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CULT MATERIAL
FROM ARCHAEOLOGICAL DEPOSITS TO
INTERPRETATION OF EARLY GREEK RELIGION

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Ash, Bones, Votives – Analysing the *Black Strata* in Early Greek Sanctuaries

Two Examples from Olympia – the *Schwarze Schicht* and the Altar of Artemis

Susanne Bocher

Abstract

The archaeological analysis of the so-called *black strata* can provide crucial information about early cult rituals and sacrificial practices in Greek sanctuaries as they often represent the earliest and only evidence for religious activities at a site. On the basis of two examples from Olympia, different elements characterising these layers are introduced and analysed. The chosen examples from Olympia show how the debris from the potential cultic fires provide us with knowledge about practices concerning the deposition of ritual remains in the sacred area, the sacrificing of animals at altars and the treatment, especially the intentional fragmentation and folding, of votive offerings.

Introduction

Ash, bones and votive objects are characteristic elements of the so-called *black strata*.¹ These thick layers of dark earth are quite frequent phenomena in early Greek sanctuaries. They appear either in early contexts that precede the earliest architectural structures or are connected with altars of later phases.² The analysis of these strata mostly revealed large amounts of ash, charcoal, animal bones and different kinds of votive objects. At first sight, these observations show many similarities between the different sites, but only a few of them have yet been systematically studied. Further investigations can provide crucial information concerning the reconstruction of the earliest phases of cultic activities in Greek sanctuaries, including votive cult, ritual practices, spatial questions and further religious aspects. For this reason, it is vital to get a closer look at each element of this topic, including the recent studies.

¹ Bergquist 1988, 25: ‘...immense Iron Age strata, both pure and mixed ones, with black, fatty earth, animal bones, ashes and intact or broken cultic vases and votives’. The Iron Age layers around the structures at Kato Symi Viannou can serve as an example for this phenomenon.

² Cf. Simon 1997, 125–126: Concerning the observations in Ionia, ‘a regular pattern emerges: first, a period with a limited range of offerings with no buildings, sometimes not even an altar; second, a period with altars; and third, in most cases after the end of the eighth century B.C., a phase when temples are constructed to house the gods’.

The Structure, the Elements and the Stratigraphic Formation of *Black Layers*

The first questions concern the origin and formation of these layers: Do they consist of ritual debris that derived from sacrifices at altars and had they been intentionally and systematically deposited in a sanctuary, or are they results of other taphonomic processes that took place over a long time span?

The three main elements composing the black layers are first introduced with some critical questions:

The remnants of **fire** are the most obvious elements when observing *black layers* and the following questions can be raised: Is the black colour a result of the remains of ritual fires on or at the altars? Was special wood used for such fires and were votive offerings, animals or other objects burnt in these fires? Concerning their deposition, how did the remnants of fires get transformed into the dark layers?

The second element is the **faunal remains** that are observed quite frequently in these strata, especially animal bones. They raise questions if and how animal sacrifices were executed: Were the bones parts of animals sacrificed at an altar? Can we distinguish between religious practices and non-ritual meals or even other practices? Is it possible to reconstruct special rituals: for example, are all the parts of an animal represented or are parts missing or overrepresented? How were these animal parts treated, were they burnt or do they show cut marks?³

The third element concerns the **votive offerings**. Is it possible to distinguish *votives* from *profane* finds in these layers?⁴ What different kinds of offerings occur? Are potential *votives* treated in special ways, for example, were they destroyed or damaged on purpose?⁵ Do we have such well-preserved and well-documented layers that we can observe a special arrangement in the finds?

The *Black Layer* (*Schwarze Schicht*) at Olympia

Like at several other Early Iron Age sanctuaries in Greece, the earliest cult activities at the sanctuary of Olympia date back to the Geometric period and are not directly related to architectural remains from that time. The phenomenon of a very thick black stratum covering a large area under the later temples and altars was first discovered during the systematic excavations carried out in 1875–1881. In the centre of the sanctuary (Figure 4.1 and Plate 4.1) the deepest trenches revealed – underneath many younger structures – a thick layer of dark earth that was interspersed with large amounts of ash, charcoal,

³ The history and interpretation of faunal remains in the context of animal sacrifices is described by Forstenpointner 2003, 203–213.

⁴ Cf. Langdon 1997, 120: ‘We have recently been reminded, however, that not every item found in a sanctuary is a dedication. There is a good chance that some material served human needs or was used in the conduct of ritual but was itself non-votive in character.’

⁵ In this paper the very interesting topic of the treatment of pottery vessels in religious contexts is not examined. At Olympia, only few vessels and pottery sherds from the *black layer* were kept during the early excavation campaigns in the 19th century. Concerning this problem, see also Morgan 1990, 29; cf. Langdon 1997, 120. Special pottery finds from the black cultic layers that can be associated with drinking rites are known from some sanctuaries like Perachora; Morgan 2002, 50.

