

# DINING IN THE SANCTUARY OF DEMETER AND KORE AT CORINTH

According to Pausanias (2.4.6–7) at least ten sanctuaries were to be seen on the north slope of Acrocorinth and at its base. But as yet only one of these has been identified and excavated, namely, the Sanctuary of Demeter and Kore, which was the ninth in Pausanias' account. Despite the fact that worship of the two goddesses was widely spread throughout the Mediterranean, relatively few of their sanctuaries have been systematically and extensively explored. It was therefore with great interest that the American School of Classical Studies at Corinth carried out work there over nine seasons, exposing a site that covered more than 700 square meters and extended in use from the Late Helladic IIIC period to the end of the 4th century A.C.<sup>1</sup>

When the principal work was carried out in the 1960s through early 1970s, however, the practice of water-sieving soils had not yet begun in Corinth. Recovery of floral and faunal specimens was therefore limited to what could be gathered by hand or by selective dry-sieving. For a sanctuary that ultimately proved to have so many dining facilities, this represented a potential loss of important information about the composition of ritual meals. Faunal and floral remains were limited to pig bones, found in two areas of sacrifice, Area D and Pit B,<sup>2</sup> scattered bones from both the dining rooms and various fills throughout the site, an occasional olive pit, and a deep deposit of discarded wheat, used as packing behind the central Roman temple T–U:19 on the Upper Terrace in the late 1st century A.C.<sup>3</sup> Because few bones had been found in the dining rooms, we concluded

1. The first three volumes of the final publication of the site and its excavations have appeared, namely, *Corinth XVIII*, i and *Corinth XVIII*, ii, on the Greek and the Roman pottery, respectively, and *Corinth XVIII*, iii, on the architecture. *Corinth XVIII*, iv, *Terracotta Figurines of the Classical, Hellenistic, and Roman Periods* by Gloria Merker, is in press. Preliminary excavation reports can be found in Stroud 1965, 1968; Bookidis 1969;

Bookidis and Fisher 1972, 1974. All of the architectural elements related to dining cited here are fully described in *Corinth XVIII*, iii, together with a detailed summary of the site's history, pp. 423–440. Figure 1 is a simplified plan of the site, intended to present the major buildings of all periods combined. We thank David Romano of the University of Pennsylvania for its preparation.

2. For the rock-cut platform in Area D, see *Corinth XVIII*, iii, pp. 74–78, and pp. 240–245 for Pit B.

3. The deposit of wheat is discussed in Bookidis and Fisher 1974, pp. 283–284 and *Corinth XVIII*, iii, pp. 347–348. All of the faunal remains from the excavations prior to 1994 are being prepared for publication by David Reese, who informs us that more than 1,800 bones and 450 shells were collected from that work.

**TABLE 1: STRATIGRAPHIC LIST OF LOTS BY AREA AND ROOM**

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**AREA 1, BUILDING N:2I, ROOM 1:****PHASE 1**

Lot 1994-79: Removal of floor 4. First to early second quarter 5th century.

Lot 1994-80: Fill beneath floor 4 (Phase 1, floor 1) and over floor 5 (Phase 1, floor 2). At least 500–475.

**FILLS ASSOCIATED WITH CONSTRUCTION OF PHASE 2**

Lot 1994-78: Leveling fill over floor 4. Last quarter 5th century, early (?).

Lot 1994-75: Removal of Phase 2 north wall. Third quarter 5th century (?).

Lot 1994-74: Foundation trench of Phase 2 north wall. 5th century.

Lot 1994-73: Removal of Phase 2 north banquette wall. Last quarter 5th century.

Lot 1994-72: Fill under Phase 2 north dais. Second–third quarter 5th century.

Lot 1994-77: Clay under Phase 2 north dais. Last quarter 5th century.

Lot 1994-71: Fill under Phase 2 south dais. Second half 5th century.

**PHASE 2**

Lot 1994-76: Gravel fill over floor 3 in northwest corner. Mid to second half 5th century.

Lot 1994-70: Removal of floor 3 (Phase 2, floor 1). Second half 5th century.

Lot 1994-69: Leveling fill over floor 3. At least early 4th century.

Lot 1994-68: Removal of floor 2 (Phase 2, floor 2). 6th to first half 4th century (?).

Lot 1994-67: Removal of floor 1 (Phase 2, floor 3). Late 5th century to second half 4th century.

**AREA 1, BUILDING N:2I, ROOM 2:****PHASE 1**

Lot 1994-62: Packing for east couch. Late 7th to ca. 500.

Lot 1994-63: Fill over floor 2 (Phase 1, floor 1). Late second quarter 5th century at earliest.

Lot 1994-64: Removal of east couch clay surface (?) and underlying packing. First half 5th century at earliest.

**FILLS ASSOCIATED WITH CONSTRUCTION OF PHASE 2**

Lot 1994-65: Leveling fill over west side of room, under floor 1 of later Room 1. Second half 5th century.

Lot 1994-66: Leveling fill over north side of room. Late 7th to mid or third quarter 5th century.

**PHASE 2\***

NB 637 B 127\*\*: Removal of floor 1. Early 5th century (?).

**AREA 2, ROOM 2:**

Lot 1994-81: Removal of floor and packing. Early to third quarter 5th century.

Lot 1994-82: Fill covering east couch and floor. Second half 5th to first quarter 4th century.

**AREA 2, ROOM 3:**

Lot 1994-85: Removal of possible upper floor in door area. Second half 5th century (?).

Lot 1994-83: Dumped fill covering room. End 4th century.

NB 637 B 107: Fill above floor (?). Second quarter 4th century or later.

NB 637 B 108: Fill above floor (?). 5th century.

NB 637 B 114: Cleaning over floor. Not precisely datable.

NB 637 B 113: Dumped fill over south side. 5th century (?).

NB 637 B 112: Cut through south wall. End 6th century (?).

All dates B.C.

\* Virtually all excavated in 1965.

\*\* Because it was uninformative, the context pottery was discarded after its description, hence the absence of a pottery lot context number.

**AREA 2, NONDESCRIPT GENERAL FILLS:**

NB 637 B 103: Fill covering Room 5. Third quarter 4th century.

that meat had probably not been a part of the banquet. Relying on sacred laws and literary traditions elsewhere, we attempted to determine what would have been eaten in its place.<sup>4</sup> As we shall show, however, this conclusion was apparently incorrect.

In 1994 a joint project was designed to investigate this specific subject through the combined facilities of the Wiener Laboratory of the American School of Classical Studies and the Corinth Excavations.<sup>5</sup> Three weeks were devoted to the excavation of two small areas that typify the dining establishments in the sanctuary. During these excavations a sampling of earth from all significant levels was washed in a water-sieve,<sup>6</sup> while virtually all of the remaining earth was dry-sieved. Nancy Bookidis conducted the excavations and was responsible for the analysis of the architectural and ceramic remains; Julie Hansen supervised the water-sieving and subsequent study of the plant remains; Lynn Snyder oversaw the dry-sieving, assisted in the water-sieving, and was responsible for the study of the faunal remains. At a later date Paul Goldberg took several samples of earth from Area 1 in order to examine their composition.

The results of that work are presented below. Despite the limitations of time, the results were rewarding, and we recovered a satisfactory amount of floral and faunal specimens, some of which were unexpected. As will be clear from the following report, certain questions have arisen from the interpretation of this material, but in our opinion they could be asked about virtually all sanctuaries that were used over a long period of time. In addition, the project has made clear the importance of applying such techniques to Classical levels and to dining contexts in particular, for it has enabled us to place greater emphasis on food and less on the architectural setting of dining.

To provide the physical setting for the subject of food, we will begin with a description of the architectural remains in both areas, followed by a brief discussion of the pottery related to dining (Part I). This description will also serve as an excavation report for the season's discoveries. Since both the general form of the Demeter dining room and the Late Classical phase of Building N:21 have been described in detail in *Corinth* XVIII, iii, we will concentrate on those rooms which are not included in that volume. There then follow reports on the plant and animal remains (Part II) and sedimentary samples (Part III); general conclusions appear in Part IV. Tables 2 through 7 present in synoptic form all of the plant and faunal remains that were found. In addition, Table 1 provides the stratigraphic and chronological control for Parts I and II. Accordingly, this information will not be repeated in those sections.

## PART I: THE EXCAVATIONS

For those unfamiliar with the sanctuary in the Archaic and Classical periods, a few introductory words will provide a background for the more detailed description that follows (Fig. 1).

Excavated, for the most part, between 1961 and 1973, the sanctuary covers roughly 770 square meters on the north slope of Acrocorinth. Origi-

4. For preliminary discussions of food in the sanctuary, see Bookidis 1990 and 1993. The subject will be treated in a study of the cult to appear in a later fascicle of *Corinth* XVIII.

5. We would like to express our gratitude to Sarah Vaughan, former Director of the Wiener Laboratory, for initiating this project and for assembling the scientific staff, and to Charles K. Williams II, former Director of the Corinth Excavations, for making the project possible and, as always, for his unflagging support and interest. The plans are the combined work of Robin Rhodes, Charles K. Williams II, David Romano, Roxanna Doxan, and James Herbst. Figure 12 was drawn by Karen H. Soteriou. We would also like to thank Mrs. Phani Pachyianni, Ephor of the Argolid and the Corinthia, Zoe Aslamatzidou, and the staff of the Archaeological Service at Corinth for their cooperation and permission to transfer the floral and faunal remains temporarily to the United States for analysis. Conservation of finds was carried out by Stella Bouzaki, and the mending of pottery by Niko Didaskalou, Anastasios Pappaïouanou, and George Arberores. Work on the site was overseen by Aristomenes Arberores, excavation foreman. Finally, we thank our anonymous reviewers for their useful comments.

