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LIFE AND DEATH IN THE PERIPHERY OF THE MYCENAEAN WORLD

AT THE END OF THE LATE BRONZE AGE:

THE CASE OF THE ACHAEA KLAUSS CEMETERY

(Paper presented in the International Workshop: From the Aegean to the Adriatic, Social Organizations modes of Exchange and Interaction in the Post-palatial Times (12th-11th BC), held at Udine (Italy), on 1-2 December 2006. The forthcoming volume is edited by Prof. Elizabetta Borgna).

The Mycenaean cemetery of Achaea Klauss is located at the foot of Koukoura Hill and near the spot where Gustav Klauss built his winery in 1873, hence the name. This is at the SE edge of the modern city of Patras (fig. 1). Twelve chamber tombs were discovered and excavated by N. Kyparissis in the late 1930’s. World War II, later the excavator’s death and the loss of the excavation notes and archives meant the loss of the contexts of the material and skeletal finds. Eventually, 40 years on, the finds were published by Thanassis Papadopoulos (Papadopoulos 1978-1979, p. 27, passim), who together with his wife, Litsa Kontorli-Papadopoulou, conducted the University of Ioannina excavations at the site. Between 1988 and 1992, 16 new tombs were explored providing the opportunity to re-evaluate the material from the older excavations and add to the discussion of the Late Mycenaean Period in Achaea (fig. 2). The study of the skeletal remains has been undertaken by Dr Tina McGeorge.

1 We wish to express our deep gratitude to the excavators of the site, Professors Thanassis Papadopoulos and Litsa Kontorli-Papadopoulou for entrusting us with the publication of the archaeological finds (C. Paschalidis) and of the skeletal remains (P.J.P. McGeorge). We also wish to thank profoundly Mr Ioannis Moschos for allowing us access to the store-rooms of the Patras Museum and for the long discussions we shared. Special thanks we owe to Dr Lena Papazoglou-Manioudaki, head of the Prehistoric Collection of the National Archaeological Museum at Athens for her useful insights, to Dr Reinhard Jung for his interest and advice concerning the Klauss bronzes and to the archaeologist Maria Athanassiou for her invaluable help in Patras Museum. The drawings of the finds and of the chambers' burials presented here were made by the archaeologist and artist, Sophia Sakkari and by the draftsman Charalampos Marinopoulos, respectively. All photos were taken by the authors. The study of the Achaea Klauss cemetery was generally sponsored by INSTAP in 2005 and 2006 and is planned to be published in its entirety as a single volume. Therefore, all finds mentioned and illustrated in this text will be properly published there.


3 Furthermore, records kept from old excavations, especially by N. Kyparissis, “do not give all the details one would wish for”, as noted in PAPADOPoulos 1978-1979, pp. 49, 51, 55, 62, 66 and note 20.

while Constantinos Paschalidis is responsible for the study of the rest of the archaeological finds. In this paper we summarize the preliminary results from our studies and present the phases of the cemetery’s use.

The cemetery once belonged to a fortified Mycenaean settlement, which was located on the top of the neighbouring Mygdalia Hill to the west and remains unexcavated. The cemetery was in use from the LH IIIA 1 until LH IIIC-final, that is from early 14th until the beginning of the 11th century B.C. All the chambers were found sealed, so any possible destruction or disorder occurred before that. All primary burials date to the post-palatial, 12th century, or LH IIIC. They reveal many individual stories of life and death together with direct information about the local society during this period. Whereas all secondary burials dating to the earlier two palatial phases: III A and III B were found in shallow pits under the floors, or in heaps at the sides of the chambers (fig. 3a-b) and in one case, in an ossuary cut in the side of a dromos, giving us indirect information of their times, but no individual stories.

The skeletal remains of 62 secondary burials dating to the palatial times (LH IIIA-IIIB) have been studied from 13 of the 16 chambers excavated by Prof.

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5 Furthermore, some sherds dated to LH IIIB and IIIC early have been collected from surface survey in the settlement area, while a small tholos tomb, constructed in LH II B, has been excavated on the west slope of the hill; see PAPAZOGLOU-MANIoudaki 2003, p. 433 and notes 1, 3; passim.

6 According to the traditional chronology. This has been radically challenged in the past twenty years; see discussion with references in MOUNTJOY 1999, pp. 16-18, Table 1 and also KOEHl 2006, illustration 1.

7 LH IIIA and IIIB are termed as palatial phases, while LH IIIC and Submycenaean are consequently termed as post-palatial; see e.g. SHELMDRINE 2001, p. 329, passim, and DICKINSON 2006, p. 10.

8 Pits cut into the floor of the chambers for depositing the remains of earlier burials (ossuary-pits) are not rare in Mycenaean Achaea, as can be seen e.g. at the cemetery at Aigion (PAPADOPOULOS 1976, p. 36), at Spaliareika-Loussika (PETROPOULOS 2000, pp. 68, pit 1 and 69, fig. 4), at Psoriarou-Nikoleika Aigiou (PETROPOULOS 2006, pp. 38-39, tomb 2), at the tholos tomb of Petroto (PAPAZOGLOU-MANIoudaki 2003, p. 434) and especially at Klaus (PAPADOPOULOS 1978-1979, p. 55 and note 80). The same pits occur in chambers of neighbouring Elis; see VIKATOU 1999, p. 239 for the Mycenaean cemetery at Agia Triada and VIKATOU 2001, p. 115, note 20 for the rest of the cemeteries in Elis, Achaea and Kephallonia.

9 The pushing aside of earlier burials within the chambers is a very common Mycenaean practice; see PAPADOPOULOS 1976, p. 36; CAVANAGH, MEE 1978, p. 31 and note 1; PAPADOPOULOS 1978-1979, pp. 56-57; VIKATOU 1999, p. 239; MOSCHOS 2002, p. 31 and GALLOU 2005, p. 114.

10 The only, so far, published examples of such dromos-niches, used as ossuaries in Mycenaean Achaea, were found at the Mycenaean cemetery at Aigion (Tomb 5a, see PAPADOPOULOS 1976, p. 32; ID. 1978-1979, pp. 51-52) and at Vounteni (Tomb 11a, see KOLONAS forthcoming(b). Numerous examples of such ossuaries in niches of chamber tombs’ dromoi occur in Mycenaean Elis; see e.g. the cemetery at Agia Triada (tombs 6 and 22: VIKATOU 1999, pp. 237, 252, note 7), and the cemetery at Pefkes (tombs 1 and 3: VIKATOU 2001, pp. 85, 87, fig. 4; pp. 99, 100, figs. 33, 34 and 114, esp. note 16 with references for all such niches in Elia cemeteries). More of these dromos-niches are reported from tombs in Argolid and Attica, see LEWARTOWSKI 1996, pp. 749-753, 762; VIKATOU 2001, p. 114, note 16 and GALLOU 2005, p. 114.
Papadopoulos. The burial gifts deposited together with the deceased show a strictly homogenous repertoire of pottery shapes: piriform jars, rounded and straight-sided alabastra, jugs, carinated conical cups, ring-handled cups and kylikes. One multiple vase, one flask and only two stirrup-jars have also been found (fig. 4). The absence of peculiarities or exceptions to the rule implies adherence to certain burial rituals, specific beliefs about the after-life and the needs of the deceased. The prosperity, the refined taste and the relative affluence of the local society is illustrated by four seal stones, some impressive pieces of jewellery and a lot of toilet equipment.