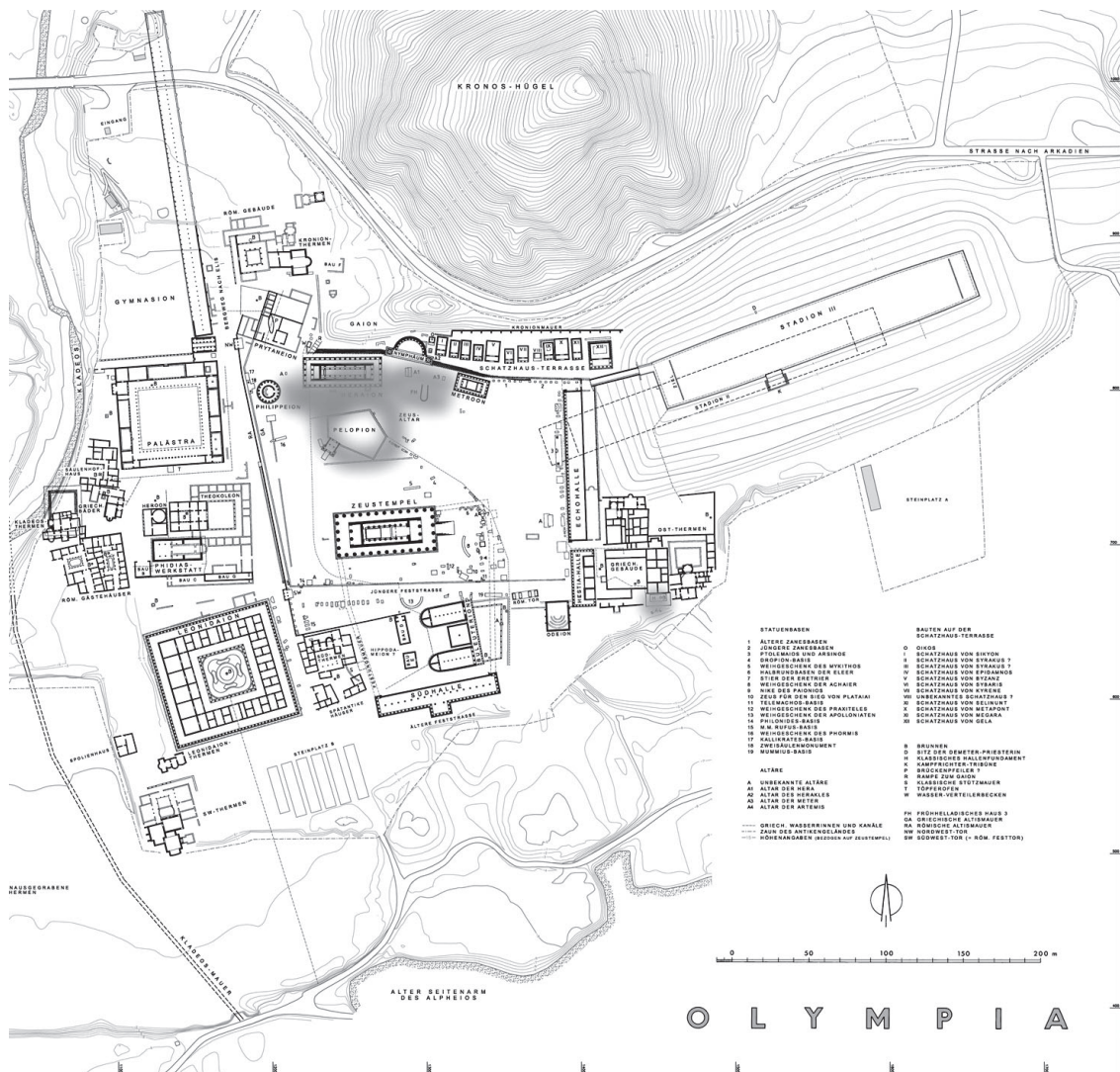


Fig. 4.1. Plan of the Sanctuary of Olympia. For the plan in colour, see Plate 4.1 where the *black layer* is marked with grey/green and the Altars of Artemis marked with grey/red (DAI Athens, H. Birk).

animal bone pieces, pottery fragments and an enormous number of metal and terracotta finds dating mostly to the Geometric period.⁶ As its black colour was very characteristic, the early excavators named the layer the *schwarze Schicht* (*black layer*).⁷ Among the finds that were interpreted as votive objects and thought to have been dedicated to a goddess, the largest number belong to small bronze and terracotta figurines (Figure 4.2): they are mostly animals such as bovines and horses,⁸ but also some anthropomorphic statuettes. Moreover, jewellery and weapons were found as well as many fragments of bronze tripods of various sizes.⁹ As these black layers continued under the foundations

⁶ Kyrieleis 2006, 35.

⁷ Similar observations were made in many other Greek sanctuaries e.g. at Syme, Isthmia, Perachora, Samos: Morgan 1999, 316 with a list of sanctuaries; see also Kilian-Dirlmeier 2002, 175.

⁸ Cf. Heilmeyer 1979.

⁹ Cf. Maaß 1978.



Fig. 4.2. Votive figurines from Olympia (photo S. Bocher).

of the Temple of Hera built around 600 BC, it was possible to establish a *terminus ante quem* for the strata. This date was also confirmed by the latest pottery finds in the layer.¹⁰

The documented extent of the *schwarze Schicht* is quite remarkable. It covers the extensive area between the Temple of Hera and the Metroon in the north and expands towards and around the Pelopion in the south. The thickest parts of the layer were found at the latter, around and north of the prehistoric tumulus that is located under the Pelopion.¹¹

In order to get more detailed information about the constitution and formation of the *schwarze Schicht* and the above mentioned questions concerning the elements of the black layer, H. Kyrieleis re-examined the *black layer* around the Pelopion with modern excavation techniques and with the help of specialists for organic materials. Although it was difficult to find the still unexcavated parts of this stratum, the investigation revealed several interesting aspects of the early cult activities:¹² The new excavations could confirm that the layer contained finds and pottery dating from the eleventh to the late seventh or early sixth century BC without stratigraphic differentiation.¹³ This shows that the sediments found there had been disturbed and mixed before their last deposition. In some areas, it was possible to differentiate two strata of black earth that were separated by a sand layer. The higher layer seemed to contain more bronze tripod fragments, the

¹⁰ Kyrieleis 2006, 53–55.

¹¹ Kyrieleis 2006, 33; cf. Mallwitz 1988, 81.

¹² Undisturbed parts of the black layer could be identified under the stone blocks surrounding the Pelopion which had not been removed during the 19th century excavations; Kyrieleis 2006, 46–50.

¹³ Kyrieleis 2006, 35, 46–50. Eder (2006, 197) argues that the latest pottery sherds found in the *black layer* at the Pelopion date to the early 7th century BC; see also Eder 2001, 201–209.

lower one more terracotta figurines.¹⁴ The very high number of finds considered to be votive objects and remnants of sacrifices increase the likelihood that the layers belong to a context of cultic activities. According to the descriptions of Pausanias, one could think of an early cult place for Zeus with burnt animal sacrifices and votive offerings at an altar.¹⁵ The reason for the vast extent of the layer might go back to levelling connected with the spatial reorganization and the construction of new buildings in the centre of the sacred area. The ash altar might have been levelled as part of a large-scale project in order to prepare the area for the new building activities like the construction of the Temple of Hera in the Archaic period.¹⁶

This case of an extensive and well-documented *dark layer* in one of the largest and well-known sanctuaries of ancient Greece serves as an appropriate starting point to examine the characteristic elements of such strata and to discuss whether it is possible to reconstruct ancient cult rituals in the context of activities during and after sacrifices at the altars.

