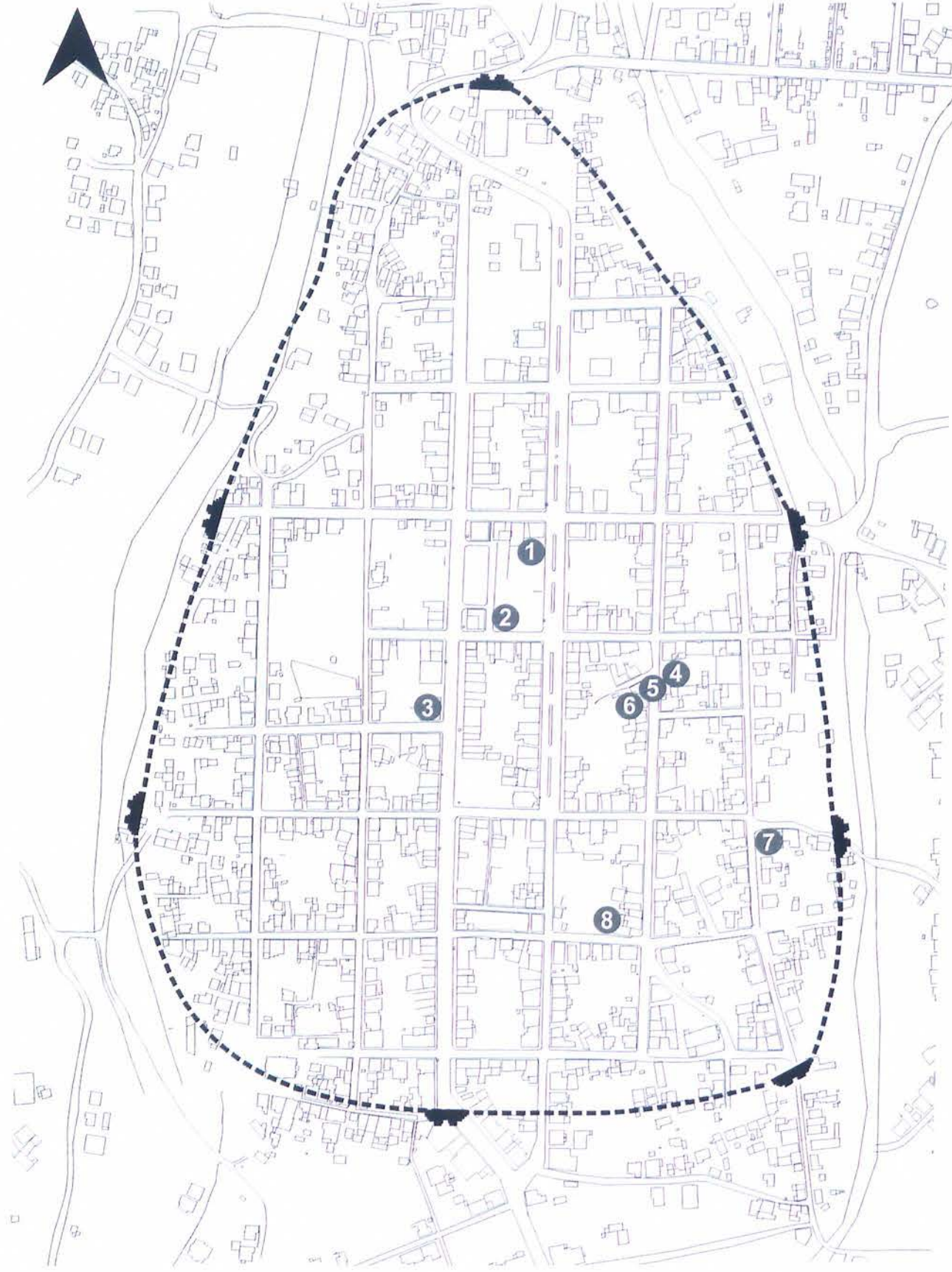
81 On this impossibility, see ARAVANTINOS (*supra* n. 1) 617.

eventually record-keeping, possibly according to a standardized pattern or hierarchy. Textual evidence seems to confirm the decentralization issues. The presence of a superior level of centralization can easily be postulated, but it is scarcely documented by the material evidence: no probable "central archives" have been uncovered thus far. An important portion of the production activities was also assigned to smaller-scale more independent units, in a "diffuse" system of relations and obligations.

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LIST OF ILLUSTRATIONS

- Pl. XXVIII Thebes (Boiotia). Excavated plots in the grid of the modern town.
 1 "House of Kadmos"
 2 "Treasury" and "Room of Pithoi" (Tzortzi plot)
 3 Soteriou-Dougekou plot
 4 "Armoury" (Pavloyiannopoulou plot)
 5 Pelopidou street
 6 "Ivory Workshop" (Loukou plot)
 7 Christodoulou, Stamatis and Lianga plots
 8 Kofini plot
- Pl. XXIXa Occupational designations related to textile industry from the Linear B texts of Thebes, Pylos, Mycenae and Knossos (M. Del Frio and F. Rougemont).
- Pl. XXIXb Thebes, late Mycenaean contexts (LH IIIB2 late): main characteristics and functional grouping (M.E. Alberti).



Thebes	Pylos	Mycenae	Knossos
a-ke-ti-ra ₂	a-ke-ti-ra ₂ / -ri-ja	a-ke-ti-ri-ja	a-ke-ze-ti-ri-ja
a-ra-ka-te-ja	a-ra-ka-te-ja		a-ra-ka-te-ja
ka-na-pe-u	ka-na-pe-u	ka-na-pe-u	
no-ri-wo-ki-de	no-ri-wo-ko		
o-nu-ke-u	o-nu-ke-ja		(o-nu-ke)
pe-re-ke-u	pe-re-ke-u	pe-re-ke-u	(pe-re-ke)
te-pe-ja	te-pe-ja		te-pe-ja

a

Plot	Storage generic	Storage large scale oil, wool (?)	Storage craft items	Lin B	Admin. and measuring	Balance weights	Textile	Jewell. making	Ivory work	Craft activities	Ground-stone tools	Obsidian blades	Bronze tools
Soteriou-Dougekou	x			tablets (wool) tablets (unknown subject, textiles, cereals and foodstuff)	x	x	x			x			
Pavloyianni	x	x (cereals and other foodstuff?)	bronze and ivory products, glass ingot				x						
Pelopidou	x	x (cereals and other foodstuff)		tablets (various subjects, mainly cereals and foodstuff, also wool) tablet and nodules	?	x	x	x	x	x (grinding)	x		x
Tzortzi	x	oil	ivories										
Loukou	x					x			xx				
Congress Center	x						x	x	x				
E complex Northern Building	x		ivory?	nodules	x		x			x	x (grinding and others)	x	x
E complex other buildings	x		pottery?		?	x	x			x close to hearth	x	x	x
Kofini	x						x	x	x				

b

Group I – major units, with large scale storage activity, tablets recording, other elements of administration/measuring, storage of finished craft products (Tzortzi and Pavloyannopoulou), traces of craft activities. The Tzortzi plot (New Kadmeion) stands out as the more complex and multi-functional structure.
Group II – specialized (?) units, with intensive large-scale craft activity and some elements of measuring.
Group III – medium units, with medium-scale storage facilities, nodules recording and other elements of administration/measuring (but no tablets), traces of craft activity and possible storage of craft finished products.
Group IV – small units, with medium-scale storage facilities, no indicators of administration/measuring and traces of craft activity (Kofini plot).
Medium-scale storage facilities and textile tools are present everywhere. Stone working is less attested than in the previous phase.