Apart from a few spears, only small metal objects – most of them broken and incomplete – have been found in these secondary burial clusters. In Tomb N, a bronze handle once belonged to a metal vessel, a kalathos, while a bone hilt plate found in Tomb H belonged to a missing bronze knife. These and other cases are indications of legal looting, among members of this society. When the dead were no longer revered or feared, then their goods were allowed to be extracted. Those who had access to the chamber were of course the owners of the tomb, descendants of the same family. Therefore, the offering of precious burial gifts, like metal artefacts could function both ways: as insignia and supplies to the dead and as safely deposited wealth, i.e. temporary hoards for the living and the rest of the family, withdrawn when needed.15

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11 This repertoire is more or less common in all Mycenaean cemeteries of the Patras area; see tomb 3 at Drimaliika-Krini (PAPAZOGLOU-MANIoudaki 1994, pp. 194-197) and general remarks on LH IIIA-B pottery in Achaean tombs in CAVANAGH, MEE 1998, pp. 73-74.
12 The scarcity of LH IIIA-B stirrup-jars in Klauss (two among more than one hundred vases dated to this time span) shows a peculiar, local feature which should be attributed to specific burial rites and customs of the palatial period. The same phenomenon has been noticed in chamber tomb 3 at Krini-Drimaleika, not far from Klauss (PAPAZOGLOU-MANIoudaki 1994, p. 196), and at the Mycenaean cemetery at Peikes in Elis (VIKATOU 2001, p. 120).
13 These four seal stones from Achaea Klauss have been published in CMS V, Suppl. 3, 2, nos. 270-273 and were all found in secondary contexts, dated to the palatial phases: LH IIIA-B.
14 As suggested also for the metal artefacts buried in LM IIIB chamber tombs at Armenoi-Rethymno in Crete; see BABOULA 2000, p. 75.
15 While cleaning the chambers for fresh burials or in order to avoid tomb-robbers some exceptionally wealthy offerings were hidden in cists and pits cut into the floors, in Tsountas chamber tombs 2 and 5 at Mycenae (LH IIIA-B), in chamber tombs 2, 7 and 10 at Dendra (LH II-IIIA) and in the tholos tomb at Nichoria (LH IIIA 2-B 1); see KONTORLI-PAPADOPOULOU 1987, pp. 157-158; PAPADOPOULOS, KONTORLI-PAPADOPOULOU 2001, p. 131. One can imagine that such a family secret would have been redeemable by those who kept it, in cases of poverty or metal shortage. Alternative ways of hoarding can also offer an explanation to the paradoxically small number of Mycenaean hoards known so far, compared to the rest of the Balkan Peninsula and Italy in the Late Bronze Age. In contrast to the Mycenaean world, in contemporary Italy Urnfield cemeteries did not favour the deposition of burial gifts and the display of wealth, while bronze weapons, body armour, ornaments and vessels were more frequently deposited in hoards; see EDER, JUNG 2005, p. 490. Some new thoughts on Mycenaean hoarding are also expressed in PASCHALIDIS 2004 and ID. 2007, pp. 439-440.
Moving to the post-palatial period, the 16 chambers excavated at Achaea Klauss – which were almost all constructed during the palatial period – were now reused for 67 burials of which 62 were primary and 5 secondary, including the cremation of a mature man, the only one found in Klauss. They cover the whole of the 12th century, from the transitional LH IIIB 2/IIIC early to the transitional LH IIIC/Submycenaean. This long time span has been divided chronologically and stylistically through classification of the pottery and study of the chambers’ stratigraphy into a 6-phase system by Ioannis Moschos (Moschos forthcoming) (fig. 5), which we can confirm is compatible with the Klauss contexts and synchronisms.

**Phase 1: LH IIIB 2 / IIIC Early Transitional**

This Phase is represented by two burials: one, Burial Α from Tomb Α, illustrated in (fig. 6), is a relatively young man aged about 25 and 1.66m tall, accompanied by a handless *alabastron*, a ring vase, a jug, a stirrup-jar and a set of tools consisting of a whetstone and a knife. One wonders why these tools were considered so essential to him in the after-life; perhaps they symbolise his trade, indicating that he was some sort of craftsman.

The earliest burial of Tomb H is a young man between 25-35 years of age with a very large head, estimated to have been about 1.70m tall (fig. 7). He was given a simple yet complete set of tableware comprising a flask, a stirrup-jar, a deep bowl and a peculiar hand-made tripod cup with burned marks on the surface. He was also given a so-called ‘fenestrated razor’, an intriguing find with no parallels in the Aegean.
This razor matches Bianco Peroni’s ‘Rasoi finestrati tipo Scoglio del Tonno’ type and has a close parallel from that site, as well as a twin parallel from Peschiera del Garda, near Verona (Bianco Peroni 1979, p. 9 and pls. 4:38, 40, Matthäus 1980, p. 115, fig. 3). Together with the enigmatic hand-made tripod cup, this razor suggests north Italian connections, and raises the hypothesis that immigrant/s from the Italian peninsula may have reached the Achaea at the end of LH IIIB and during IIIC. This hypothesis seems worthy of consideration given the significant number of sherds of hand-made vases found in the fill of the dromos; none are reported from any other tomb at Klauss, so this may strengthen the argument for foreign connections.

The stirrup-jar from this burial shares common characteristics in shape and decoration with two other stirrup-jars in a set belonging to a middle-aged man in Tomb Λ. All were evidently produced by the same local workshop: Klauss Workshop 1.

Phase 2: From LH IIIC Early to the beginning of IIIC Developed

Six individuals were buried during this phase. The so-called Krini Workshop, with two examples of stirrup-jars in Tombs E and H, dates in phase 2 (fig. 8a).

Another workshop of minoanising pottery was also active in this phase. A juglet put aside in Tomb H perfectly matches the fabric and style of two stirrup-jars, one from Tomb A at Klauss and another one from Tomb 2 at Spaliareika-Loussika.

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20 The presence of Italians in Mycenae, Tiryns, Midea, Dimini and Khania in LH/LM IIIB-C has been recently discussed in EDER, JUNG 2005, pp. 486-487. The matter of the presence of Italians in Achaea, together with all the imported bronze artefacts from Italy to Mycenaean Achaea are discussed in detail in JUNG, MOSCHOS, MEHOFER forthcoming. For the presence of various Italian artifacts and influence in the Mycenaean world, see EDER 2003, pp. 45-47; EDER, JUNG 2005; PAPADOPOULOU 2007; BASSAKOS 2003; OIKONOMIDIS 2002-2005; ID. 2006; BORGNA, CASSOLA GUIDA 2004, pp. 160-161.

21 The study of the hand-made tripod cup and sherds from tomb H had not been completed at the time of writing. Therefore, these finds will be presented in the final publication of the Klauss cemetery.

22 Hand-made ‘barbarian’ pottery has been connected with foreign elements in the Mycenaean population in the 12th c. BC; see BOUZEK 1985, pp. 183-187, 222 and EDER, JUNG 2005, p. 486.

23 Termined by Papazoglou-Manioudaki as ‘Krini workshop’, this was a distinct local pottery workshop – if not a specific potter – in LH III Early that produced four stirrup-jars and an amphoriskos, all found in chamber tomb 3 at Krini near Patras. She also attributed to this workshop another four stirrup-jars and an amphoriskos from the tombs at Chalandritsa together with three stirrup-jars from the finds of Kyparissis at Klauss (PAPAZOGLOU-MANIoudaki 1994, pp. 187-189 and 192, cat. nos. 3, 4-7, figs. 10-14). The ‘Krini workshop’ was active in Phase 2, as these two new stirrup-jars from Klauss (tombs E and H) can confirm.

24 PETROPOULOS 2000, pp. 75, 88, fig. 33, cat. no. Π9880. From the same context, within tomb 2 comes another LM IIIIC Middle stirrup-jar; ibid., pp. 75, 89, fig. 34, cat. no. Π10434. The Mycenaean cemetery at Spaliareika-Loussika has been studied and will be published soon by Dr Theodoros
They all bear some typical Minoan characteristics (fig. 8b). These vessels may have been imported from Crete to Achaea by the same merchant who distributed his goods to the local market in the area, or they may have been produced locally by a Minoan potter, since their fabric looks like the common Achaeans fabric of that period.

**Phase 3: From LH IIIC Developed to IIIC Advanced**

Ten burials are attributed to this phase, which corresponds to the generation of the Klauss Warrior 2. Almost in the middle of Tomb Θ, lay a physically robust man of about 30 years of age. An impressive stature measuring 1.77m tall, makes him the tallest person in the Klauss cemetery. He was placed lying on his left side, facing the side wall of the chamber, his legs in contracted position and his head surrounded by eight, mainly miniature, stirrup-jars and three small amphorae. Four ivory pins were found on his chest, obviously to fasten his robe. Right over his heart was another Giannopoulos, with whom we shared thoughts and common photographs of the minoanising vases found at Spaliareika-Loussika and Klauss.

25 The painted loops joining bases of handles, spout and false-spout of the stirrup-jar 69880 at Spaliareika-Loussika and of the stirrup jar from Tomb A at Klauss, together with a similar loop joining bases of handle and spout of the Klauss juglet are common Late Minoan IIIA-B features and do not occur in Achaeans pottery: KANTA 1980, p. 250; MOUNTJOY 1999, pp. 389-390, cat. no. 70. See e.g. LM IIIIB stirrup-jars and juglets from the cemetery at Gra Lygia near Ierapetra in Crete: APOSTOLAKOU 1998, p. 37, figs. 14, cat. no. 10, 39-40; 18, cat. no. 14, 42-43; 21, cat. no. 18, 44-45; 24, cat. no. 22, 77; 53, cat. no. 4, 80; 58, cat. no. 9.