Ash – the Fire Remains

The *schwarze Schicht* not only consists of black ash but also sand and earth that might have been used to extinguish the fires.¹⁷ During the latest excavations at the Pelopion charcoal was examined by R. Neef.¹⁸ Since the pieces found were very small, only one larger piece allowed the identification of the species of wood: broad-leaved oak.¹⁹ According to Kyrieleis, this might be a hint of the preparation of the sacred meals, as according to Pausanias (5.14.2) the sacred fires were only lit by the wood of abele trees (*Populus alba*).

Votives – Dedications and Their Treatment in the Context of the Black Layer

In order to explain the close connection between ritual fires and votive offerings, I will start with the description of the votive offerings found in the *black layer* at Olympia before analysing the faunal remains.

As Pausanias does not mention specific rituals concerning the act of dedicating votive offerings at the sanctuary of Olympia, we are dependent on the archaeological evidence in order to reconstruct aspects of the early ritual activities. As mentioned above, the so-called *black layers* contained large numbers of objects interpreted as votive offerings. In order to examine their role in rituals, I will focus on some crucial observations concerning special groups of finds.

As a first example, the bronze tripod-legs excavated in large numbers especially in the context of the *black layer* should be mentioned. Most of the tripods were disassembled and intentionally cut into small pieces before their last deposition. The reasons for this practice have been discussed quite often: it is probable that the phenomenon goes back to the practice of so-called καθαίρεσις,²⁰ the regularly performed cleaning and removing of votive offerings in Greek sanctuaries. In this context re-use and also re-melting of votive

¹⁴ This phenomenon was already observed by the excavations in the 19th century and was confirmed in the new fieldwork; Kyrieleis 2006, 33–34.

¹⁵ Paus. 5.13.8.

¹⁶ Kyrieleis 2006, 33–40.

¹⁷ Kyrieleis 2006, 43.

¹⁸ Kyrieleis 2006, 43.

¹⁹ Kyrieleis 2006, 43.

²⁰ For Olympia, see Kyrieleis 2006, 96 n. 406.

objects has been documented, despite the *ouk ekphora* rule that prohibits the removal of dedicated votive offerings outside the sanctuaries. For the tripods it has been suggested that most pieces had been re-used (in the sanctuary) and been cast into new (votive) objects. As the cast tripod-legs are extremely heavy and thus their material value was quite high, one could assume that at least one part of a specimen was placed *pars pro toto* in the cultic debris.²¹ This thesis has also been supported by the examination of the pieces of the tripod-legs that showed almost no fitting fragments among the finds of the heavy cast legs. In contrast, the lighter hammered specimens of less value and weight showed more fitting pieces.²²

Among the smaller finds, such as bronze and terracotta votive animals or human figurines, this phenomenon of intentional disassembly or destruction was not frequently observed. If such votive objects had been placed next to or into the fires on the altar, no traces of burning were observed in the finds excavated at Olympia. This might show that offerings were not placed into a fire, but at a place further away or protected from its impact, for example, on benches or offering tables.²³ The lack of fire traces might also derive from the very intrusive conservation techniques applied in the past which have removed the objects' original surface.²⁴

Thus, only few groups of finds can provide us with interesting details on rituals concerning votive offerings in the sanctuary of Olympia.²⁵ Of special interest are the so-called punched sheet bronzes (*buckelverzierte Bleche*) with about 350 specimens found at Olympia. They are decorated with geometric motifs consisting of punched dots in different sizes that were hammered from the reverse side of the object. The majority of these objects seem to have been dress accessories or jewellery, like belts, headbands or bracelets. Most of these finds were discovered in the *black layers* of Olympia and indicate that they can be associated with early cult activities at the sanctuary. Especially one observation is quite remarkable, as the majority of these sheet bronzes had been treated in a special way: the longer bands in particular were folded several times into the compact shape of a small packet (Figure 4.3). It can be demonstrated that this was mostly done very carefully and, thus, was an intentional practice. About a hundred objects bear traces of this type of folding; in some cases even more than ten folds can be observed. The folds are systematic and prove that they were not accidental results of taphonomic circumstances but an intentional act resulting from ritual practices.²⁶ Similar observations are also known from other sanctuaries, but mostly they have not yet been systematically analysed.²⁷ The already mentioned *ouk ekphora* principle could have been one possible reason for this practice.²⁸ Thus, the act of folding the votive offerings could have stressed and confirmed that these objects were dedicated to a deity and were not to be used again

²¹ Kyrieleis 2006, 97–98.

²² Bocher 2013, 357–358.

²³ For the positioning of votive offerings, especially figurines, see Alroth 1988, 196–203.

²⁴ The original surfaces could have vanished e.g. after electrolytic conservation techniques were applied in the early years of excavation.

²⁵ For the tradition of ritual practices and their performance in Greek religion, see Auffarth 2005, 11–20.

²⁶ Bocher 2006–2007; Bocher 2013, 360–361.

²⁷ E.g. from Philia (Kilian-Dirlmeier 2002, pl. 66 nos. 1038 and 1039). Folded bronze and gold sheets have also been discovered in Late Bronze Age contexts at Roca in Italy (Maggiulli 2006, 128 fig. 4, 129) and at Pila del Brancón in Italy (Salzani 1994, 94, 90 pl. 6, 92 pl. 7).

²⁸ Kilian-Dirlmeier 2002, 198.