An initial report on this work was presented at the annual meeting of the Archaeological Institute of America in 1995, for which see Hansen, Bookidis, and Snyder 1995.

6. The only exceptions to this rule were the surface strata of Area 2, which proved too stony and unproductive for either wet- or dry-sieving, and a few insignificant and thin layers in Area 1. The method is described in Part II.

nally it must have been larger, for the eastern, western, and possibly northern boundaries of the Lower Terrace have not as yet been found. The sanctuary was linked to the city below by a road that passed along its lower, north, side. From the road a broad stairway ascended the Lower Terrace to the south. Rows of small dining complexes lined this stairway and from the late 5th century B.C. onward also extended north of the road. According to our present evidence, the earliest dining rooms date to around the third quarter of the 6th century B.C. They continued to be built and used until Mummius' destruction of Corinth in 146 B.C. Initially designed as one-room units, the buildings were gradually enlarged to include subsidiary rooms for cooking, washing, and sitting. As of 1994, we have been able to determine through excavation that at least 36 dining rooms were in operation in 400 B.C., the period that is best attested in the sanctuary. Above the dining rooms the broad Middle Terrace provided areas for sacrifice, repositories for votive offerings, and a large square enclosure, which we have called the Oikos and which presumably functioned as a temple in the Archaic and Classical periods. On the steep rocky slope of the Upper

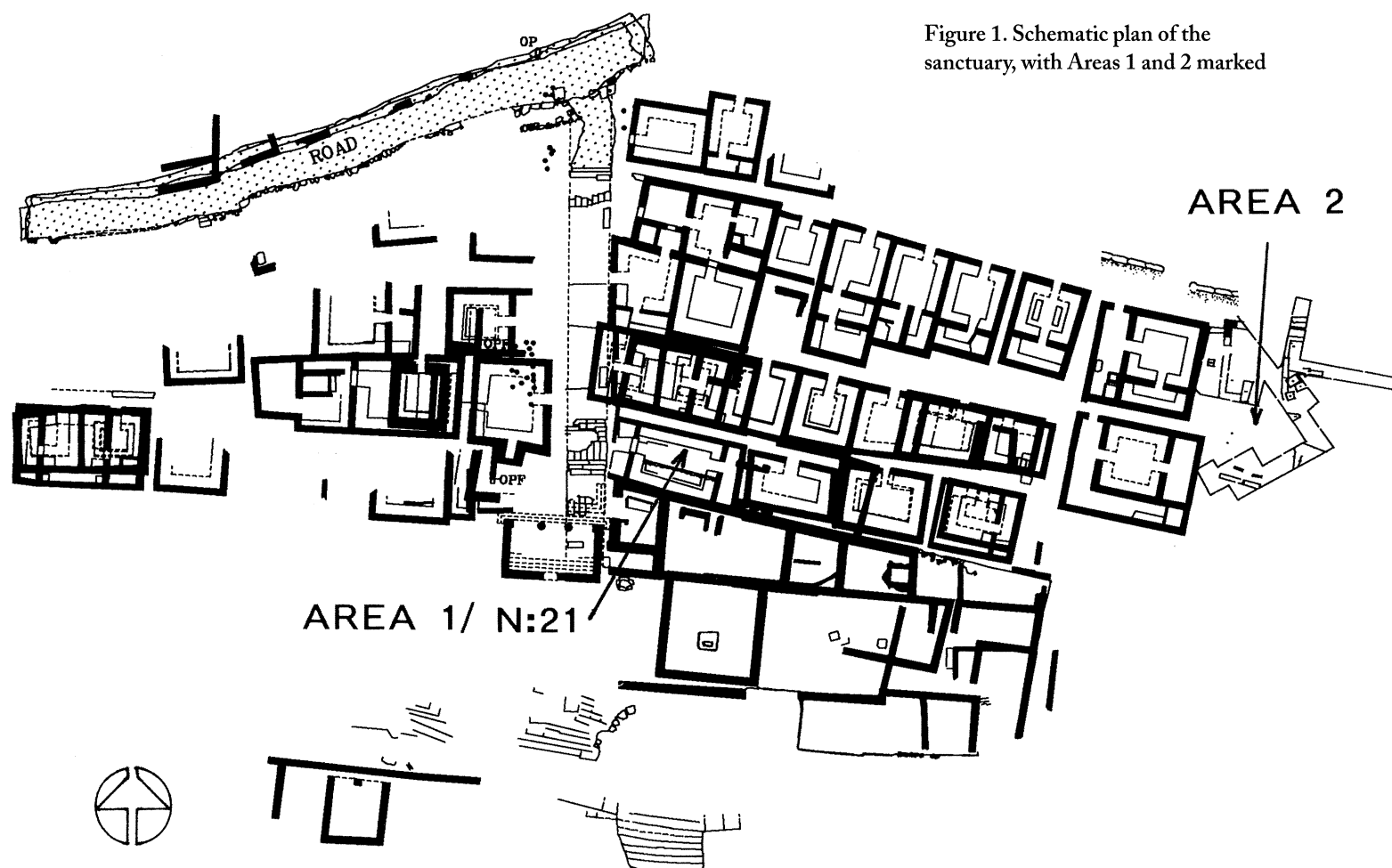


Figure 1. Schematic plan of the sanctuary, with Areas 1 and 2 marked



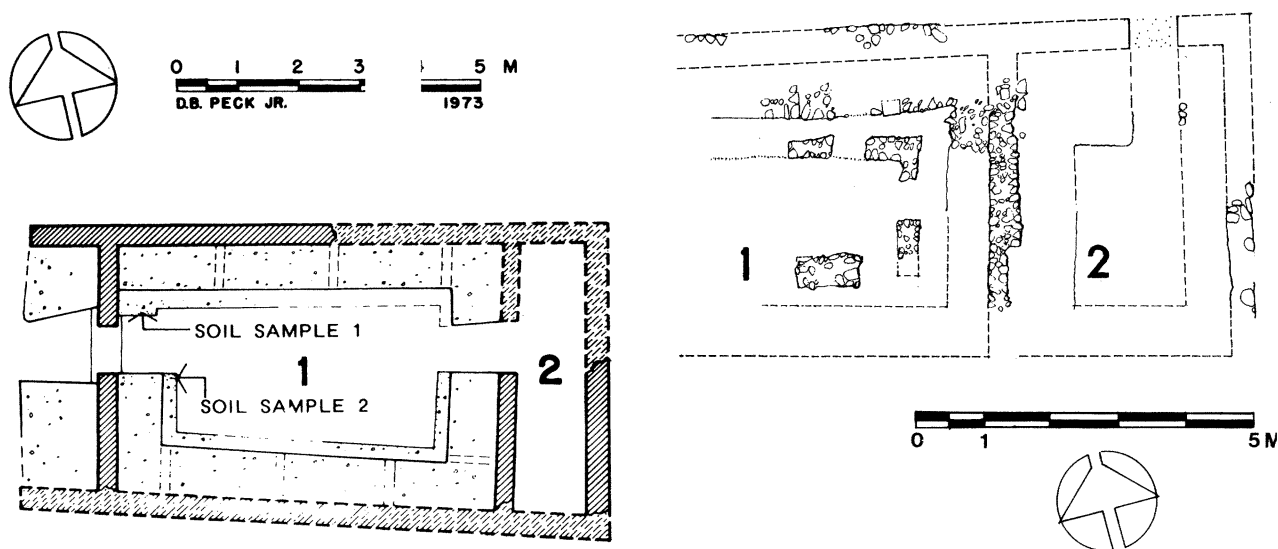


Figure 2 (above, left). Building N:21, plan of Phase 2

Figure 3 (above, right). Building N:21, plan of Phase 1

Terrace that continued above the Middle Terrace were two theatral areas and a small Hellenistic successor to the Oikos below, Building S-T:16-17.

In 1994 we began in the unexplored, northeast corner of the excavations (Fig. 1: Area 2), nearly 50 meters east of the stairway and ca. 20 meters northeast of the Middle Terrace. Six trenches were laid out over an expanse 11.00 m wide east-west by 15.00 m long north-south, just east of the Hellenistic dining structures L-M:28 and N:28.<sup>7</sup> Within this space parts of at least five or six Late Archaic to Classical dining rooms were uncovered, containing floral and faunal specimens in stratigraphic contexts extending from the late 6th to the late 4th century B.C. Because none of these structures was sufficiently preserved to warrant lengthy investigation, we turned to a Classical dining complex in the middle of the site that in 1965 and 1969 had been excavated down to a floor of the late 4th century B.C. (Fig. 1: N:21). Similar floral and faunal specimens were found here but in greater abundance and in a far better continuous stratigraphic sequence that extended from the late 6th to the late 4th century B.C. This similarity between the finds from the two areas is of importance for our interpretation of the results.

#### AREA I: BUILDING N:21

Building N:21 is located on the southernmost row of dining buildings just below the Middle Terrace.<sup>8</sup> It opens directly off landing 6 of the central stairway and, in its later form (Phase 2), comprises a larger dining room, 1, preceded by a deep porch on the west, and a smaller service room, 2, to the east. Thought to have been built in the late 5th century, abandoned in the late 4th century B.C., and covered by later walls, the building nevertheless offered promise of a longer history, since an earlier crosswall was just visible beneath the existing 4th-century B.C. floor. We therefore excavated beneath this exposed floor to find a sequence of four earlier floors as well as an earlier phase with a slightly different plan. Unfortunately, time did

7. *Corinth* XVIII, iii, pp. 179-184, 193-198. In 1971 excavation along the east side of Building L-M:28 exposed part of what is here called Room 2. Regrettably, all records of this work were lost in the fire that destroyed part of the excavation complex in 1972.