27 Furthermore, the painted solid discs on the shoulder of both vases (FM:41, see pl. 8b) occur on one more LH IIIC Achaeans stirrup-jar (PAPADOPOULOS 1978-1979, figs. 93d-e, 211h), while they are atypical of the Minoan repertoire. Interestingly, I. Moschos and C. Paschalidis are currently studying the ‘minoanising’ pottery workshop, which was active in north-western Peloponnese from LH IIIC Middle until the Submycenaean period; the results of this project will be announced in the next Cretological Conference which will be held in Rethymnon, September 2011. However, the material and general appearance of the ‘minoanising’ workshop vases differ from the fabric and style of our two vases from Klauss and Spaliareika-Loussika. Therefore, they should be assigned to another workshop, either a Minoan or an Achaeans ‘minoanising’ one.

28 Referred in this text as ‘Klauss Warrior 2’ is the warrior’s burial (tomb Θ, burial A) excavated by Papadopoulos in Klauss, in 1991, and presented here. In addition, ‘Klauss Warrior 1’ is a possible warrior’s burial whose Naue II type sword was found at the same cemetery by Kyparissis in 1938 (KYPARISSIS 1938, pp. 118-119). See also infra, note 90.

29 Some elements of this warrior’s burial have been published in PAPADOPOULOS 1991, p. 81 and ID. 1999, p. 270.

30 The orientation of the bodies in Klauss does not seem to have been common, unlike what has been observed by Papadopoulos in other Mycenaean cemeteries (PAPADOPOULOS 1978-1979, p. 56), and by Vikatou in the Mycenaean tombs in Elis, where all bodies face the chambers entrance (VIKATOU 2001, p. 116 notes 22 and 23).

31 Jewellery revealed in Mycenaean and Minoan warrior burials have been discussed by Kilian-Dirlmeier (1988) and Konstandinidi (2001), p. 247. inter alios. In neighboring Arcadia, the contemporary warrior at Palaiokastro was furnished with a Naue II type sword – very similar to the
miniature stirrup-jar, while behind his back, in line with his body, was a set of weapons and tools. 32 These bronzes lay within a black patch of earth, suggesting that they were once wrapped in some organic material (possibly a cloth or a sword scabbard made of wood and covered with leather), which dissolved leaving dark traces 33 (fig. 9a).

- The Naue II, or type II long sword (fig. 9b) (PMX 4977), fits in Catling’s group III (Catling 1964, pp. 114-115), or group C variant 2, according to Kilian-Dirlmeier’s classification 34 and measures L. 62.3cm (hilt) 9cm; W. (hilt) 4.4cm, (handguard) 4.8cm, (blade) 3.9cm; Th. (blade) 1cm; L. of rivets 2cm; D. of rivets 0.4cm. It is in a very good condition, despite some surface oxidization. There are vertical pommel ‘ears’ and an almost rectangular long spur, which is set slightly off-axis. The handgrip swells slightly. Both edges of the handgrip and the hand guard are flanged. The sloping shoulders are rounded crowning the blade. The blade has a broad low midrib and elliptical section. It slightly increases in width towards the point and ‘blood channels’ are visible along the edges. Two of the four rivets which secure the hilt plates of the handguard survive in situ and another two on the handgrip. The hilt plates were of organic material. 35


32 Such a position of the bronze gifts may imply that they were placed by the warrior a little later than his body, possibly after the precious offerings had been exposed in public, during the funeral ceremony. Mr I. Moschos has kindly informed me that the warrior’s burial at Portes in Achaea (LH IIIC Middle) was also found deep inside the chamber, while his sword was placed by the entrance, as the last act of the ritual, before sealing the doorway. The same must have happened at the LH IIIC warrior’s tomb at Aplomata in Naxos (chamber tomb A), where the Naue II type sword was found by the threshold of the chamber, KARDARA 1977, 2.

33 Remains of such sword scabbards are reported from the warrior burial at Krini (PAPAZOGLOU-MANIoudaki 1994, pp. 181-182) and from the warrior’s burial at Portes (information kindly supplied by I. Moschos).

34 KILIAN-DIRLMEIER 1993, p. 97 and pls. 36-37: cat. nos. 242-244; in the same variant fall the sword from Mouliana in Siteia (Crete) and the two swords from Naxos (Grotta and Kamini). Very similar to the sword from Klauss is the one found at Palaiokastro in Arcadia (even though attributed to group C variant 3 by Kilian-Dirlmeier, ibid., p. 98), suggested to be an import from Achaea; see DEMAKOPOULOU 1969, pp. 226-228 and DEMAKOPOULOU, CROUWEL 1998, p. 274:B1. The resemblance of the Klauss sword with the one said to be from Apulia in Italy is also obvious. The later falls in Bianco Peroni’s Allerona type of swords, with numerous examples in the Italian peninsula; see BIANCO PERONI 1970, pp. 66-70 and pls. 21-23, esp. cat. no. 157.

35 As Papazoglou-Manioudaki suggested for the sword from Krini, the Klauss sword must have been cast in a two-piece mould, while the rivet holes were not included in the cast and were opened later; see PAPAZOGLOU-MANIoudaki 1994, p. 177 and notes 19, 20.
- The long leaf-shape spear (fig. 9c) (PMX 4855) fits in Avila’s type VIII\(^{36}\) and measures L. 28.9cm; W. (blade) 2.9cm; D. (socket) 2.5cm; Th. (blade) 1.1cm. It is in good condition, despite the surface oxidization and is missing only a small part of the socket’s rim. The blade has a broad low midrib and elliptical section becoming thin towards both edges. The long, tubular socket is divided and has a flat hafting-ring included in casting.\(^{37}\) There are two opposite rivet holes for securing the wooden shaft, just above the hafting ring. Fragments of the wooden shaft survived in the tube. The shaft must have been about 1.2m long, judging from the space available between the spearhead and the wall of the chamber. Such short shafted spears have been regarded as hunting equipment rather than weapons for battle.\(^{38}\)

- The bronze knife\(^{39}\) (fig. 9d) (PMX 4858) measures L. 12.3cm; W. (blade) 2.1cm; Th. (back) 0.25cm. It survives in two joining parts and is chipped at the point, at the side of the sole rivet hole, and is missing a tiny part of the blade edge. The surface is oxidized. The trapezoid haft is in line with the knife’s back. The blade is slightly concave, the prolonged point missing its original snout. The blade has a thin, triangular section. It does not fit any known Mycenaean type of knives,\(^{40}\) while it matches Bianco Peroni’s ‘Peschiera’ type, which has numerous parallels in northern Italy and central Europe (Bianco Peroni 1976, pp. 50-52 and pls. 28-29; cat. nos. 205-223) and none in the prehistoric Aegean. Most of the known examples in Italy come from Peschiera del Garda and date to the local Late Bronze Age (Bianco Peroni 1976, pp. 50, 52). Thus it should be regarded as an import from there.\(^{41}\) This type of knife with its local variations is also popular in the area of Mähren and the East Alps (Říhovský 1972, pp. 13-16 and pls. 1-2: cat. nos. 5-24, ‘Riegsee’ type).

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\(^{36}\) AVILA 1983, pp. 52-53 and pls. 16-17: cat. nos. 110-112; in the same variant fall the spears from Palaikastro in Arcadia and Lachanokastro in Metsovo (Epirus), dated to LH IIIC. For the Palaikastro spears see also DEAKOPOULOU, CROUVEL 1998, p. 275:B2 and B3. The spear from Lachanokastro is remarkably similar, e.g. at the socket’s rim with hafting-ring. The spear from Tarsus at Adana, which looks very similar, should be earlier than the 12\(^{th}\) c. BC, according to Sanders, and is not listed in AVILA 1983; see SANDARS 1963, pp. 140-141 and pl. 27:59.

\(^{37}\) It belongs to the ringed socket group of spears in Achaean; see PAPADOPOULOS 1978-1979, pp. 163-164.


\(^{39}\) The warrior’s bronze knife is also discussed in detail in PASCHALIDIS forthcoming.

\(^{40}\) As presented in SANDARS 1955. For the variety of knives in Mycenaean Achaean, see PAPADOPOULOS 1978-1979, pp. 156-158.