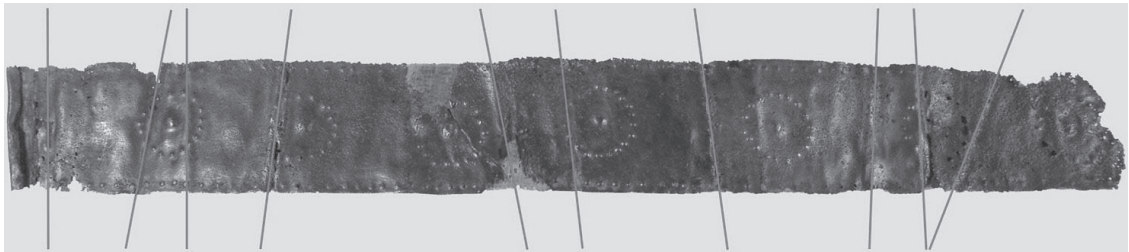


Fig. 4.3. Folded head-band (photo S. Bocher).

as personal belongings or for a second time as votive offerings.²⁹ The question whether the objects were folded by the person who dedicated their personal belongings at an altar³⁰ or whether this took place later, after they had been on display for a certain time, for example, during the cleaning of the altar – the above-mentioned *kathairesis* – cannot be answered by the archaeological context alone. Moreover, it is noticeable that the folding is done very precisely on several bands which could stress the importance of this practice and probably also demonstrate that the folding was carried out as an act of performance. In case of simple preparation for refuse deposit or re-use as raw material for new objects,³¹ the folding could have been undertaken very quickly and carelessly.³² Considering that many of these strips were part of head-bands from quite distant regions such as Northern Greece, the Balkans or Italy, it is possible to speculate whether people from these places visited Olympia in the early days and whether the bands can be interpreted as dedications of female dress accessories³³ or offerings to a female goddess.³⁴ The bracelets and head-bands might even have been parts of whole gown dedications as they are known from other Greek sanctuaries.³⁵

Bones – the Faunal Remains in the Black Layer at Olympia

Concerning the faunal remains, osteological investigations have been carried out in relation to the recently excavated parts of the *black layer* at the Pelopion:³⁶ 800 animal bones have been examined from the excavation area P 16. The sample included sheep and goats (55 per cent), bovines (34 per cent) and pigs (9 per cent).³⁷ This shows that not only bovines were sacrificed as described by Pausanias in connection with the later cult at the Altar of Zeus.³⁸ Compared with area P 28 the bone fragments were quite large and thus allowed for their identification. The investigation of the skeletal remains has shown that all parts of the animals' bodies were present. N. Benecke concludes that the

²⁹ Hansen (1996, 268 n. 66) mentions ritually destroyed objects found in Greece.

³⁰ Cf. Kilian-Dirlmeier 2002, 222.

³¹ Cf. Hansen 1996, 268.

³² Kyrieleis 2006, 54.

³³ For votives with female characteristics, see also Hansen 1996, 271; Kilian-Dirlmeier 2002, 219–223.

³⁴ Cf. Kilian-Dirlmeier 2002, 222.

³⁵ For gown offerings, see Maaß and Kilian-Dirlmeier 1998, 59, 65; Kilian-Dirlmeier 2002, 205; cf. Philipp 1981, 22. For examples from Ephesos, see Klebinder-Gauss in this volume.

³⁶ The so-called old excavations of the 19th century did not leave many unexcavated areas of the *schwarze Schicht* and, thus, the result is representative only for a small part of the layer (Benecke 2006a, 247); cf. Kyrieleis 2006, 20.

³⁷ Benecke 2006a, 247: moreover, only one specimen of a red deer was found and two fragments of cockles (*Cerastoderma edule*).

³⁸ Benecke 2006a, 247.

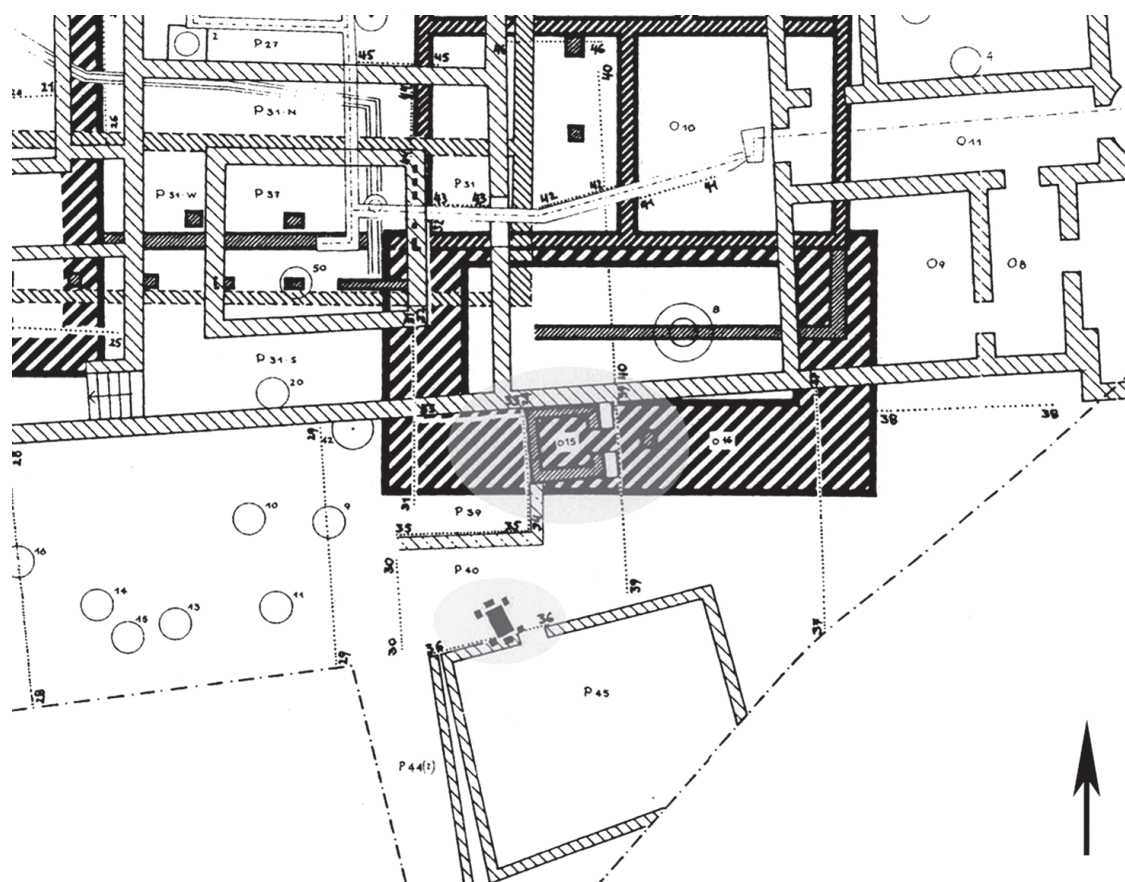


Fig. 4.4. Plan with the two Altars of Artemis at Olympia. For the plan in colour, see Plate 4.4 where the location is marked with light magenta (DAI Athens).