8. *Corinth* XVIII, iii, pp. 127-131, 198, and Bookidis and Fisher 1972, pp. 292-294, fig. 1, Building R.



**Figure 4. Building N:21, Phase 2,  
from east, Room 2 in foreground**



**Figure 5. Building N:21, Phase 1,  
from east, Room 2 in foreground,  
with couches of Phase 2 to left**



**Figure 6. Building N:21, Phase 1,  
Room 1, from east, at level of floor 1**

not allow us to complete our exploration of the unit to bedrock. Despite this, we can now extend the building's history back to the end of the 6th century B.C.

### EARLIER PHASE (PHASE I)

In its earlier, if not earliest, form Building N:21 consists of at least two dining rooms of different sizes, namely, a larger western room, 1, and a smaller eastern room, 2 (Fig. 3). Because of the overlying Classical couches, which were left in place, much of the earlier Room 2 remained hidden (Fig. 5).

For this phase portions of both the north and east exterior walls exist, the north wall at foundation level, the east wall to a height of 0.20–0.40 m above floor level. The south wall of both phases was destroyed when the Trapezoidal Building of the Middle Terrace was constructed over it at the end of the 4th century B.C. but can be restored from the interior disposition of the furnishings in Room 1. Later construction has also covered the earlier west wall, the position of which is unknown. So defined, the building measures at least 8.10 m east–west by roughly 4.95 m north–south.

Although no longer preserved, the entrance to Room 1 stood on the west side, probably just a couch's width, or about 0.80–1.00 m, from the northwest corner of the building. Its position is suggested by the disposition of the couches and tables within the room. Room 1 measures an estimated 4.30–4.50 m from north to south by more than 4.00 m from east to west. Within the room, couch-banquettes<sup>9</sup> 0.70–0.80 m wide presumably once lined all four walls. These now exist only on the north and east sides.<sup>10</sup> The position of the south banquette, as we shall see, can be restored with some certainty.

In front of the north banquette is a broad dais of clay, 0.56 m wide, the top of which lies only a few centimeters below the existing banquette top and 0.05–0.10 m above the upper floor of this phase.<sup>11</sup> The dais probably continued around the east and south sides of the room but could not be clearly isolated there. Furthermore, solid packings of fieldstones that once must have supported stone or wooden tabletops were exposed on three sides of the room. Of the two tables on the long north side, the eastern, 2, is L-shaped to bridge the northeast corner.<sup>12</sup> A third table serves the south half of the east banquette,<sup>13</sup> while a fourth stands in the middle of the south side (Fig. 7).<sup>14</sup> Since these tables are placed 0.30 m from the banquettes, we can restore both the south banquette just inside the face of the Classical banquette that covers it, and the south wall of the building ca. 0.80 m from the banquette. Nothing was found of the west table, unless a single large stone, projecting from beneath the later west couch, is a part of it. Nevertheless, we estimate that seven people could have reclined within the room, one on the west side, two on each of the other three sides, on couches roughly 1.75 to 2.00 m long.

Within the room we exposed two floors that were heavily “burned.” In the past, we used this term to denote the presence of small bits of carbon or carbonized material in the clay. Through water-sieving these bits can now be identified as remains of food. While these remains were scat-

9. This term has been used to designate the continuous, knee-high platform that is a feature of all Demeter dining rooms; on this platform individual couches were marked off by means of contoured armrests.

10. Although now preserved to the height of only one course of fieldstones, or ca. 0.15 m, the north banquette seems to follow the usual formula. Apart from a few small stones, no retaining wall exists for the east banquette, but its earth packing separated clearly from the clay floor that abuts it. A solid packing of small fieldstones covers the northern 0.60 m of the east banquette. Neither its function nor its attribution to the earlier phase is clear, for it projected through the later floor that covered this couch.

11. For a description of the dais as a form see *Corinth* XVIII, iii, pp. 414–415.

12. Table 1 is 0.62 m long by 0.24 m wide; it falls 1.10 m from the later stone threshold and 0.45 m from table 2. Table 2 is 0.81 m long north–south by 0.53 m east–west and 0.31 m wide.

13. Table 3 lies 0.62 m south of table 2 and measures 0.83 m long by 0.35 m wide.

14. Table 4 lies 0.52 m west of table 3, 0.18 m from the later south couch wall, and 0.56 m from the later west couch wall. It is 0.90 m long by 0.42 m wide.



Figure 7. Building N:21, Phase 1, Room 1, from west, with floor 2 exposed in the center

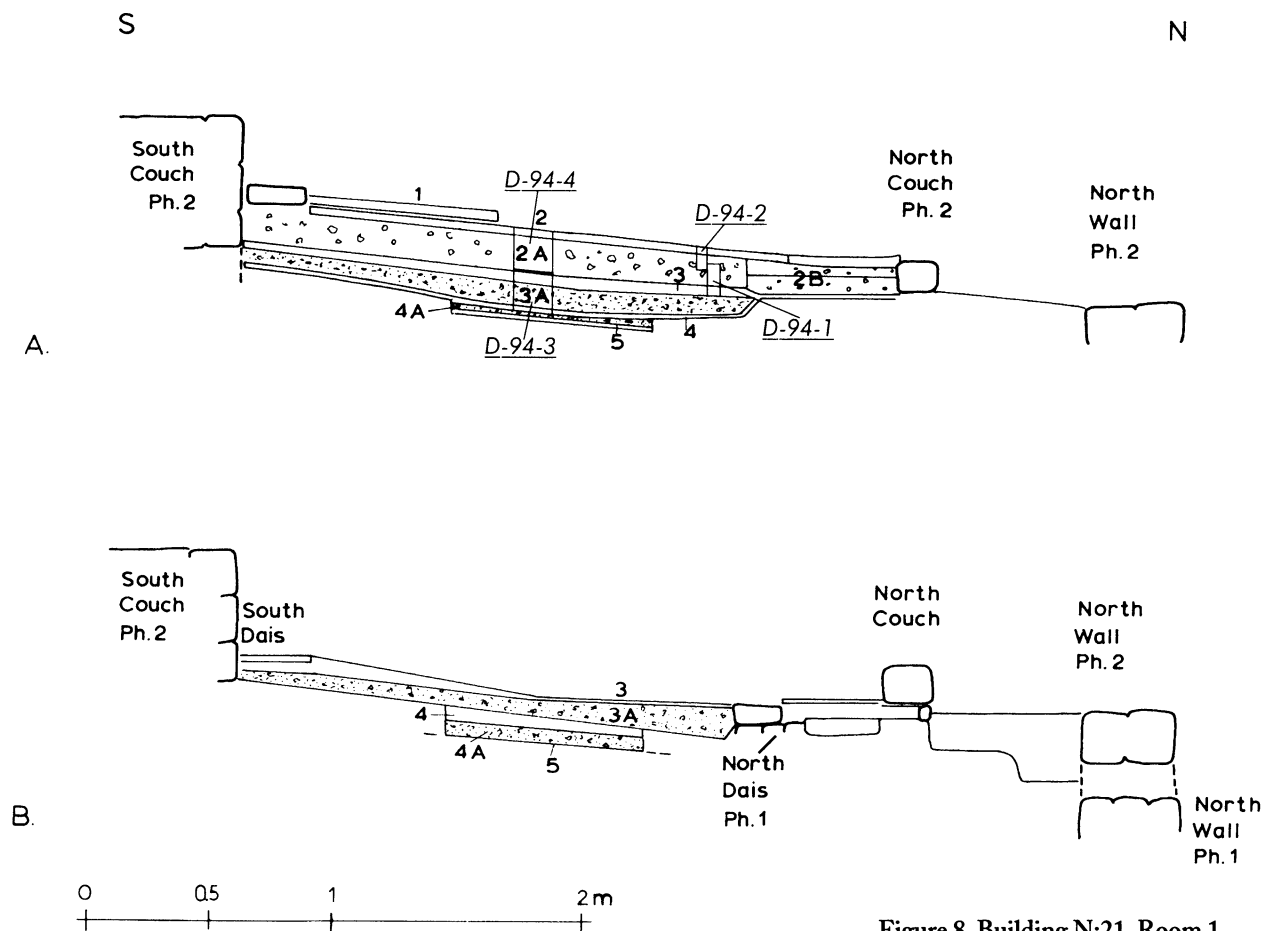


Figure 8. Building N:21, Room 1, south-north stratigraphic cross-sections A, B, looking west.  
A: along base of west couch, Phase 2;  
B: through center of room.

15. Elevation +170.850–170.790 m. The floors have been numbered from top to bottom; thus floors 1–3 belong to Phase 2, floors 4 and 5 to Phase 1. In Figure 8 these same numbers are used for the floors, while underlying fills associated with each floor are designated by the addition of the letter A.

16. For a similar feature in another early building, J–L:21, see *Corinth* XVIII, iii, pp. 87–88.

17. Elevation +170.923–170.835 m.

18. Although the doorway itself is not preserved, its position can be determined by means of the 0.65 m-wide passage to the door that interrupted the north banquette.

19. These consist of a single couch of 1.77 m along the north side, two on the west side each 1.50 m long, one south couch of 2.30 m, and two of 1.70 m each on the east side.