\(^{41}\) As suggested by Eder and Jung (2005, p. 491) ‘the social and economic structure both in Italy and the Aegean (in the 12\(^{th}\) c. BC) favoured the exchange of goods within a system of personal relations and reciprocal gift-exchange’. This exotic knife may reflect such a case of personal involvement of its owner in this exchange network in the 12\(^{th}\) c. Adriatic.
- The long pair of tweezers (fig. 9e) (PMX 4860) measuring L. 9cm; W. (top) 0.4cm; (ends) 1cm, survives in five joining parts and is missing both edges. The surface is oxidized. The spring-loop is elliptical. The arms – of thin rectangular section – are pinched together beneath the loop and broaden towards the gripping ends. Such tweezers are common in the Mycenaean world, especially in burial contexts, and continue in use almost unchanged in their strictly functional shape throughout all antiquity.42

The latter is not a piece of toilet equipment.43 In the case of warrior burials – since tweezers have regularly been found in association with swords, daggers and spears, from the era of Grave Circle A44 – tweezers may be interpreted as instruments which served to extract arrowheads from wounds.45 The suggestion is strengthened by the existence of tweezers in the only assemblage of medical instruments ever discovered in the Mycenaean world.46

The warrior burial was not disturbed, even though the chamber continued in use until the very end of Phase 6. Another four primary burials were made subsequently. A generation later, in Phase 5, the warrior’s skeleton was covered by a small mound of soil (a bench-like structure) and two large four-handled amphorae and a slaughtered young bovid were placed on top.47

43 Tweezers in Mycenaean burials have generally been regarded as pieces of the toilet equipment or articles of dress; see CAVANAGH, MEE 1998, p. 52; EDER, JUNG 2005, p. 490 and also DEGER-JALKOTZY 2006, pp. 152, 172-173.
44 It can not be coincidental that tweezers in the Shaft Graves in Mycenae usually occur with male burials, always associated with swords and daggers; see KILIAN-DIRLMEEER 1988, figs. 1-5. The same can be seen in early Mycenaean ‘simple graves’; see LEWARTOWSKI 2000, p. 131, table 43. Tweezers were included in LH II and LH IIIA-B warrior tombs: at Sykea in Laconia (DRIESSEN, MACDONALD 1984, p. 70), at Nichoria in Messenia (PAPADOPoulos, KONTORLI-PAPADOPoulos 2001, p. 131), at Panagitsa near Chalkis (KARAPASCHALIDOU 2003, p. 14). LH IIIC warrior burials in Achaea and contemporary warrior burials in Italy also include tweezers: at Kallitheia tomb B, at Klauss tomb Θ and at Narde Frattesina tombs 168 and 227 (EDER, JUNG 2005, p. 490, pl. CVII). It should be noted that the site of Frattesina also revealed pottery fragments of LH IIIC vases imported from Western Greece and particularly from Achaea, EDER 2003, pp. 44-45 and notes 60, 61. Finally, at Elateia, when tomb L was abandoned in the LPG period, a Mycenaean sword of Sandars type G and a pair of tweezers were laid down ‘ceremoniously’ behind the entrance of the tomb; see DEGER-JALKOTZY 2006, p. 156, note 7.
45 One of the most difficult and frequent problems the warriors had to face would have been the removal of arrowhead barbs. Therefore, their techniques would most likely have been born on the battle-field; see ARNOTT 1999, p. 501.
46 DEILAKI 1973, pp. 92, 93, fig. 6, pls. 89β, 91γ; ARNOTT 1999, p. 503 and pl. XCVII. In the Graeco-Roman World, tweezers were included in all assemblages of doctor’s instruments; see for example KAMBAKIS 2002, pp. 51, 74; cat. nos. 21 and 22.
47 The offering of a slaughtered bovid together with two big amphorae almost three decades after the warrior’s death raises once more the matter of the Mycenaean cult of the dead, which will be discussed in the final publication of the Klauss cemetery. The case of the Klauss warrior’s post-burial homage is not a common feature in Achaea (PAPADOPoulos 1978-1979, p. 57). However, slaughtered animals
In Phase 3, particularly, there are many pottery workshops active. Firstly, there is the **Krini-Klauss Workshop**, with two examples, one from Tomb B and another from the warrior burial (fig. 10a). Yet another local workshop produced at least fourteen stirrup-jars in the new Klauss material and another four from Kiperissis’ excavations. This is the **Klauss Workshop 2**, and its star craftsman Potter A, with *horror vacui* taste, had a particular preference for covering areas on stirrup-jar shoulders with simple and multiple ladder patterns, or nets (FM 57), chains of elaborate lozenges (FM 73) and multiple wavy lines as subsidiary motifs (FM 53) (fig. 10b). **Potter B** is active in this phase too, adding also fringed concentric semi-circles (FM 43) and fringed lines at the shoulder’s contour. In early Phase 3, another artist, **Potter C** produced the two ‘footed’ stirrup-jars, found in Tombs Λ and E, respectively.

**Phase 4: From the end of LH IIIC Advanced to the beginning of LH IIIC Late**

Nine burials date to this phase. An adult woman, burial ΣΤ in Tomb B, was furnished with the most sophisticated assemblage found at Klauss (fig. 11). Originally situated in front of her and scattered, the vessels were later collected with care and deposited as found, in order to make way for the opening of a pit. The vessels include: an enormous *kalathos* containing a ring vase, a multiple vase (*kernos*), a spouted mug and two stirrup-jars together with a third stirrup-jar standing out. She was also given a set of weaving implements: three clay bi-conical whorls and a bell-shaped bobbin.

have been found in two more cases in Achaea, both in tholos tombs: in Kallitheia-Laganidia tholos tomb (horse cranium and bovid, dog and cattle bones, see PAPADOPOULOS 1987, pp. 71-72) and in another tholos tomb at Petroto near Klauss (animal bones around the head of the sole undisturbed burial, see PAPAZOGLOU-MANIoudaki 2003, p. 435). Gallou (2005, pp. 98-105 and references) has discussed the animal sacrifice and banqueting in Mycenaean funerary contexts in detail. Selected titles on animal sacrifices in Mycenaean tombs are given in PAPADOPOULOS 1999, p. 270, note 24, while Sakellarakis (1970, pp. 157-198 and 215-218) has dealt with the matter of bovid sacrifice in the prehistoric Aegean in every detail. The cranium of a slaughtered bovid was offered to the LM IIIA 1 burial of the ‘queen-priestess’ in tholos tomb Α at Archanes – the most striking example of such a sacrifice for burial purposes in the Mycenaean world; see SAPOUNA-SAKELLARAKIS 1968, SAKELLARAKIS, SAPOUNA-SAKELLARAKIS 1994, p. 77 and IId. 1997, p. 265.

48 Termed by Papazoglou-Manioudaki as ‘Krini-Klauss workshop’ it was another distinct local pottery workshop in LH IIIC Middle that produced two stirrup-jars found in chamber tomb 3 at Krini near Patras. She also attributed to this workshop another two stirrup-jars from the finds of Kyparissis at Klauss (PAPAZOGLOU-MANIoudaki 1994, pp. 188, 191 figs. 17-18, 193; cat. nos. 9, 10). The ‘Krini-Klauss workshop’ was active in Phase 3, as these two new stirrup-jars from Klauss (tombs B and Θ-warrior burial) can confirm.

49 The stirrup-jar PM298, with unknown provenance (PAPADOPOULOS 1978-1979, fig. 109 d-e and MOUNTJOY 1999, pp. 428-429, fig. 150, cat. no. 98), should be attributed to Klauss Workshop 2 and in particular to Klauss Potter B.

50 Footed stirrup-jars are common in Achaea’s LH IIIC Middle or in particular during Phase 3, see MOUNTJOY 1999, pp. 427-428, cat. no. 96.
Was she the distinguished lady of the *oikos*, who passed her days weaving, as it behove women gentlefolk in Homeric lore?

In Phase 4, **Klauss Workshop 3** was active and produced at least six of the finest vases coming from various tombs at Klauss. The potters produced elegant shapes; they had steady, experienced hands, and showed a preference for dense compositions with specific main and subsidiary motifs on the painted surfaces (fig. 12a).

Finally, a small non Achaeans stirrup-jar, found in the heap of secondary burials in Tomb Γ, shows significant similarities to a vase from Kamini in Naxos and could be an import from there (fig. 12b).

**Phase 5: LH IIIC Late Developed**

**Thirteen** burials are dated to this phase. A mature man of 30 to 40 years old (burial Z) was placed in Tomb B pit I. His sickle was found at waist level, as if it had been attached to him originally with a string or a belt. Upon the slabs covering the pit, above his head, a single lekythos marked his burial (fig.13). Again, the sickle is a harvesting tool and may be a symbol of his occupation: perhaps he was a farmer.