animals were sacrificed as complete bodies and not only the thighs or tails were used, as mentioned in written sources or observed at other altar sites, for example the altar of Artemis (see the next chapter). In area P 28 the pattern is quite different: most bone fragments were completely burnt and very fragmented. The maximum size of the bone fragments was typically only a few millimetres. Thus, it was not possible to specify to which species they belonged to or which parts of the animals' bodies were burnt. 95 per cent of the fragments from area P 28 were calcinated and 5 per cent were carbonized or partially calcinated.³⁹ Benecke assumed that the strong fragmentation might go back to an intentional procedure before the deposition.⁴⁰

The Altar of Artemis at Olympia

As the second example of ritual debris with faunal remains at Olympia I will discuss the area of the Altar of Artemis at Olympia and compare these two depositions with the altar contexts excavated at the sanctuary at Eretria.

³⁹ Benecke 2006a, 248.

⁴⁰ Cf. also Kyrieleis 2006, 44 nn. 148, 149: Kyrieleis refers to similar observations with extremely small bone fragments at the excavations of Kalapodi and Artemis Orthia at Sparta.

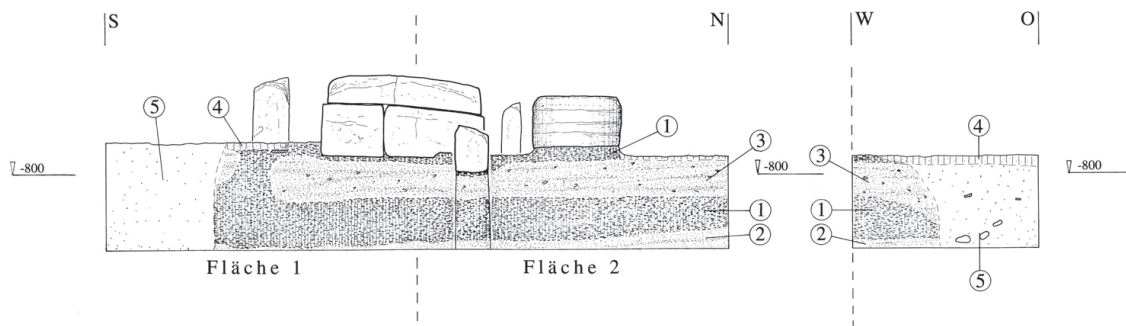


Fig. 4.5. Section of the Altar of Artemis; no. (1) marks the *black layers*, excavations by J. Heiden, 2002 (DAI Athens).

The altar of Artemis with its related layers is one of the few ‘closed deposits’ found at the sanctuary of Olympia. In the 1960s two succeeding altars were excavated by A. Mallwitz⁴¹ and identified as the Altars of Artemis near the Hippodrome mentioned by Pausanias (Figure 4.4 and Plate 4.4).⁴² In addition, an inscription on a plastered black limestone altar from the Roman period was preserved with the name of Artemis written on it.⁴³ The older late Archaic altar was in use until the early Hellenistic period and it was almost completely covered with the remains of the altar debris when excavated. This is one of the rare documented altar sites that had been found with their debris still *in situ*.⁴⁴ Moreover, it is quite interesting that such *black layers* – similar to those mentioned above in the central part of the sanctuary – were also found under the altar blocks (Figure 4.5), predating the first altar. These strata of dark earth under the altar of Artemis are up to 1m thick and based on the associated finds date back to the Geometric period.⁴⁵ In 2002, a small excavation was undertaken at this older altar of Artemis by J. Heiden in order to examine the last unexcavated parts of this *black layer*.⁴⁶ Beside the study of stratigraphic details, special emphasis was laid on the examination of the faunal remains with the aim of collecting more information about the cult practices at the altar.

The osteological material was examined by N. Benecke⁴⁷ with the following quite interesting results: most identified bones belonged to domestic animals such as sheep and/or goats (78.1 per cent), cattle (17.5 per cent) and some other species like pigs (3.6 per cent) and two bones of dogs, one chicken and three hare bones.⁴⁸ Among the 1,380 bone fragments only very few showed traces of burning,⁴⁹ whereas many bones carried visible cutting marks from butchering. Benecke could observe that there was a complete lack of thigh bones (*ossa femoris* and *patellae*) and only very few specimens of the caudal

⁴¹ Kunze 1963; Kunze 1964; Mallwitz 1972, 199–210; Kyrieleis 1994, 5–16.

⁴² Paus. 5.15.6: ‘going back from the stoa of Agnaptos is on the right an altar of Artemis’.

⁴³ Gropengiesser 1988, 125–126.

⁴⁴ Altars with their sacrificial debris *in situ*: e.g. Eretria (Huber 1991, 129), Kalapodi (Felsch 2001, 194–199); see also Kilian-Dirlmeier 2002, 193–194.

⁴⁵ Kyrieleis 2006, 5–16. Personal communication with J. Heiden.

⁴⁶ I want to thank J. Heiden for the information about the excavation results; see also Kyrieleis 2013, 6–7, figs. 9–10.

⁴⁷ Benecke 2006b, 153–159.

⁴⁸ Benecke 2006b, 154–155 with table 1.