20. Elevations of the floor are +171.273 m (south), +171.081 (center), and +170.60 (door). The considerable difference in level from south to north may be, in part, due to a subsidence of fills under the deeper, northern half of the building. Some sloping, however, may have been intended to facilitate cleaning. In comparison with those of Room 1, the elevations of this floor are substantially higher.

21. Lot numbers refer to the pottery storage system of the Corinth excavations, each lot representing a specific stratum. It is these numbers that are used in Table 1 to represent in simplified form the sequence of fills.

22. That there must have been an even earlier phase to Room 1 is suggested by the construction of the fieldstone party wall that now separates Rooms 1 and 2. Largely 0.45 m thick, the southernmost 0.90 m of its exposed portion dwindles to 0.30 m in thickness. Quite possibly, an earlier door to Room 2 existed here that was later blocked.

23. See above, note 8.

tered throughout the room, they tended to concentrate in the center, within the framework of the tables. The earlier of the floors (Fig. 8, layer 5) was only partially uncovered in the center of the room on the last day of excavation.<sup>15</sup> On it was a round patch of concentrated burning and red earth 0.25 m north of table 4. Measuring about 0.30 m in diameter, this patch may well have functioned as a small hearth or may mark the position of a portable brazier, subsequently removed.<sup>16</sup> In the earth above it were found four fish bones that appear to have been burned. This floor was subsequently raised about 0.07 m (Fig. 8, layer 4A), and a new clay surface (Fig. 8, layer 4) was laid down over the earth fill.<sup>17</sup>

Room 2 is 3.13 m wide east–west by roughly 4.50 m long north–south. The northern half of its east wall and east 2.70 m of its north wall are not preserved. In addition, the later east banquette of Room 1 covers most of the earlier floor space within the room. Nevertheless, certain details of its interior can be restored.

The entrance lay on the north side, just a couch's width from the north-east corner.<sup>18</sup> Within the room we have restored six couches.<sup>19</sup> A very small portion of a clay floor (floor 2)<sup>20</sup> was exposed along the east banquette, but because of later, overlying remains, no more of it could be examined. Tests in the packing for the east couch revealed no sign of an earlier phase, nor does there seem to have been an earlier floor. Regrettably, time did not permit corresponding tests on the west side of the room.

The test in the east couch provides us with evidence for the beginnings of Room 2 and perhaps of Building N:21 as a whole around the end of the 6th century B.C. (lot 1994–62).<sup>21</sup> A clay surface removed from the top of the east couch is slightly later in date (lot 1994–64), descending into the first half of the 5th century B.C., but this may reflect a period of use as well as construction. The room presumably continued in this form until its renovation near the end of the 5th century.

In Room 1 the earliest floor, 5, was left untouched; therefore its chronological relation to the earliest floor in Room 2 remains unknown.<sup>22</sup> The raising of the floor level took place no earlier than the first quarter of the 5th century B.C., as shown by pottery from the leveling fill (lot 1994–80). Sherds recovered from the excavation of the overlying clay floor 4 may descend into the early second quarter of the 5th century B.C. (lot 1994–79).

#### LATER PHASE (PHASE 2)

In the late 5th century B.C. Building N:21 was rebuilt with a new west wall as well as a new north wall on top of its predecessor; the earlier east and, probably, south walls were retained (Fig. 2). The party wall was shifted 1.50 m to the east to create a large west dining room, 1, 6.30 m long east–west by 4.15 m wide north–south, and a small east service room, 2, 2.20 m long. In all, the new structure was 8.50 m long from east to west by about 4.90 m wide from north to south. An entrance porch lay on the west side adjacent to landing 6 of the stairway.

Building N:21 in its later phase has already been published.<sup>23</sup> We will therefore confine ourselves to a few observations. Within Room 1 the only substantial changes to the preceding arrangement consisted of the length-

ening of its plan and addition of a door in the east party wall, 2.00 m from the restored southeast corner of the room. The door divided the east couch-banquette into two small units. Although the dais was retained as a feature, it was translated from clay into fieldstones. No tables are attested for this phase, and we therefore assume that they were portable. In this form Room 1 could accommodate eight or nine couches.

Three successive floors were identified in Room 1, the latest being that exposed in 1965 and 1969. Each was flecked with carbon and produced food remains. The lowest floor, 3 (Fig. 8, layer 3), just covered the earlier dais and table foundations.<sup>24</sup> Floor 2 (Fig. 8, layer 2) was raised 0.07–0.12 m above floor 3<sup>25</sup> while floor 1 (Fig. 8, layer 1) simply overlay floor 2. In Room 2 no interior features were preserved to indicate the room's function except for a single, uniform clay floor. Quite possibly, the absence of any foundations for either a bench or a bath stall may mean that the room functioned as a kitchen. Since most of the floor and overlying fill had been excavated in 1965, this identification could not be corroborated.<sup>26</sup>

Evidence for the construction of this phase of Building N:21 is provided by a series of fills that covered both rooms. In Room 1 the earlier floor, 4, tables, and dais were covered by a stratum 0.13–0.25 m deep, composed of a distinctive, very hard red earth, identified as a sediment by Paul Goldberg (Fig. 8, layer 3A; sample D-94-3). Clearly different from the *terra rosa* regularly found above bedrock, this earth had been brought in from another part of the city as construction material, probably for the walls or roof of the earlier building, and was then reused as filling debris early in the last quarter of the 5th century B.C. (lot 1994-78).<sup>27</sup> A dumped fill covered the northern half of Room 2. Like most such fills in the sanctuary, this contained material that spans a long period, extending from the late 7th to the middle or third quarter of the 5th century B.C. (lot 1994-66).<sup>28</sup> A similar fill overlay the western side of the room (lot 1994-65), while lot 1994-63, representing the earth that covered floor 2, dates no earlier than the late second quarter of the 5th century B.C.<sup>29</sup>

The catalyst for this remodeling of N:21 was undoubtedly the construction of the processional stairway, the laying of which required modifications to all preexisting dining halls along its length.<sup>30</sup> Here the alterations were not limited simply to a contraction of the west side as happened further north, for the building appears to have been completely reconstructed.<sup>31</sup>

Within Room 1 the earliest floor, floor 3, of Phase 2 was laid down at the time of reconstruction late in the 5th century B.C. (lot 1994-70). The first raising of that surface took place in the first half of the 4th century B.C. Pottery from the leveling stratum (Fig. 8, layer 2A) dated almost entirely to the 5th century, except for one lamp nozzle and a terracotta doll of the early 4th century B.C. (lot 1994-69). Material from the new clay floor 2 included sherds dating from the 6th to the first half of the 4th century B.C. (lot 1994-68). Although floor 1 lay directly on top of floor 2, some time seems to have elapsed between the two surfacings, for incorporated in it were sherds of the second half of the 4th century B.C. (lot 1994-67).<sup>32</sup>

Above both this floor and the south couch lay a 0.20 m-thick layer of debris, which was excavated in 1965 and 1969. Pottery from this layer can

24. The elevations of floor 3 are +171.187–170.946 m.

25. Its elevations are +171.254–171.068 m.

26. A portion removed in 1994 produced a small amount of early pottery. See Table 1: notebook 637, basket 127.

27. In addition to the pottery, a bronze coin of Corinth of the Pegasos/Trident series was found in this layer, coin 1994-407.

28. In an area measuring roughly 1.00 by 3.00 m by no more than 0.40 m deep we recovered 8.42 kg of pottery, or 2,639 sherds. Eight figurines, both handmade and moldmade types of the 6th through early 5th centuries B.C., 5 pieces of iron, including a pin, and 8 6th-century B.C. lamps were also recovered. Among the sherds were fragments of an Attic black-figured neck-amphora that joined a piece found in 1973 further down the hill. The original piece is published in *Corinth XVIII*, i, p. 139, no. 310, pl. 34, there called an oinochoe. The new joins will be published separately by Ann Brownlee.

29. Of interest from this stratum is an uninscribed iron key, MF-1994-50, to be published in a future fascicle of *Corinth XVIII*.

30. These modifications are discussed in *Corinth XVIII*, iii, pp. 98, 102, 122–124.

31. The removal of two other features, associated with the later building, also corroborated this date. Lot 1994-73 represents the removal of a portion of the later north couch wall; both lots 1994-72 and 1994-77 were excavated from beneath the later north dais. All three contexts are datable to the last quarter of the 5th century B.C.

32. It is always possible that the latest material in a clay floor surface also reflects a period of use rather than just the moment when it was laid.

be dated to the third or possibly early fourth quarter of the 4th century B.C. (lots 4452, 6217, and 6218).<sup>33</sup> Because of the presence of fragmentary roof tiles on top of both this debris and the south couch against the Hellenistic wall of the Trapezoidal Building, we concluded that the tiles were not so much the result of a collapsed roof as intentional fill. Pottery from the debris over Room 2 was generally similar to that from Room 1, with the addition of twelve fragments of animal bones (lot 4476).<sup>34</sup>

## AREA 2, GRID-SQUARES L-N:29-31

In Area 2 we exposed parts of five dining rooms built in or before the 5th century B.C., as well as one corner of a Hellenistic building (Fig. 9). The tests were extremely useful in verifying that the dining rooms do continue to the east. They were less productive, however, of the kind of information needed for our joint project. The surface soils were so stony that dry-sieving was difficult and water-sieving impractical. Since the fieldstone walls of most of these structures stood to a height of no more than one or two courses on the more protected south side of the hillslope, little remained within the rooms once these stony soils were removed. The exceptions were Rooms 2 and 3, where cleaner fills could be sieved. Nevertheless, before moving to Area 1 we sampled enough to produce floral and faunal remains as well as a sketchy plan.