In tomb Δ a child of 4.5 years old was buried with two small stirrup-jars and a duck-shaped vessel, or *rhyton*. The latter (fig. 14a) (PM 12185) measures H. 18.5cm; L. 19cm; W. 11.5cm. One of its three high tubular legs is missing and replaced with gypsum. It survives in joining parts of fine reddish clay and slip, with brownish-black paint, which is worn in parts. The handle is attached to the neck of the spout. The

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51 Such as plain, fringed or dotted concentric semi-circles with chevron fill (FM 43:32), connected semi-circles (FM 43:34-35), dotted zones or circles (41:6), etc. This sophisticated pottery style with dense compositions and highly decorative air is obviously the most elegant product of the Achaean potters in the 12th c. BC. Moschos includes this pottery group in his ‘Achaean Style’ and dates its appearance a little later than the Argolid ‘Close Style’ and earlier than the ‘Granary Style’, thus, from the end of LH IIIC Advanced to the beginning of LH IIIC Late: phase 4; see Moschos 2002, pp. 24, 29, fig. 9.

52 Vlachopoulos 2006, pp. 442-443, pls. 8 (drawing), 87 (photograph); cat. no. 2090. Professor Andreas Vlachopoulos confirmed this suggestion; therefore, we wish to thank him for his concern.

53 Pits cut into the floor of the chambers for primary burials are not rare in Mycenaean Achaea; see Papadopoulos 1978-1979, pp. 54-55, 56 and Moschos 2002, p. 28. For a panorama of burial pits in Mycenaean chamber tombs, see Kontouri-Papadopoulos 1987, pp. 149-150 and Vikatou 1999, p. 252, note 12.

54 Single vases placed upon the stone covers of burial pits, marking their existence and possibly commemorating the dead, were also found in chamber tombs of Mycenaean Elis (Olympia and Pefkes); see Vikatou 2001, p. 115 and note 21. Vikatou’s reference to Klauss (tomb ΣΤ, pit II) as a parallel is based on the excavator’s report (Papadopoulos 1990, p. 54) and should no longer be considered as such. The vases found upon the pit slabs were not offered to the individual placed inside. Instead, they belong to a secondary heap of earlier burials, which were pushed aside.

55 For children’s burials in Mycenaean Greece, see Polychronakou-Sgouritsa 1987. In LH IIIC such burials were often deposited in the chambers, together with adults’ burials: *ibid.*, p. 13 and notes 51, 52.
bird’s head is carefully moulded. **Decoration:** Circles around the tubular beak, the neck, the spout’s rim and base and also around the base of the handle and of the bird’s legs. The protruding eyes of the bird are indicated by two circles with a central dot. A third nipple on the head’s top; the latter is hatched, as is the back of the handle, which has a thin, oval section. There are three dotted zones along the back of the body. The tail barred on its top. The upper half of the body, covered by pendent, hand-drawn, connected and concentric semicircles (FM 43:35), suggest feathers. The lower body is painted over.

The duck-shaped vessel fits in Desborough’s type Ia (Desborough 1972, pp. 246-247) and Guggisberg’s type A-2 (Guggisberg 1996, p. 249) of such vases. As a **rhyton** it fits in Koehl’s type I figural (Koehl 2006, p. 20). Although common in Achaea’s LH IIIC, this peculiar type of vessel has not so far been associated with any particular type of burial or use there. A few duck-vases, one from Agios Vasiliou in the Argolid (LH IIIB), one from Knossos (Subminoan period) and some more from Samos-Heraion (Protogeometric and Geometric period) have been associated with shrines and cult (Guggisberg 1996, p. 31 cat. nos. 48, 352-353), but this is not the case for the numerous Achaean LH IIIC duck-vases found exclusively in tombs. With its perforated nozzle, our duck-vase can obviously be identified as the child’s feeding bottle. A recent study by Irene Lemos has shown that duck-shaped figurines were offered to children buried at Prosymna and Perati (Lemos 1994, pp. 233-234; see also Kourou 2005, p. 257). While a later duck-vase was found at Seraglio on Kos in a child’s burial dated to the Iron Age, which shows an interesting survival of this custom, further study of bird-shaped vessel’s burial contexts in

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56 Desborough (1972, pp. 264-265) mentioned this category of Achaean vases as ‘a rarity’, though a lot more than those seven vases listed there have come to light over the last thirty years; see GUGGISBERG 1996, pp. 62-65 and pls.12-14; cat. nos. 190-200 and also KOEHL 2006, pp. 82-83.
57 As Papadopoulos remarks ‘they are found more frequently in the Achaean tombs than in any others of LH IIIC date’ (PAPADOPOULOS 1978-1979, pp. 101-104, esp. p. 103 and figs. 162-168; Id. 1980, where two more vessels were published). Papadopoulos (1978-1979, pp. 103-104 and note 88), following Desborough, concluded that ‘they were made for pouring wine or water, with no exclusive use in tombs, settlements or sanctuaries’.
58 Zoomorphic **rhyta** in Mycenaean tombs have been seen as symbolic substitutes for an actual sacrifice or eternal symbols of libation rituals and rebirth; see GALLOU 2005, p. 101. Furthermore, birds are often depicted in Mycenaean funerary art, e.g. on sarcophagi associated with libations or feasting scenes, where it is believed they may denote the presence and participation of the chthonic deity or the dead in ritual acts, or can be symbols of the souls of the departed; see GALLOU 2005, pp. 38-40 with references.
59 LEMOS 1994, p. 234. Furthermore, it should be noted here that duck-shaped vessels probably derived from the Mycenaean baseless **askoi** (FS 194), as suggested by Desborough (1972, pp. 245-246) and Lemos (1994, p. 229); these **askoi** were associated almost exclusively with early Mycenaean children’s burials (POLYCHRONAKOU-SGOURITSA 1987, p. 22 and note 154). A possible survival of a certain
Achaea and elsewhere is expected to strengthen this hypothesis. Finally, another, almost twin duck-vase found at Klauss by Kyparissis in 1937 also dates to this phase (fig. 14b). Both bird-vases are apparently the products of the same artist, the **Klauss Artist of the Duck Vases**. A third duck-vase found at Kallithea-Rampantania (tomb E) bears significant similarities and should be attributed to the same production centre, if not to the same artist.

Two more twin stirrup-jars from Tomb N come from the hands of **Potter C** and date to this phase.

**Phase 6: From the end of LH IIIC Late to the beginning of Submycenaean period**

Fourteen burials belong to this phase. A teen-age mother with a 40-week embryo Burial Δ in Tomb E was furnished with two small stirrup-jars. Another apparently wealthier young woman, Burial A in Tomb E, only 22 years old, was buried together with a 4 year-old child and was offered an elaborate tripod ring vase, three stirrup-jars, two lekythoi and a set of weaving whorls. In Tomb Θ Burial B, next to the Warrior, a woman aged between 25-35 years old was adorned with two necklaces; the beads were found around her head. She was offered a significant number of whorls and vases (fig. 15). Her grave gifts include a small spherical monochrome stirrup-jar (FS 176) with the reserved zones on the belly filled with parallel bands, which belongs to a special vase type. This **Klauss type** of stirrup-jar has five examples all coming from Klauss – associated in every case with burials of young women – and has no parallels from the rest of Achaea. Finally, three more pottery workshops have been identified from this last phase.

**THE PEOPLE OF KLAUSS**

We have seen so far a brief panorama of the pottery production throughout all the phases of the 12th century, together with selected individual stories hidden for ages.

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60 KYPARISSIS 1937, p. 85, fig. 3left; PAPADOPOULOS 1978-1979, pp. 101-102, figs. 163a-b and 257 (PM 260); GUGGISBERG 1996, p. 64, cat. no. 195 and pl.13: 3; KOEHL 2006, p. 82, cat. no. 62.
61 PAPADOPOULOS 1980, pp. 166, 168-179 and figs. 3-4; GUGGISBERG 1996, p. 62, cat. no. 190; pl. 12-9; KOEHL 2006, p. 82, cat. no. 63.
62 As noted by Koehl (2006, p. 82, cat. nos. 62-63).
63 For common burials of mother-and-child in the Aegean Bronze Age, see POLYCHRONAKOU-SGOURITSA 1987, p. 21.
64 The shape is close to the two stirrup-jars from Kangadhi, which also have monochrome areas and are dated to LH IIIC Late; see MOUNTJOY 1999, pp. 435-436, cat. nos. 118, 119.
in the dark chambers of Achaea Klauss. We should now make an overview of the general population data. As mentioned in the beginning of this paper, the remains of 62 individuals dating to the *palatial period* have been identified.\(^{65}\) In addition, there are 67 burials dated to the *post-palatial, 12\(^{th}\) century B.C.* This does not demonstrate an increase in the population from one period to the next, as has been generally argued for Achaea.\(^ {66}\) However, a gradual increase in the number of burials from Phase 1 to Phase 6 cannot be ignored (pl. 16) and implies a local prosperity peaking in Phase 3, which is the generation of the Warrior Burial.