⁴⁹ Benecke 2006b, 154: ‘Traces of burning have been observed on 13 small specimens. Nine bones are only slightly burned whereas four bone fragments are carbonized or calcined.’

spine (*ossa sacralia* and *vertebrae caudales*).⁵⁰ This phenomenon concerns sheep and goats as well as cattle.⁵¹ Benecke draws the following conclusion:⁵² ‘Obviously, these parts of the body (thigh, chine) were cut off from the carcass and underwent a special treatment in the course of the sacrifice, probably as offerings to the goddess’. This corresponds with written sources describing ritual practices at altars: the thigh bones and the caudal parts were offered to the deity and, therefore, were burnt in the fire on the altar.⁵³ Benecke concludes that ‘the assemblage from the Artemision of Olympia provides indirect, negative evidence for the burning of thighbones and chines.’⁵⁴ The other parts were probably eaten by the participants of the sacrifice. After the meal, the bones were deposited in the sacral debris. Similar results concerning the observations of the animal bones have been made at other Greek sanctuaries, such as the Artemision at Ephesos, the Heraion on Samos or the sanctuary of Apollo at Halieis in the Argolid.⁵⁵

Animal sacrifices at Eretria

Eretria on Euboea provides a similar and very remarkable example of animal bones in the context of sacrificial activities.⁵⁶ About 400 animal bone fragments were found in the debris next to a Geometric altar site⁵⁷ as well as from Archaic and Classical–Hellenistic layers succeeding these Geometric strata. The results were remarkably clear: the bones from the Geometric context directly linked with the sacrifices showed only thighs and tails from sheep and/or goats,⁵⁸ all of them with traces of heavy burning. This means that parts of the body were cut off and removed with special knives which left fine cutting marks. The bones found in the succeeding younger levels came from a range of different animals (not only caprids) and belonged to a variety of different parts of the animals’ bodies, except femurs. None of these bone fragments showed traces of burning.⁵⁹ I. Chenal-Velarde and J. Studer interpreted these observations as follows: ‘The comparative osteological examination of the different complexes shows that caprids’ femurs are missing in the remains of food leftovers dating to the Archaic, Classical and

⁵⁰ Benecke 2006b, 154; 157 with Tab. 2.

⁵¹ Concerning the age of the animals he concludes that ‘subadult individuals and animals that had reached bodily maturity were preferred as sacrifice, while in pig young animals were selected for this purpose’: Benecke 2006b, 159.

⁵² Benecke 2006b, 156.

⁵³ For depictions and textual sources about animal sacrifices, see Van Straten 1988, 51–68.

⁵⁴ Benecke 2006b, 156.

⁵⁵ Greek sites with black layers have often been compared to sacrificial mounds of bones, ashes and votives from Alpine contexts, such as the so-called ‘Piller Sattel’: see Tschurtschenthaler 1997, 167–176; Tschurtschenthaler and Wein 2002, 635–674; Gleirscher 2002, 591–634. Although there are many similarities concerning the deposition of burnt sacrificial debris, there are also clear differences between the two types of sites. Especially, the treatment of the sacrificed animals is quite different; at the Alpine sites it is e.g. quite common to burn the heads of bovines, a ritual that is not known at the Greek sites; see Kyrieleis 2006, 44; Forstenpointner 2003, 203–213; Benecke 2006b, 157.

⁵⁶ Chenal-Velarde and Studer 2003, 215–220.

⁵⁷ Chenal-Velarde and Studer 2003, 215: the altar is situated in the vicinity of the Temple of Apollo Daphnephoros.

⁵⁸ Chenal-Velarde and Studer 2003, 216: Femurs, patellae, and sacral and caudal vertebrae mostly from adult animals were identified. According to the number of femurs at least 32 animals were treated in a similar way.

⁵⁹ Chenal-Velarde and Studer 2003, 216; due to exposure to fire the burnt bones were lighter than the other bones; Chenal-Velarde and Studer 2003, 219.

Hellenistic periods. Bearing in mind that the offerings of the Geometric period comprised eminently caprids' femurs, we can infer that, despite the time difference, the remains of these two contexts are complementary, in the sense that the absence of femurs amid the food leftovers confirms that femurs were indeed a type of offering'.⁶⁰ In other words, it can be assumed that in the Geometric period the caprids' femurs were burnt at the altar for the gods and that later the same place was used to feast and to eat the leftovers of such an animal sacrifice. The place where the sacrifices could have later taken place has not yet been investigated.⁶¹

This and the two altars at Olympia show that rituals known from the written sources can be examined and reconstructed based on archaeological contexts. Cultic continuity can be argued for on the basis of these case studies and since the osteological analyses show similar results between the earlier and the later material, one can assume that cult practices did not change very much over time at these particular places. In order to get a more general picture of the cult activities more sanctuaries with early depositions need to be studied and compared with later contexts.⁶²

Resuming Cult Activities at Early Altars

As the described *black strata* in the earliest phases of the sanctuaries were not connected to larger contemporaneous architectural remains, the layers are traditionally thought to relate to the remnants of activities at the altars.⁶³ As altars seem to be the earliest elements defining a sacred place⁶⁴ it has to be remarked that the definition for an altar is a functional and not a typological one: an altar is a somehow elevated place where sacrifices like burnt offerings or libations were carried out.⁶⁵ According to C. Yavis and D. Rupp an altar can be defined as 'any portable object or stationary structure, whether temporary or permanent, that was made, constructed or simply used for the purpose of receiving on a raised table of sacrifice a fire for the burning of animal flesh or other organic offerings and/or unburnt food offerings or liquid libations to an ouranian deity. Outcrops of bedrock or stray, unworked boulders used in this fashion as well as accumulations of ash, burnt animal bones, fragments of votive offerings and, sometimes, earth upon which sacrifices were made are included.'⁶⁶ Following this line of argument, the *black strata* without a connected built structure could represent the remnants of a 'rudimentary altar'.⁶⁷ As Rupp points out, these altars do not have to carry too much weight except for the sacrifices and votive objects and, thus, the structures could well have been quite simple and light.