Room 1, the southernmost of the five rooms, lies about 1.60 m east of Building N:28 in grid-squares N:29-30.<sup>35</sup> The extant portions define a room with an internal length of at least 4.50 m from east to west, having a couch-banquette 0.70 m wide along its east wall. The fill that covered these few remains contained worn sherds of the 5th and early 4th centuries B.C., together with an early Roman basin, which probably postdates the period when the room was abandoned.<sup>36</sup> It is possible that Room 1 was part of a row of rooms; a wall, which could have formed the north wall of an adjoining room, extended 2.00 m eastward from the northeast corner of Room 1. Its orientation differs somewhat, however, from that of Room 1.

The remaining four rooms all lie on the next row of buildings to the north, beginning with Room 2 on the west and ending with Room 5 on the east.<sup>37</sup> Largely destroyed by the construction of Building L-M:28 in the late 4th century B.C., Room 2 is now limited to its easternmost 1.60 m (Fig. 11). In this narrow segment parts of both south and east walls are preserved, the latter for a length of 4.95 m. In addition, a 0.90 m-wide door in the east wall, 3.00 m from the southeast corner of the room, leads into Room 3. Both here and in Room 3 the south wall is composed of a red gravely pisé. In addition, in Room 3 this red earth alternates with layers of clay.

Couch-banquettes line both east and south sides of the room. These measure 0.60 and 1.15 m wide, respectively.<sup>38</sup> In addition, a low dais of red earth, 0.22 m wide, lies at the foot of the southern banquette. Despite the narrowness of the east banquette, the presence of the south dais indicates that the room was a dining area.

A test through the single clay floor revealed only gravel packing overlying bedrock. Pottery from the removal of the floor and packing belongs

33. In addition, there were two intrusive sherds of Roman date. Some of the distinctive pieces from this layer can be found in Bookidis and Fisher 1972, p. 294, nos. 6-8, pl. 57, p. 325, no. 29, as well as in *Corinth* XVIII, i, p. 156, no. 402, and p. 160, no. 441.

34. Bone lot 65-24, to be published by Reese.

35. Of the room, 3.00 m of its south wall and about 2.70 m of its east wall are all that remain.

36. Notebook 637, basket 93, dry-sieved.

37. Of these four, Rooms 2 and 3 and Rooms 4 and 5 certainly share a party wall. The relation between Rooms 3 and 4 is less clear. As Figure 9 shows, their north walls do not align; moreover, the west wall of Room 4 clearly represents at least two periods of construction: the earlier northern half, which bonds with the exposed north wall, built of fieldstones, and dating to the 6th or 5th century B.C.; the later southern half, incorporating both fieldstones and breccia blocks, of possibly 4th century B.C. date. Since the earlier portion of Room 4 lies at a deeper level than the north wall of Room 3, it is possible that Room 3 is later in date.

38. Wider south banquettes occur in the neighboring Rooms 3 and 5. For other examples in the sanctuary see *Corinth* XVIII, iii, pp. 401, 414-415.

roughly to the third quarter of the 5th century B.C. (lot 1994-81). This gives us some evidence for the period when the room was in use. Although the pottery from the fill that covered the room may date no later than the beginning of the 4th century B.C. (lot 1994-82),<sup>39</sup> it is more likely that the room continued in use until the end of the century, as evidenced by the abundant material recovered from adjoining Room 3.

For Room 3, in addition to its entire west wall, roughly half of its south wall and 1.60 m of its north wall are known (Figs. 10, 11). The internal dimensions of the room are 4.65 m from north to south by at least 2.50 m from east to west. Because of the way in which the test trenches were laid out, neither the southeast nor the northeast corner of the room was excavated; moreover, the east side had been quite thoroughly destroyed.

Room 3 was extremely difficult to excavate, for only the north couch-banquette preserved the lowest course of its stone retaining wall. The remaining couch-banquettes were only identifiable by their earth packings and by facings of 0.20 m-wide strips of red earth.<sup>40</sup> A clay floor was identified only in the area of the west door.<sup>41</sup> With so much of the room missing, we have not attempted to restore its plan, for there may have been an exterior door on the north side. Presumably, there were no more than seven couches, two each on north, south, and east sides, one 2.40 m long on the west side.

The date of the room's construction at the end of the 6th century B.C. is based on twenty-one sherds recovered from a small cut through the packings of the south wall.<sup>42</sup> Removal of the hypothetical floor yielded pottery of the second or possibly early third quarter of the 5th century B.C. (lot 1994-85).

But most productive of pottery, plant, and faunal remains was the deep fill that covered the southern half of the room (lot 1994-83). This was brought in when the room was finally abandoned and, like other such final fillings, contained material from various parts of the site. Most interesting for our purposes was the high incidence of coarse and cooking wares. As is usual, the chronological range reflected by the finds is great, extending from the 6th to the 4th century, but a coin of Ptolemy I, dated 310-305 B.C.,<sup>43</sup> firmly pins down the room's abandonment to the end of the 4th century B.C., presumably when Buildings L-M:28 and L:30-31 were constructed. We discuss the cooking ware from this dumped fill below.<sup>44</sup>

Such small portions of Rooms 4 and 5 were uncovered that we will confine ourselves only to a brief mention of them. Room 4 measured an estimated 3.50-3.60 m from north to south by 3.90 m from east to west. Roughly 1.00 m of the retaining wall was found for the west banquette, indicating that no door communicated here with Room 3, and also verifying the room's function. Evidence for Room 5 is limited to a small portion of its west party wall and its southeast corner. Time did not permit more intensive excavation here. Part of a couch-banquette 1.15 m wide was exposed against that wall. Although the east banquette wall was not preserved, its packing suggests that, once again, that banquette was narrower.

Finally, the southwest corner of an ashlar-built structure in breccia, L:30-31, overlay the southwest quarter of Room 4, thereby adding one more structure to the Hellenistic period plan of the sanctuary. The build-

39. From this layer comes a small bronze snake, MF-1994-46, to be published in a future fascicle of *Corinth* XVIII.

40. The north couch is 0.70 m wide, the west 1.00 m wide, and the south 1.15 m wide.

41. Its elevation is +165.54-165.45 m.

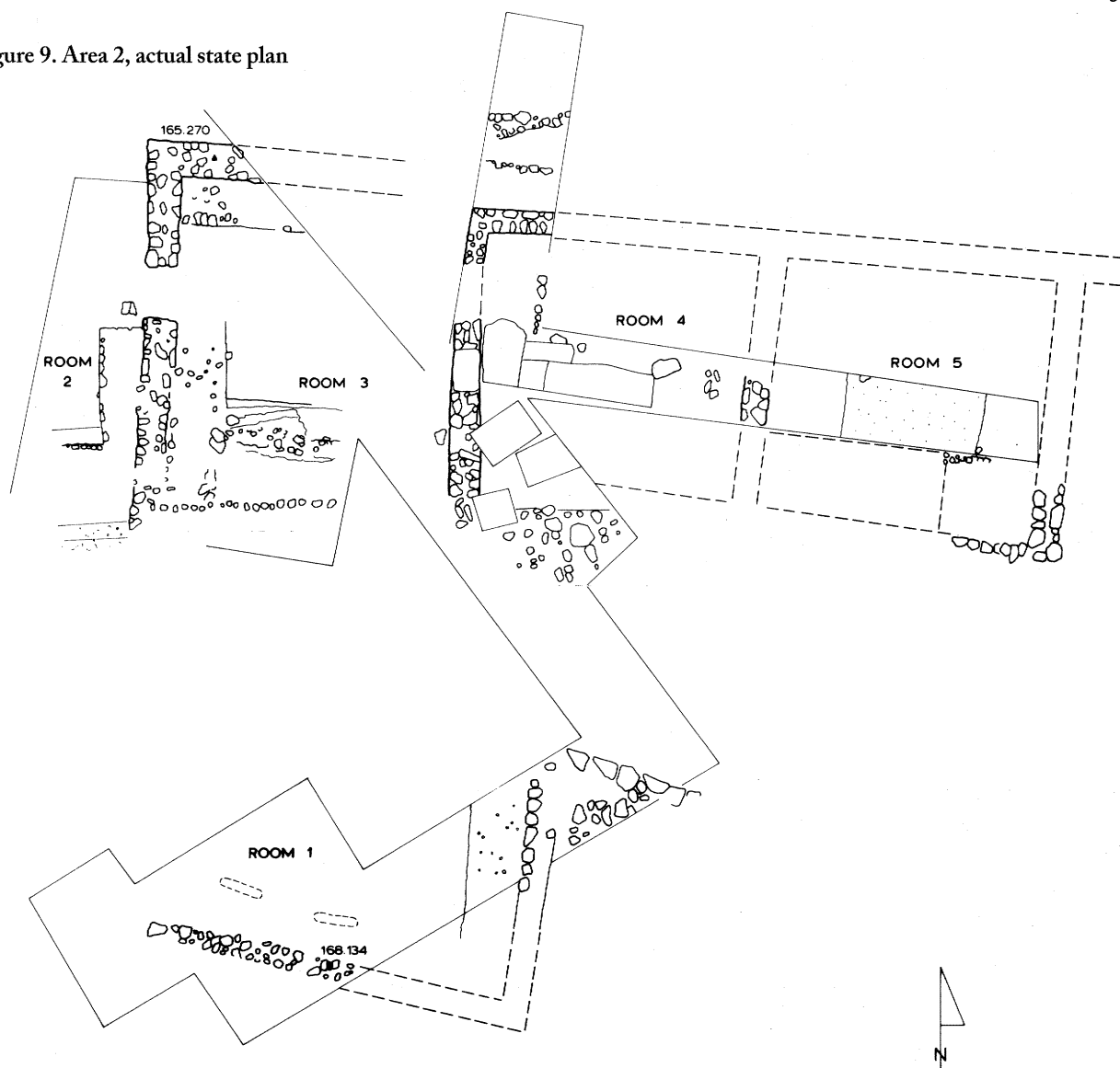
42. Notebook 637, basket 112.