**Ratio of Males to Females, Adults to Children**

In the skeletal material of the primary burials, bearing in mind there is a small number of skeletons too poorly preserved for sex to be assigned, the ratio of the sexes is more or less even, in other words normal: 26 women and 29 men were identified. There are 18 children, the majority over the age of three. A few exceptions are: a 22-week embryo, a 40–week embryo, a newborn and one eighteen month-old toddler. This low representation of infants could be an artefact of poor preservation, because infant bones are very fragile and more susceptible to decay. However, we must also consider the possibility that infants were buried elsewhere,\(^ {67}\) if not in separate cemeteries,\(^ {68}\) perhaps intramurally, or underneath the floors of houses as at Chalandritsa in Achaea\(^ {69}\) and in many other Mycenaean settlements.\(^ {70}\) Sub-floor

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\(^{65}\) This number is based on the excavation notes and is deduced from the crania found and is expected to rise, since the study of the skeletal remains of the secondary burials is in progress.

\(^{66}\) The same phenomenon has been noticed at the Mycenaean cemetery at Vounteni, Patras; see MOSCHOS 2002, p. 32. It is generally believed that a population influx occurred in Achaea around 1200 B.C., due to the collapse of the Mycenaean palatial economy in the main centres of Peloponnesse and the consequent waves of immigration; see DESBOROUGH 1964, pp. 100 and 101; CAVANAGH, MÉE 1978, p. 42. PAPADOPOULOS 1978-1979, pp. 175-176 with references; PAPAZOGLOU-MANIOUDAKI 1994, p. 200; PAPADOPOULOS 1999, p. 273; PAPADOPOULOS, KONTORLI-PAPADOPOULOU 2003, pp. 257-258. On the contrary, it has been recently suggested that there is no increase in the population from the palatial to the post-palatial period, irrespective of a possible ‘gradual and peaceful infiltration of new-comers over a longer period of time’; see MOSCHOS 2002, pp. 29, 30-31, 32. Further clarification of the exact number of burials in both periods at Klauss will contribute to this matter.

\(^{67}\) Children’s burials are under-represented at the Mycenaean cemetery at Spaliareika-Loussika in Achaea, where a different custom or location for burying infants has been assumed as an explanation; see PAPATHANASSIOU 2002-2005, pp. 193, 196.

\(^{68}\) Nothing of this nature has yet been found in the Mycenaean world, but there is the example of early Middle Bronze Age cemeteries exclusively for children at Agia Irini on Kea (OVERBECK 1989, p. 184 and *passim*) and a much later example of the archaic children’s cemetery on Astypalaia (FARMAKIDOU 1995, p. 809).

\(^{69}\) In the Mycenaean settlement of Chalandritsa in Achaea, children’s burials were found in four pits cut into the house floors and covered with slabs; see KOLONAS 1985, p. 138 and KOLONAS, GAZIS 2006, p. 27.
intramural burial is a geographically widespread, millennia-old custom [McGeorge 2003, pp. 301-302 and also McGeorge forthcoming(a)].

Mean Age at Death

Despite the perception of Mycenaean civilization as one that prized weapons and admired the prowess of hunters and warriors, aggressive behaviour does not seem to have left much impact on the demography of the cemetery. In the primary burials studied thus far, the mean age at death of the men is 33.25 years (two men were in their late teens, three were in their late forties and the rest fall in between), whereas the mean age at death of women is 25.26 years. This is a difference of about 8 years with men living longer, which is the reverse of what is normal today: women are biologically more resilient and long-lived than men. The mean age of 25 for the women in the sample (7 were in fact in their teens) corresponds to the period of peak reproductive activity in a woman’s life and so it seems likely that there is a direct correlation here between reproductive activity and the pattern of female mortality. The 40-week embryo found in the abdominal area of Tomb E Burial Δ, a 14-18 year-old, is a poignant illustration of complications in pregnancy, since it is probably a case of death from obstructed labour which is not uncommon in teenage pregnancy where the capacity of the pelvic bones has not reached full maturity. In underdeveloped countries today, teenage pregnancy and childbirth cause the deaths of half a million women each year (Royston and Armstrong 1988).

Stature:

The mean stature of six men in the sample was 168.32 cm; the tallest person in the sample was the Warrior. At 177 cm tall, he was taller than the average height of the aristocrats buried at Mycenae. The stature of a single woman was calculated as 156.07 cm, a difference of >7%, at the upper end of the range of the expected 5-8% difference, which is normally observed in all human populations world-wide and is attributed to sexual dimorphism. If this difference is verified by more data for other females, then we shall have to consider whether the differences are not due to physiological sex differences but due to differences in social behaviour and the way in

70 POLYCHRONAKOU-SGOURITSA 1987, p. 12 and note 37; pp. 17, 19 and note 115. For children’s burials underneath the floors of Late Neolithic, Early Bronze and Middle Bronze Age houses in mainland Greece, see POLYCHRONAKOU-SGOURITSA 1987, p. 19, note 114.
which people, perhaps this woman in particular, burial Γ from Tomb E, experienced her social gender. Social status provides access to resources which buffer the individual from stress, whereas a poor diet has a negative impact on human stature. Differential access to resources is also a critical factor in experiencing pathology.

Disease and Treatment of Dead

The woman, Burial Γ in Tomb E, was between 17 and 23 years of age. She had congenital *spina bifida occulta* (failure of the dorsal laminae of the sacrum to unite), which may periodically have caused her lower back pain, but probably would not otherwise have been a serious impediment (fig. 17). She did, however, also suffer from a bacterial infection involving many vertebrae: 12th thoracic and the lumbar. It is likely that this was caused either by tuberculosis or by brucellosis and contributed to her early death. What is most fascinating is that her bones were covered in copious amounts of a white substance which looks remarkably like lime plaster (fig. 18). Although the body would produce calcium as part of the reparative healing process in response to the bacterial insult, it is very doubtful that this amount was a natural response to an infection. It is more likely that the lime plaster covering the body was deposited post-mortem and used to counteract the overpowering smell of decomposing flesh and as a hygiene measure by the people who buried her.

No doubt the hygiene properties of lime plaster were appreciated and it looks as if it was being used here for that purpose. The people of that time could not have understood the epidemiological mechanisms of *phthisis*, the wasting disease, but they were surely familiar with the endemic nature of the disease and the lime may well have been a precautionary measure. Lime plaster production is labour-intensive work, requiring lots of fuel and kilns capable of reaching high temperatures, but we know that vast amounts of lime were produced for renewing floors, for coating walls, steps, benches, cisterns and of course for frescoes. However, the evidence from Tomb E is exciting because it proves conclusively that it was sometimes used in burial as a sanitary measure and presumably to counteract the stench of rotting flesh.

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71 In the manufacturing process, crushed limestone (CaCO3) is heated up to 850° for several days and then left to cool to produce quick lime (CaO). It is then treated with water to produce slaked lime (Ca(OH)2), which on contact with carbon dioxide will set hard.

72 Coincidentally, the paper on *Salamis ca 1200 B.C.: Connections with Cyprus and the East* presented at this conference by Y. Lolos identified an industrial installation for the production of lime.
The presence of lime in Bronze Age burials has been noted in the past, but its significance and use as a disinfectant/deodorant has not been clearly recognised or explicitly articulated until now. A brief survey of earlier publications reveals intermittent references to the discovery of lime in burial contexts: a layer of lime and clay in Mycenaean tombs at Argos-Deiras; a layer of lime plaster covering a mass grave at Tzannata Porou in Kephalonia, where a number of people, perhaps in varying stage of decomposition, were reburied at the same time, so the lime was probably used to counteract the overpowering foul smell emanating the bodies and as a de-contaminant or protective measure for the living.

Another practice with a similar intent of sanitization has also been noted at Achaea Klauss. Burnt bones were found in tombs Γ & Λ and indicate the practice of periodically fumigating tombs. This practice has already been noted for example in the Early Bronze Age tholos tombs with multiple generations of burials at Moni Odigitria and Lebena in the Messara on Crete, where burnt bones which were not cremations were covered by a layer of sand.