⁶⁰ Chenal-Velarde and Studer 2003, 219.

⁶¹ Chenal-Velarde and Studer 2003, 219.

⁶² See e.g. Reese (1989, 63–70) for an examination of the faunal remains of the Altar of Aphrodite Ourania at Athens from the Classical period.

⁶³ It has been argued that the first sacrifices were carried out without locally fixed altars: 'It is possible that animal sacrifice could take place anywhere within the sacred area of the *temenos* and was not, as it was in later Greek religion, firmly located in one spot, the place of the altar' (Simon 1997, 129). See also Sourvinou-Inwood (1993, 1–17) for the development of early Greek sanctuaries.

⁶⁴ Rupp 1983, 101.

⁶⁵ Yavis 1949; Rupp 1991, 303.

⁶⁶ Yavis 1949; Rupp 1991, 303; cf. Rupp 1974, 2.

⁶⁷ Simon 1997, 129 (for the quote, see note 63 above).

Such altars could almost completely consist of the debris of earlier animal sacrifices, i.e. ash, animal bones, charcoal and earth and grew higher with every new sacrifice that was carried out at the place. Traditionally, later altars were often built upon older ones following cult tradition and without leaving visible traces of the earlier phases in the archaeological context.⁶⁸

Additionally, other kinds of depositions are also known from early sanctuaries, for example, the so-called *bothroi*: offering pits in which cultic debris and/or votive offerings were deposited and that are also known from the earliest phases in Greek sanctuaries.⁶⁹

Traces of fire are mostly observed either in the context of places where fires were consistently lit over long periods of time or large-scale catastrophic events. As the *black layers* are mostly thicker than single destructions involving a fire and often even stratified, it can be argued that they are a result of a continuous fire or, more likely, due to fires that were lit again and again over decades or even centuries. Thus the ashes of these fires seem to be either still *in situ* at or near the place where they were lit. They could have also been intentionally deposited in such a way that they formed a large ash cone, as for example Pausanias described the Altar of Zeus at Olympia:⁷⁰ the altar consists of the debris of the burnt meat and bone sacrificed to Zeus and in addition the ash of the Prytaneion was brought once a year. These components were fixed with the waters of the river Alpheios to form the ash cone.⁷¹

The large extent of the layers is commonly explained with later levelling. Such later activities are very probable but there are also other hypotheses for the extent of the dark layers at early sanctuaries. For example, it is possible that the early sacrifices were carried out without a fixed locality for the altar.⁷² Also, as we know from Pausanias,⁷³ a large number of different altars were in use at Olympia at the same time.

There is another aspect in the differentiation between the stratified and non-stratified *black layers*: if a layer is stratified with finds covering a large time span, it seems probable that there was a slow process of continuous accumulation due to a long ritual tradition. After the end of these cult practices the debris at the abandoned deposition area would be distributed over a wider area due to taphonomic processes. Such a hypothesis can be argued for by studying the continuity of the site occupation. If the layers are not stratified, we can think of a later levelling of accumulated sacrificial remains, maybe in the context of a new building programme at the sanctuary: the older accumulated cult remains had to be removed to make way for a new temple. This would also show that people did not hesitate to remove older cult deposits and to cover them in order to create a new tradition.⁷⁴

⁶⁸ Rupp 1991, 303.

⁶⁹ Cf. Rupp 1974, 2.

⁷⁰ Paus. 5.13.8.

⁷¹ Paus. 5.13.11.

⁷² Simon 1997, 129.

⁷³ Paus. 5.14.4.

⁷⁴ The question whether profane rituals could also be connected with these accumulated fire remains is discussed by P. Pakkanen in this volume.

In this article I have discussed the phenomenon of the so-called *black layers*: how they emerged, what components they contain, and I also presented the spectrum and the variety of possibilities of interpreting these layers. For the interpretation of the *black strata* at early Greek sanctuaries it is critical to study the contexts of these layers and, in addition, to carry out a detailed examination of both the organic and inorganic finds. The treatment of votive objects as well as the remains of animal sacrifices can provide vital information about early cult activities at altars, and a more systematic study of all the known contexts with *black strata* at Greek sanctuaries should be carried out.

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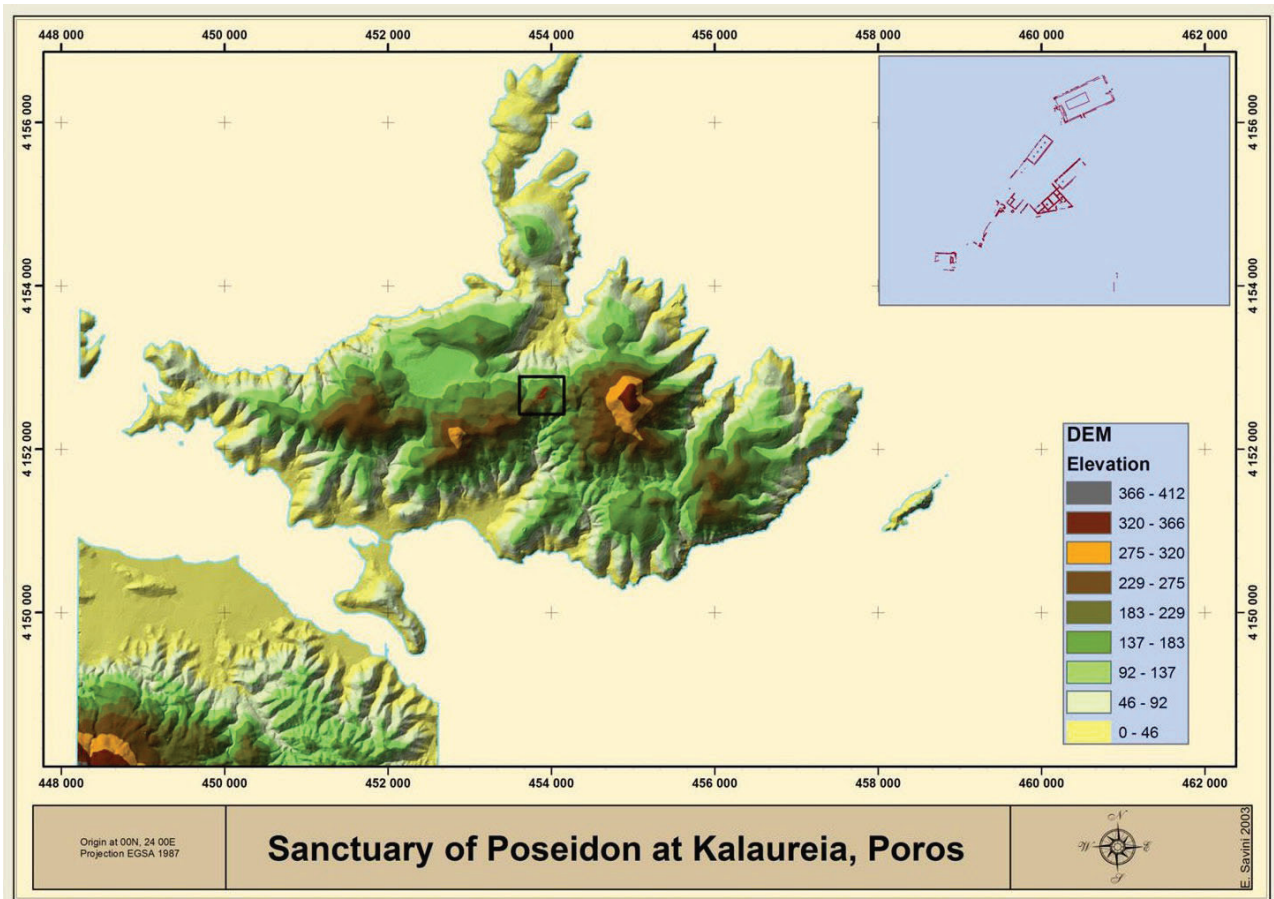