43. Coin 1994-402. With this coin were two more, minted in Corinth in the Pegasos/Trident series, coins 1994-403 and 1994-404. We thank Orestes H. Zervos for identifying these coins. They will be published with the remaining sanctuary coins in a future fascicle of *Corinth* XVIII.

44. In addition, we recovered two rims of Corinthian type A transport/storage amphoras, one Corinthian type B, an imported amphora handle, numerous fragments of coarse jars and lekanai, a mortar, and parts of three louteria or perirrhanteria. Of interest is the lower part of a large unguentarium of local manufacture, the floor of which had been purposely drilled (C-1994-82), and a large terracotta figurine depicting a nude female with right hand at her breast, MF-1994-27.



Figure 9. Area 2, actual state plan



0 1 2m



Figure 10. Area 2, general view from west, Room 2 in foreground

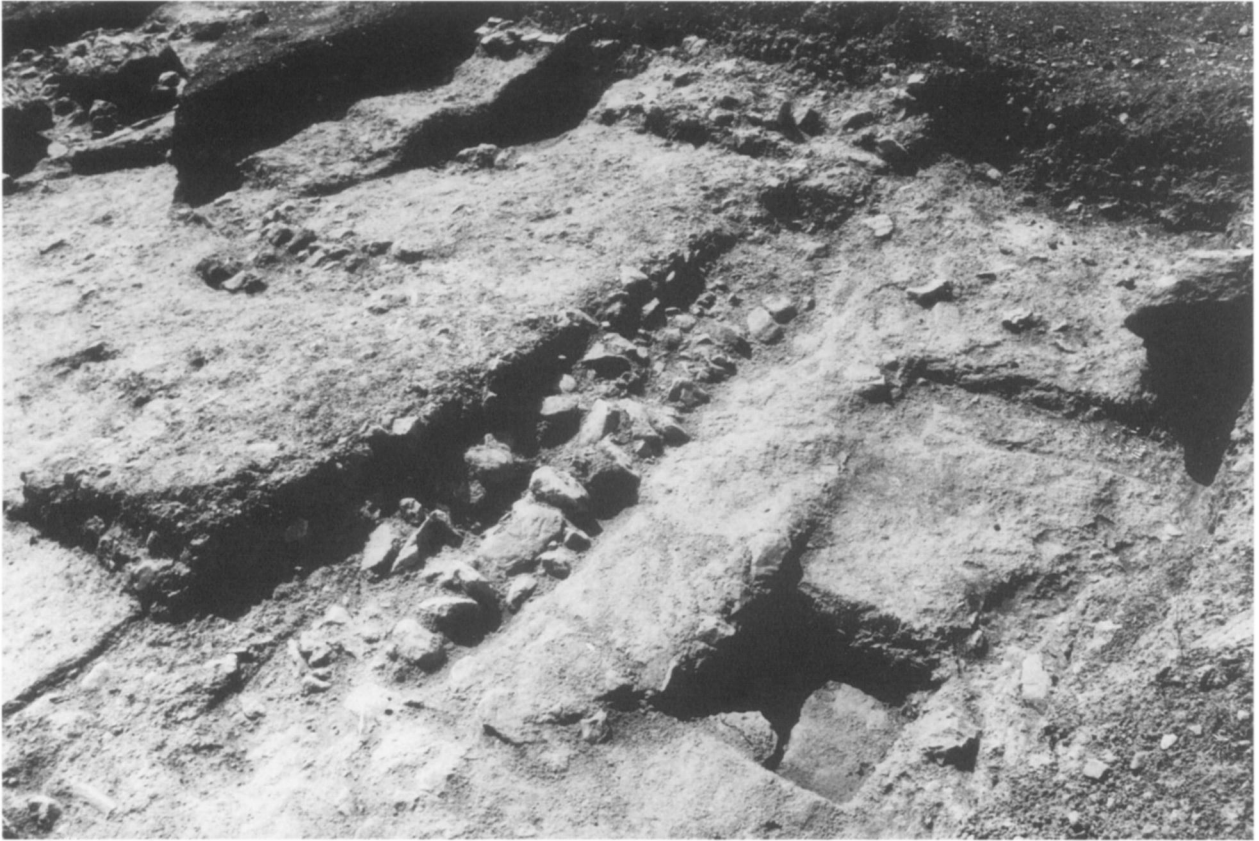


Figure 11. Area 2, Rooms 2, 3 from northwest

ing lies roughly 6.50 m east of Building L–M:28, until now thought to be the northeasternmost Hellenistic dining room on the Lower Terrace. It is curious that the building's south wall is not aligned with that of L–M:28 but falls some 5.00 m further north. Presumably, the contours of the hillside are responsible for this shift in placement, for a similar difference is apparent in the Classical rooms just described. While Rooms 2 to 5 may be roughly aligned with the Classical buildings west of L–M:28, Room 1 falls further north of its corresponding western neighbors.

## POTTERY

Within the dining halls described above we have found an abundance of pottery, though quite fragmentary.<sup>45</sup> Apart from votive miniatures, which permeate every shovelful of earth in the sanctuary, we find the following shapes which undoubtedly relate to dining. Cups are the most numerous, and of the cups the most popular shape is the kotyle.<sup>46</sup> Less frequent but nonetheless popular is the Corinthian one-handed cup. A variety of bowls, small and large, and lekanides characterize every level. Kraters and oinochoai are attested, but far less frequently, and it is interesting that smaller varieties of oinochoai, such as might provide a single portion, outnumber the larger types.<sup>47</sup> Service vessels for larger numbers of people are more common in coarse or plain fine fabrics.

Both the coarse and cooking wares were extremely fragmentary this season, disappointingly so, and profiled sherds were relatively rare. The

45. All pottery from the excavation of the two areas was checked for joins; very few complete profiles were assembled and virtually no complete pots. The fineware pottery is overwhelmingly Corinthian. Indeed, the votive miniatures are entirely Corinthian. Imports represent no more than 2 percent of the whole and are all of Attic provenience; these chiefly consist of cups, lekythoi, and figured kraters.

46. Among the identifiable sherds from both areas of excavation, kotylai number 6,539, or 40.5 percent of the fine ware.

47. By smaller varieties, we mean the kinds of oinochoai shown in the lower half of *Corinth* XIII, fig. 14 or Pemberton 1970, p. 273, fig. 2.

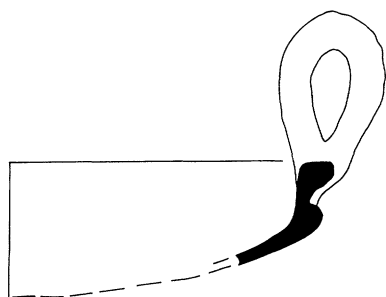


Figure 12. Bean-parcher (C-1994-78), profile

48. For the type, see *Corinth* VII, ii, p. 152, An 271, pls. 79, 110, top row left, and 111.

49. See *Corinth* XVIII, i, pp. 68–75.

50. This is similar in shape to *Corinth* XVIII, i, p. 186, no. 650 (end of the 4th century B.C.).

51. Bookidis 1993, p. 53.

52. Using sand, we measured the capacity of C-71-152, a complete stewpot of identical size and shape found in the Forum excavations. Measured to the base of the outturned rim, the pot could hold 0.300 liters. See *Agora* X, p. 46, for the capacity of a kotyle equivalent to 273.6 cc.

53. C-1994-78A–B. A: pres. H. to rim 0.026, rest. H. to rim 0.042, max. rest. H. 0.088, rest. D. rim 0.19 m. Fragments A and B together preserve nearly half the circumference of the rim, a small part of the bottom, and one handle.

54. Cf. *Agora* XII, pp. 228–229, 275, nos. 1987 and 1990, fig. 17, pl. 96.

55. It is interesting to compare this diameter with those of casseroles from the Athenian Agora, most of which are 0.20 m or more, although a few are only 0.10 m; see *Agora* XII, pp. 373–374.

56. Bats 1988, pp. 44, 50.

shapes, however, are fairly repetitious. Among the coarse wares, most prevalent are mixing bowls or lekanai, both shallow and deep varieties, mortars, perirrhanteria or louteria, large jars with flaring or trefoil rims,<sup>48</sup> and transport/storage jars. Among the latter, Corinthian types A and B predominate, but at least two Thasian bodies, a possible Thasian handle, and a pseudo-Coan fragment in a later fill attest to the use of amphoras from elsewhere. That some of these may have been used for wine is suggested by the discovery of grape seeds in the bottom of one Corinthian type A amphora (lot 1994-65).