Surgery and Medical Practice

There is an interesting case of trephination Tomb ΣΤ burial Ζ (fig.19). The cranial bone had gradually been removed by the scraping method until the inner table was reached. This method is a technically less sophisticated, more conservative and clearly a safer approach to the operation than the method used on the patient from Grave 51 Γ, at Mycenae (Angel 1973, pp. 380-381, pls. 244, 249), where the surgeon had sawn through the skull and the two halves of a roundel had been left in place to exfoliate naturally. This foreshadowed by many centuries precisely the procedure indicated in the Hippocratic treatises. The patient, however, did not survive and one

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73 L. Kontorli-Papadopoulou (1987, p. 155 and notes 90-92) mentions a layer of lime and clay in several tombs (24, 26, 28, 33) in the Mycenaean cemetery at Argos-Deiras, while a layer of reddish and yellowish clay is mentioned at Brauron-Lapoutsi in Attica (tomb A). Fear of disease was suggested as a possible explanation.
74 Lime plaster has been found covering 72 disarticulated skeletons in an ossuary, excavated nearby the Mycenaean tholos tomb at Tzanata Porou in Kephalonia; see KOLONAS 1993, p. 150; Id. forthcoming(a) and PAPADIMITRIOU 2001, pp. 60, 179.
75 For example, in tholos tomb IIa at Lebena in Messara, Crete; see PLATON 1959, p. 371 and ALEXIOU 1961-1962, p. 90; also in the tholos tomb at Moni Odigitria, which was recently reported to have contained burnt bones resulting from the same practice of fumigation; see TRIANTAFYLLIOU, VASSILAKIS forthcoming.
76 HIPPOCRATES: On Wounds in the Head, XXI.
wonders what the surgeon’s fate was. But in the case of Tomb ΣΤ burial Z at Achaea Klauss, there is evidence of healing, so at least the patient survived the operation. Trephination has a long history. In the Aegean, one of the earliest and technically finest examples so far seen was found at Hagios Haralambos in Crete; dating to the Middle Minoan period or earlier [McGeorge forthcoming(b)], the smooth well-healed, uninfected bevelled edges of the trephination reveal an unparalleled level of surgical expertise and medical knowledge. By contrast, the Achaea Klauss example suggests a more tentative, empirical approach to a high risk operation with an uncertain outcome.

Some remarks on Achaea at the time of Klauss Warrior 2

The Klauss Warrior 2, presented here (see supra, note 31), belongs to the first generation of Achaean Warriors. This is Phase 3 or IIIIC Middle, to which date the warriors burials from Krini and Kallithea Tomb A, the warrior found at Portes and probably the burial with sword from Psoriarou-Nikoleika Tomb 4 (Petropoulos 2006, p. 41; Deger-Jalkotzy 2006, p. 160 and Petropoulos 2007) and the burials with swords from Klauss (Kyparissis excavations: Klauss Warrior 1) and Kangadhi, which will be discussed below. It seems that a new military and/or administrative elite emerges at this specific moment in western Achaea, distinguished by a sine qua non accompaniment of swords – particularly of the Naue II type – and buried with exceptional honour and respect. Although burials with spears could also be

77 The Code of Hammurabi (1792-1750 B.C.) specifies the physician’s fees and the penalties if an operation ended fatally. Depending on the social status of the patient, in the case of a fatality, the worst penalty prescribed that the physician’s hands be cut off. Presumably, however, this was a matter of defining liability, a policy measure against “malpractice”, but was rarely applied since it is doubtful whether any physician would have run the risk of performing an operation; see Edwards 1921.

78 The majority of the post-palatial warrior burials in general date to LH IIIIC Middle and IIIC Late, as remarked by Deger-Jalkotzy (2006, pp. 173 and 170-171, table 9.3). As also noted by Demakopoulou, “it is becoming increasingly clear that LH IIIIC Middle was a time of relative prosperity in different parts of the Aegean” (Demakopoulou, Crouwel 1998, p. 282); see also Deger-Jalkotzy 2006, p. 174.

79 Papazoglou-Manioudaki 1994, pp. 180-181. In particular, the warrior burial from Krini (tomb 3) should be attributed to Phase 3, since the two stirrup-jars of the Krini-Klauss workshop found within fall in this phase and have parallels to the ones found with Klauss Warrior 2; see supra, note 23.

80 The small stirrup-jar found with the warrior burial in Kallithea Tomb A is of a LH IIIIC Middle footed shape and bears elaborate lozenges on the shoulder (Mountjoy 1999, pp. 427, 428, cat. no. 96), all typical features of Phase 3 again (see supra, note 55 and fig. 10b), occurring also at some of the pots from the context of Klauss Warrior 2. A second stirrup-jar from the same tomb (Yalouris 1960, pl. 30:4 and Papadopoulos 1978-1979, fig. 95c) fits perfectly Phase 3 (compare with Mountjoy 1999, p. 429, cat. no. 100) and could have once belonged to the warrior’s context, unlike a third stirrup-jar and an amphora from the same tomb which are apparently of later date (Yalouris 1960, pls. 30:3 and 30:2 respectively).

81 Information kindly supplied by Mr. I. Moschos.
characterized as warrior burials, in Achaea there is a distinctive phenomenon of burials with specific accoutrements – Naue II type swords – symbolizing status: there is a homogenous and deliberate pattern of behaviour directed at the establishment and maintenance of an ideology/hierarchical social organisation.

An intriguing question, with regard to social organization in LH IIIC Achaea, concerns the number of warriors in the general population. Should we also assume that the warriors were the chiefs/leaders of their community? The Achaea Klauss cemetery has given us two warrior burials in a total number of 29 family tombs. Another two warrior burials were found at Kallithea-Rampantania in a total of 26 chamber tombs. It seems that similar communities were scattered all over the region of Aigion, Patras and Dime, but that no cemetery had more than two warrior burials (Eder 2003, p. 41; Eder, Jung 2005, p. 490; Deger-Jalkotzy 2006, p. 175). These arrangements show the need for a *primus inter pares* to be responsible for organizing them in peace and in emergencies. Furthermore, the number of warrior tombs in the above mentioned cemeteries may reflect a specific model of hierarchy applied on certain units of the population: up to two warriors/chiefs per settlement of a certain size.

As for the matter of Naue II swords, there are remarkable similarities between the new Klauss sword from tomb Θ and the one from Kangadhi in south-western Achaea (Papadopoulos 1978-1979, p. 166, figs. 320c-d, 356c-d; PMX 292), which is slightly shorter, but may date to the same phase (phase 3) and derive from the same workshop. The first warrior’s sword from Klauss (Klauss Warrior 1), unearthed in

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82 For this point of view see DEGER-JALKOTZY 2006, pp. 169, 172.
83 In cases of emergency, many more swords must have been available for fighting than the number deposited with burials. The discussion here concerns the ‘warrior grave phenomenon’, that is those who were *chosen* to be buried as such, these leading figures who must have been respected both in life and after-life. On these Mycenaean warrior burials in Achaea, see PAPADOPOULOS 1992, p. 58 and pl. 19; PAPAZOGLOU-MANIoudaki 1994, pp. 179, 200; PAPADOPOULOS 1999; PETROPOULOS 2000, p. 72 and note 19; MOSCHOS 2002, p. 29; EDER 2003, p. 40; DEGER-JALKOTZY 2006, pp. 152, 154 and *passim*.
85 Personal communication by Professor T.J. Papadopoulos, the excavator of the important Mycenaean cemetery at Kallithea-Rampantania, a site which is remarkably close to the Achaea Klauss cemetery. Both these two sites, together with another 37 Mycenaean cemeteries and habitation sites (known so far), constitute the ‘Region of Patras’, which is a well-defined part of the *Western Koine* of the late Mycenaean world, also called ‘Territory’; PAPADOPOULOS 1995; MOSCHOS 2002, pp. 15-20.
86 This military and/or political organization within each individual community in Achaea may have been controlled by some central power, of a form which is still uncertain to us. Furthermore, the relations between the habitation sites in the same regions of the ‘Territory’ remain to be clarified and their political structure is a problem yet to be solved; see MOSCHOS 2002, pp. 18, 30.
1938 together with the sword from Kallithea Tomb A, and one of the two found at Loussika in a later context comprise another distinctive group of very similar artifacts, probably deriving from the same production centre and falling again in Phase 3 or IIIC Middle. These two groups of similar Achaean Naue II type swords (Klauss Warrior 2 sword / Kangadhi sword; Klauss Warrior 1 sword / Kallithea tomb A sword / Spaliareika-Loussika tomb 2 sword) may reflect the existence of more than one production centres, active since LH IIIC middle or phase 3. These centres should be regarded as local, since the demand for so many swords was local.