Plate 3.1. Sanctuary of Poseidon at Kalaureia, Poros (Emmanuel Savini).

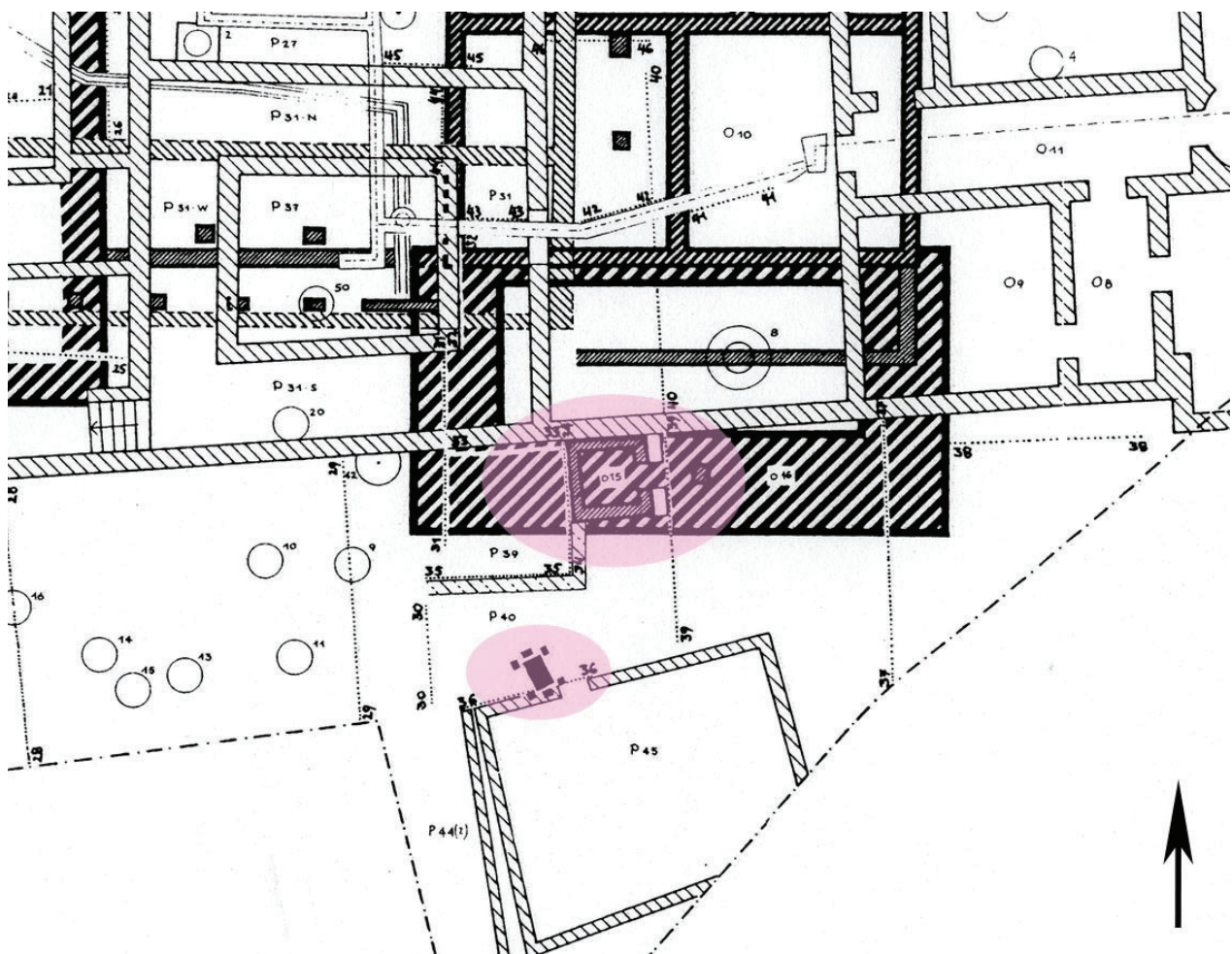


Plate 4.4. Plan with the two Altars of Artemis at Olympia (DAI Athens).



Plate 4.1. Plan of the Sanctuary of Olympia. The *black layer* is marked with grey/green and the Altars of Artemis marked with red (DAI Athens, H. Birk).