Since our main concern was food, we hoped to recover a good amount of cooking ware. Unfortunately, cooking pots were quite poorly represented. In most cases, only a handful of small body sherds was found; occasionally, a small rim fragment allowed us to identify the shape. A few large dumped fills were more productive, in particular lot 1994-83, mentioned earlier in conjunction with the abandonment of Area 2, Room 3. Here not only could we identify shapes but we could also take some measurements. The shapes are few. As clearly set forth in *Corinth* XVIII, i,<sup>49</sup> stewpots and casseroles prevail. Among the stewpots, several varieties are attested, primarily the unflanged and the flanged. The unflanged stewpot with horizontal rim may, in fact, be a Corinthian peculiarity. Having a neck and rim that are narrower than those of a flanged stewpot but wider than those of a pitcher, the shape could have been used for pouring as well as for boiling. Faint traces of burning on the exteriors of some of these pots certainly suggest that they were used in some way with fire.

If we look at the dimensions of those vessels recovered from lot 1994-83, we find among the more numerous unflanged stewpots the following rim diameters: 0.20 m,<sup>50</sup> 0.18 m, 0.11 m, 0.095 m, and 0.07–0.08 m. A second example of the smallest size was also found in lot 1994-78, dated roughly a century earlier. As we have observed elsewhere, a variety of small pots were used in the sanctuary dining rooms, as well as a few large ones.<sup>51</sup> The capacity of the smallest is very slightly greater than one kotyle, a common unit of measure.<sup>52</sup> This raises the question of whether these were used for individual portions within the dining rooms or were simply used for making small quantities of certain kinds of food. Here again it is interesting to keep in mind the frequency of small fineware oinochoai over large ones.

An unusual cooking pot was found in lot 1994-83 (Fig. 12).<sup>53</sup> Consisting of a shallow, unlidged bowl with a high loop handle set vertically on the rim, the pot was used over a fire, as its burned bottom indicates. In shape it comes closest to the bean-parcher and like that vessel may have been used for parching barley or beans.<sup>54</sup>

Unfortunately, no fragments of casseroles were large enough to be measured, apart from one in lot 1994-65 with a diameter of 0.14 m.<sup>55</sup> But of greater interest than their size is the probable use to which casseroles were put. In his study of cooking wares and the ancient sources, Michel Bats concluded that the casserole, or lopas, was basically used to cook fish.<sup>56</sup> In the past, this interpretation did not seem to fit what we knew of the sanctuary's needs, for, apart from a few seashells, no remains of fish had been found in the dining rooms. This is no longer the case, because through

water-sieving fish bones were found in a number of strata in 1994—bones of small fish that could easily have been fried in the shallow pans. These are discussed below in Part II.

## ON THE CONTEXTS

Before turning to the reports on the floral and faunal remains, we will conclude this section with a few general statements about the buildings described above, their depositional history, and their relation to the cult activities on the Middle Terrace. It should be understood, however, that these comments are, to a large extent, provisional and will be discussed more thoroughly when all of the material from the sanctuary has been published. Like all of the sanctuary dining rooms, these just excavated were used for a long period, approximately two hundred years. Over that time, as we have seen, a number of modifications were carried out; some of these were undoubtedly due to the sanctuary's location on a steep hillside where harsh winters demanded frequent maintenance. Walls were rebuilt, couches moved, floors raised. For all of this work the necessary materials were taken as much as possible from near at hand. Thus, pottery brought to the sanctuary either as votive offerings or for use in the dining buildings and thereafter broken or buried inevitably formed part of the fill.<sup>57</sup> A perusal of catalogue entries in *Corinth XVIII*, i will make clear how far joining fragments of a vessel could travel both horizontally and vertically on the hillside. Although we cannot say with any certainty that a given fragmentary vessel was used where it had been found, we do feel certain that it was used within the limits of the sanctuary. This is because of the overwhelming consistency of shapes found, or not found, in all parts of the site.<sup>58</sup>

Given their plan, there can be no doubt that the buildings under discussion were used for dining. In addition, a number of them, unfortunately not any dug in 1994, also contained kitchens with hearths;<sup>59</sup> cooking pots of the types just described were ubiquitous—indeed, in one case, still resting on the hearth.<sup>60</sup> If the sacrificial animal formed part of the meal, a question that will be addressed below, clearly other kinds of food were made on the premises. In the reports that follow we have distinguished between faunal and floral remains found in the floors and in the fills, thinking that what was pressed into the floors might represent food eaten on the spot, while what lay in the deeper fills might have been brought in from another part of the site, including other dining rooms. As shall be seen, however, while this distinction is potentially informative for bones, it is less so for floral remains.

This issue of provenience is further complicated by the proximity of Building N:21, in particular, to the Middle Terrace with its places of sacrifice. As we stated in the beginning, these were two. The earlier of these, Area D, was an elevated terrace cut into the hillslope, on which stood two low rubble platforms tentatively identified as altars, where we assume that sacrifice was carried out because of the high concentration of black ashy soil. In this soil was found a small amount of animal bones, pig where identifiable, as well as several iron knife blades.<sup>61</sup> The second, Pit B, was a deep stone-lined pit with fire-scarred walls, which lay at the east end of

57. An analogy may be drawn to the large deposits of discarded statuary and other objects found north of the Erechtheion or south of the Parthenon on the Athenian Acropolis. No one would dispute that these belong to the sanctuary; only their original place of deposition is uncertain. In addition, see Kron 1992, pp. 643–644, comparing the fragmentary material that is customarily found in a sanctuary with the unusual deposits of whole vessels at Bitalemi, Gela.

58. The lekythos, for example, is rare. Only 30 fragments were identified among the finds from the 1994 season. The mushroom jug, which is ubiquitous in the lower city, is completely absent from the sanctuary.

59. For a discussion of the kitchen, see *Corinth XVIII*, iii, pp. 407–410.

60. *Corinth XVIII*, iii, p. 148 and *Corinth XVIII*, i, p. 187, no. 654.

61. *Corinth XVIII*, iii, pp. 74–78. The two rubble foundations are not contemporaneous.

the Trapezoidal Building; within it was found, once again, a small number of pig bones together with considerable amounts of ash and discarded pottery.<sup>62</sup> In addition, a deep stratum of black ashy earth, containing some animal bones and much pottery, formed the construction fill for the rest of the long Trapezoidal Building.

We know virtually nothing about the sacrifices performed in the sanctuary, except that pig was clearly the preferred animal. Whether those sacrifices were holocaustic or not is unclear; the material remains are slight. Whether other foodstuffs accompanied that sacrifice is also unclear. That this is possible, however, is suggested by the clay models of *likna*, or winnowing trays, filled with different kinds of food, that have recently been published by Allaire Brumfield.<sup>63</sup> Among the foods depicted are different kinds of cakes, *maza*, and nuts or pulses—possibly almonds or chickpeas. In addition, small trays with empty cups could have held real grains, seeds, or pulses. Presumably these models replicate actual cakes and foods brought to the sanctuary for offering. Pausanias (9.19.5) tells us that in the Sanctuary of Demeter at Mykalessos fresh fruits of the autumn, placed at the feet of the cult statue, stayed fresh for the whole year. But would all such foods simply have been offered in sacrifice, or could some have been shared among the participants? We return to our earlier statement that something was clearly eaten and cooked in the dining rooms, and the discovery of grinding stones, reused in later contexts on the site, clearly indicates that some grinding was done *in situ*.

In considering the meaning of the faunal and floral remains found in the successive layers of the dining rooms, the reader should keep in mind that these seeds and bones were not found in concentrated ashy strata of the sort that covered the terrace of Area D or filled Pit B and the foundations of the Trapezoidal Building. In a sense, they were isolated finds within the floors and fills, although, as Paul Goldberg shows below, minute bits of charcoal did occur as well. The samples were deposited in stratified sequences from the end of the 6th to the end of the 4th century in both Areas 1 and 2, widely spaced across the eastern half of the site. While all of the floral samples were carbonized, not all of the animal bones were burned, a point Lynn Snyder addresses. In the earlier excavations of Building N:21 we found several fragments of iron knives that we then assumed had been used for sacrifice. But now that there is more reason to think that meat was actually eaten in the dining rooms, it is also possible to explain these knives as some of the utensils used in the preparation of the meal.<sup>64</sup>

62. *Corinth* XVIII, iii, pp. 243–247.

63. Brumfield 1997, in particular pp. 149–158. See also the addendum to the section on plant remains below, pp. 31–32.

64. For references to these knives, see Bookidis 1993, p. 54; *Corinth* XVIII, iii, p. 131, note 90, from the final debris covering floor 1. It is interesting, however, to consider the far better preserved evidence from the Herakleion at Thasos, where two types of utensils for butchering are identified, namely, a cleaver for cutting the bones cleanly and a knife for disarticulation and deboning; Courtis, Gardeisen, and Pariente 1996, p. 815.

## PART II: PLANT AND ANIMAL REMAINS

### METHODOLOGY

The water-sieve system built for the Demeter Sanctuary project consisted of a 1 × 1 m tank with an inflow pipe at its base and a spreader that forced the water up and out underneath the sieves (Fig. 13). This facilitated the agitation of the sediments in the sieves and pushed light material to the surface, thus increasing the likelihood that it would float. The tank was



Figure 13. Water-sieving tank, operated by J. Hansen



Figure 14. Heavy fraction sieves

filled through a hose attached to two large holding tanks near the road above the site, which were replenished as needed by a truck from the village.<sup>65</sup> Into the sieve tank fit a metal basket ( $0.65 \times 0.98$  m) with large holes (ca. 0.02 m diam.); this held a set of nested heavy fraction (residue) sieves with metal mesh of 1.0 and 3.0 mm (Fig. 14). These sieves caught the heavy fraction of material that did not float. The tank had a wide overflow chute that fed the light fraction (flot) into a sieve with mesh of ca. 0.5 mm which sat in a cylindrical tank (ca. 1.00 m diam. by 0.65 m deep) below the chute. This sieve was lined with a piece of muslin so that the light fraction could be easily removed and hung on a clothesline to dry. The excess water and silt flowed out of this container through a drain at the base into a well.