Finally, what are the attributes of a warrior/chief besides possession of a sword? The skeletal remains of Klauss Warrior 2 are the only ones studied so far in Achaea: he was a well-built young man of exceptional stature. A head above the rest of the population, he would certainly have been physically impressive and respected both in life and after-life, although his physique is not particularly muscular. The study of the warrior’s skeletal remains and of the weapon’s condition does not betray evidence of his military activities. It is by no means certain that this individual had necessarily participated in warfare during his adult life. Warriors were the individuals chosen to be promoted as such, in life and in death, regardless of their real feats (Whitley 2002, pp. 223, 227). It is not, thus, coincidental that the Klauss Warrior 2 constituted the most richly gifted burial of his generation (Phase 3) among all the 16 tombs under study, bearing bronzes – among which an exotic knife of north Italian origin –, numerous vases, ivories and having been honoured and remembered one generation

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87 The Naue II type sword from Kallithea, tomb A, together with the one excavated by N. Kyparissis at Klauss in 1938 have been attributed to the same workshop; see PAPADOPOULOS, KONTORLI-PAPADOPOULOU 1984, p. 224; PAPAZOGLOU-MANIADAKI 1994, p. 179. The new sword from Spaliareika-Loussika (Patras Museum, cat. no. M4650, see PETROPOULOS 2000, pp. 76, 90; pl. 41) is similar to those two (see PAPAZOGLOU-MANIADAKI 1994, p. 180) and should be considered as a product of the same workshop too, although found in a later context (Phase 5). The existence of local bronze industry has been suggested by Papadopoulos long ago (PAPADOPOULOS 1978-1979, p. 183, note 98; see also PAPADOPOULOS, KONTORLI-PAPADOPOULOU 1984, p. 223 and IID. 2003, p. 83) and is very much in line with the recent finds, such as the bronze kalathos at Spaliareika-Loussika tomb 2 (PETROPOULOS 2000, pp. 75, 87; pls. 25, 26), a metallic vase that imitates a well-known shape of the ceramic repertoire of the Patras region in LH IIIC (MOSCHOS 2002, p. 23).

88 On the origin of the Naue II type swords found in Achaea see PAPADOPOULOS 1999, p. 273 and note 48, where a northern provenance is not excluded. Bouzek (1985, p. 143, fig. 71) initiated the formula of ‘local schools of European-inspired bronzes’, where Achaea falls in the ‘Peloponnesian school’. In favour of the local production of the Achaean swords is Moschos (2002, p. 26). An Achaean provenance has also been suggested for the Naue II type sword from Palaiokastro in Arkadia (DEMAKOPOULOU 1969, p. 228), a cemetery where Achaean pottery had been imported as well; see MOUNTJOY 1999, p. 299 and DEMAKOPOULOU, CROUWEL 1998, pp. 269, 283.

89 Which brings to mind Birgitta Eder’s suggestion that ‘the wealth and importance of the burials at the LH IIIC Achaean sites may be taken to reflect their role as mediators between the Greek mainland and the Adriatic’: EDER 2003, p. 45.
later (Phase 5) with some impressive ‘ritual’ offerings, as mentioned above.\textsuperscript{90} Wealthy and honoured must have also been the burial of the Klauss Warrior 1, unearthed by N. Kyparissis in 1938, since the sword was found ‘with a mass of Late Mycenaean vases of many forms and various sizes’.\textsuperscript{91}

Our paper has attempted to sketch the outlines of a warrior/chief and his post-palatial community. Further information from the important Mycenaean cemeteries at Voudeni, Krini-Agios Konstantinos, Spaliareika-Loussika, Kallithea (Rampantania and Laganidia), Kalamaki-Eleochori and Portes is expected to contribute immensely to formulating a clearer image of Achaean society during the last days of the Mycenaean era.

\textsuperscript{90} In general, warrior’s burials in LH IIIC Greece were wealthy, including prestigious goods and valuables (DEGER-JALKOTZY 2006, p. 152), and it seems that these leading individuals belonged to important families, which established some kind of monocratic rule in their communities; see EDER, JUNG 2005, pp. 490-491 and DEGER-JALKOTZY 2006, pp. 175-176.

\textsuperscript{91} PAPADOPOULOS, KONTOURLI-PAPADOPOULOU 1984, p. 224; KYPARISSIS 1938, 118-119; ID. 1939, pp. 104-106, where the excavator gives a list of all the ceramics found in 1938, unfortunately without clarifying the warrior’s context among the rest of the finds unearthed in the same year.
ABBREVIATIONS

FM: Furumark Motif
FS: Furumark Shape
PM: Patras Museum
PMX: Patras Museum Catalogue of Bronzes

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FIG. 1. Distribution map of Mycenaean sites in Achaea. The arrow points at Achaea Klauss (after Papadopoulos 1978-1979, colour pl. 1).

FIG. 2. The Mycenaean cemetery at Achaea Klauss.
FIG. 3a. Tomb Λ, where all secondary burials were found in a pit cut into the chamber's floor.

FIG. 3b. Tomb H, where all secondary burials were found in a heap at the chamber's side.
FIG. 4. Examples of LH IIIA-B pottery from Klauss.

<table>
<thead>
<tr>
<th>LH III B2</th>
<th>LH III C early</th>
<th>LH III C middle</th>
<th>LH III C late</th>
<th>Sub-Mycenaean</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHASE 1</td>
<td>PH. 2</td>
<td>PH. 3</td>
<td>PH. 4</td>
<td>PH. 5</td>
</tr>
</tbody>
</table>

FIG. 5. Table of the 6-phases of the LH IIIC Achaean pottery, after I. Moschos.
FIG. 6. Tomb Δ, burial Δ: (the *craftsman*) a young man of 25 years old and his context.

FIG. 7. Tomb Η, burial Γ: (the *Italian*) a young man between 25-35 years old and his context.
FIG. 8a. The stirrup jars from Krini (left) and from other sites of Achaea (middle) and the new ones from Klauss, Tombs E and H (right), all products of the ‘Krini Workshop’.

FIG. 8b. A Minoan or ‘minoanising’ group of vases: a jug from Klauss Tomb H and the stirrup jar from Spaliareika-Loussika Tomb A. Left: the stirrup jar from Klauss Tomb A.

FIG. 8b. A Minoan or ‘minoanising’ group of vases: a jug from Klauss Tomb H and two stirrup-jars: one from Spaliareika-Loussika (Tomb A) and one from Klauss (Tomb A).
FIG. 9a. The burial of Klauss Warrior 2 (tomb Θ, burial A) and his bronzes, as found in situ.

FIG. 9b-c. The bronze sword and spear of Klauss Warrior 2.
FIG. 9d-e. The bronze knife and pair of tweezers of Klauss Warrior 2.

FIG. 10a. Stirrup-jars from Klauss (tombs B and Θ) and Krini, all products of the ‘Krini-Klauss Workshop’.
FIG. 10b. Stirrup-jars from various tombs at Klauss, all products of the ‘Klauss Workshop 2’ and its ‘Potter A’.

FIG. 11. Tomb B, burial ΣΤ, a well-respected woman and her context.
FIG. 12a. Vases from various tombs at Klauss, all products of the ‘Klauss Workshop 3’.

FIG. 12b. Stirrup-jar from Klauss, tomb Γ: a possible import from Naxos.

FIG. 12b. Stirrup-jar from Klauss, tomb Γ: a possible import from Naxos.
FIG. 13. Tomb B, burial Z: (the *harvester*) a mature man and his burial gifts.

FIG. 14a-b. (Left) The child’s duck-vase from tomb Δ and (right) the almost twin duck-vase from the old excavations at Klauss, both works of the ‘Klauss Artist of the Duck-Vases’.
FIG. 15. Tomb Θ, burial B: a *wealthy* young woman and her context. The stirrup-jar belongs to the ‘Klauss Type’.

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**- LH III C (post palatial era): 67 burials, among which 54 are datable.**

<table>
<thead>
<tr>
<th>PHASE 1</th>
<th>PHASE 2</th>
<th>PHASE 3</th>
<th>PHASE 4</th>
<th>PHASE 5</th>
<th>PHASE 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 burials</td>
<td>6 burials</td>
<td>10 burials</td>
<td>9 burials</td>
<td>13 burials</td>
<td>14 burials</td>
</tr>
</tbody>
</table>

FIG. 16. Table showing all LH III C datable Klauss burials per phase.
FIG. 17. Tomb E Burial Γ: Spina bifida occulta.

FIG. 18. Tomb E Burial Γ: bones covered in copious amounts of lime plaster.

Fig.18. Tomb E Burial Γ: bones covered in copious amounts of lime plaster.
FIG. 19. The case of trephination from tomb ΣΤ, burial Z.