Approximately 1,700 liters of sediment were water-sieved from 35 excavation units, an average of about 48 liters per unit.<sup>66</sup> Nearly every sample produced some carbonized plant remains, as well as small bone fragments, shell, ceramics, and an occasional piece of metal. Samples were taken from

65. Water is at a premium in Corinth in the summertime, being frequently rationed. This has been a serious factor in restricting the use of water-sieving methods in the Corinth Excavations. For this project water was bought from a source down on the plain.

66. The exact amounts are listed in Tables 2 and 4.

excavated levels in large baskets, measured in a bucket of known volume, and then poured into the nested sieves in the water-sieve. The earth was agitated by the inflow of water under the sieves. In addition, the sediment was carefully lifted by hand from the sieve to release light material. Floating remains, consisting primarily of carbon, small bone fragments, shell, and modern rootlets, were carried by the overflow out of the main tank through the chute and were caught in the muslin lining the light fraction sieve. When material ceased to float, the residue sieves were removed from the main tank and set on wooden benches to dry.

#### LIGHT FRACTION

The corners of the muslin squares, containing the flora, were tied together and taken back to the excavation house, where they were hung on a clothes-line to dry. When dry, this material was transferred to plastic bags, labeled, and ultimately boxed and sent to Boston University for analysis. The remains were sorted using a Leica stereozoom microscope at 10 $\times$ –70 $\times$  magnification. Most plant material could be identified to the genus level, although some remains were too badly damaged to classify beyond the family. A few seeds could not be identified at this time due to a lack of comparative material. Wood charcoal from the samples was identified by examining a fresh transverse section obtained by breaking the piece in half. This was then mounted on a piece of plasticene on a glass slide and examined at 50 $\times$ –70 $\times$ , using fiber optic illumination.

#### HEAVY FRACTION

When dry, the heavy fraction was bagged in the field and taken to the Corinth Museum, where it was sorted, occasionally with the aid of a low-powered (10 $\times$ ) microscope. Plant remains from the heavy fraction were ultimately combined with the flot from the same basket. Animal bones were bagged separately for analysis, which was conducted at the Smithsonian Institution. The remaining nonbotanical and nonfaunal material was combined with the pottery.

#### PLANT REMAINS

Table 2 lists the plant remains identified from the deposits. They are organized according to area, room, and lot number, with samples from floors and fills grouped together. Table 3 provides a brief overview of the primary species recovered from the deposits in each area. The species identified from Areas 1 and 2 do not differ significantly, nor do they change through time, as nearly as can be determined from these deposits. Material from floors was similar in composition to that from leveling fills, although there seems to be a slightly greater density of remains in the latter (Figs. 16, 17). The species recovered consisted of those plants commonly eaten in daily life. It is clear from the micromorphological study of the strata in Room 1 (Building N:21) that the fill and floor sediments are different materials and probably derived from different sources. It is assumed here that material on the floors was the remains of foods used in that room. Remains in

the fills may have been from earlier meals elsewhere in the site from which the fill material was taken.

### Cereals

Figure 15 below gives the measurements for several species, including *Triticum aestivum* s.l., hexaploid, free-threshing wheat, which is found in many of the deposits. The grains are generally short and fat, suggesting that at least some of them might be club wheat (*Triticum aestivum* subsp. *compactum*). There is no rachis material from any of the deposits, however, and without this evidence it is difficult to distinguish with certainty club wheat from bread wheat or hard wheat.

The barley from the sanctuary is a hulled type, although it is not possible to determine from the few well-preserved grains whether it is of the two-row (*Hordeum vulgare* spp. *distichum*) or six-row (*Hordeum vulgare* spp. *vulgare*) form. There were also a large number of fragmentary grains that could not be assigned to either wheat or barley, although they were most probably one of these two. No small-seeded grasses that might have been weeds in the crops were found among the samples.

	Length (mm)	Breadth (mm)	Thickness (mm)	
<i>Triticum aestivum</i> s.l. (avg.)	4.97	3.61	3.11	N=10
<i>Hordeum vulgare</i> (avg.)	5.7	3.1	2.4	N=8
<i>Vitis vinifera</i>	4.7	2.5	1.9	
	4.9	3.4	2.9	
<i>Punica granatum</i>	3.6	2.1		
<i>Lens</i> sp. Max. dia. (avg.)	2.7			N=14

**Figure 15. Table of Measurements of Primary Species** (N=total number of species measured)

### Legumes

Lentils make up the majority of legumes identified among the sanctuary samples. These appear to be a fairly small-seeded type (*Lens culinaris* spp. *microperma*), with an average diameter of only 2.7 mm (Fig. 15). While it is possible that they could be wild lentils, this is unlikely in the 5th century B.C. There are few other legumes represented in these deposits, and most of these are only fragmentary and cannot be identified to the species level with certainty. Those that are identifiable include bitter vetch (*Vicia ervilia*), pea (*Pisum sativum*), chickpea (*Cicer arietinum*), and grass pea (*Lathyrus* sp.).

### Fruit

Olives (*Olea europaea*) are the most abundant species represented in the samples from the Sanctuary of Demeter and Kore. They may be over-represented in relation to the other species because they have a thick, hard shell that preserves well when carbonized and because they are large and more easily seen during excavation and dry-sieving, and so are more likely to be recovered by the workmen. The majority of olive remains are fragmentary, probably the result of trampling.

There is little that can be said about the single pomegranate (*Punica granatum*) seed from these deposits. Clearly pomegranates were available



TABLE 2: PLANT REMAINS

		No.		Species	Number	No./L	Comments				
Lot No.	Samples	Liters									
AREA I, BUILDING N:2I, ROOM I											
PHASE I											
Floor deposits											
1994-79	1	36	Triticum sp.	(2)*	1.6						
			Hordeum sp.	2							
			Olea europaea	1(50)							
			Vitis vinifera	(2)							
			Ficus carica	1							
			Labiatae	1							
Fill deposits											
1994-80	1	8	Triticum aestivum s.l.	1	0.25						
			Triticum sp.	(1)							
CONSTRUCTION FILLS OF PHASE 2											
1994-78	2	72	Hordeum sp.	1(2)	0.27						
			Gramineae	(2)							
			Olea europaea	1(8)							
			Vitis vinifera	(2)							
			Lens sp.	(2)							
			Cicer arietinum	(1)							
			Leguminosae	(1)							
1994-77	1	40	Triticum aestivum s.l.	1	0.45						
			Triticum indet.	1							
			Gramineae indet.	2							
			Olea europaea	(8)							
			Ficus carica	1							
			Ficus carica	3			fruit frags.				
			Lens sp.	(2)							
PHASE 2											
Floor deposits											
1994-70	5	>210	Triticum aestivum s.l.	2(1)	1.6						
			Triticum sp.	(5)							
			Hordeum sp.	4(3)							
			Gramineae	(2)							
			Olea europaea	(275)							
			Vitis vinifera	2(1)							
			Ficus carica	2							
			Ficus carica	3			fruit frags.				
			Lens sp.	1(1)							
			Vicia sp.	(1)							
			Leguminosae	(2)							
			Chenopodium sp.	1							
			Fumaria sp.	1			uncarbonized				
			Pinus sp.	10			wood				

\*Numbers in parentheses denote fragments.

TABLE 2, CONTINUED

No.		Lot No.	Samples	Liters	Species	Number	No./L	Comments
1994-68	1	80			<i>Triticum aestivum</i> s.l.	1	0.15	
					<i>Hordeum</i> sp.	6		
					<i>Ficus carica</i>	1		
					<i>Ficus carica</i>	1		fruit
					<i>Vicia ervilia</i>	1		
					Labiatae	2		
1994-67	1	76			<i>Hordeum</i> sp.	(2)	0.23	
					Gramineae indet.	(4)		
					<i>Olea europaea</i>	(9)		
					<i>Vitis vinifera</i>	(2)		
					Leguminosae	(1)		
<i>Fill deposits</i>								
1994-69	5	209			<i>Triticum</i> sp.	4	0.54	
					<i>Hordeum</i> sp.	3(8)		
					Gramineae indet.	1(3)		
					<i>Olea europaea</i>	(82)		
					<i>Vitis vinifera</i>	(6)		
					<i>Vitis vinifera</i>	3		fruits
					<i>Ficus carica</i>	(2)		fruit
					<i>Lens</i> sp.	1		
					<i>Vicia</i> sp.	(1)		
					<i>Pinus</i> sp.	1		wood

## AREA 1, BUILDING N:21, ROOM 2

## PHASE I

*Fill deposits*

1994-62	1	60			<i>Triticum aestivum</i> s.l.	13	1.5	
					<i>Hordeum</i> sp.	15		
					Gramineae indet.	(20)		
					<i>Olea europaea</i>	(6)		
					<i>Vitis vinifera</i>	(2)		
					<i>Ficus carica</i>	3		seeds
					<i>Lens</i> sp.	17(4)		
					<i>Vicia</i> sp.	(6)		
					Leguminosae	(3)		
					<i>Punica granatum</i>	1		
1994-63	1	36			<i>Triticum</i> sp.	16	3	
					<i>Hordeum</i> sp.	28		
					<i>Olea europaea</i>	(8)		
					<i>Vitis vinifera</i>	(7)		fruit frags.
					<i>Vitis vinifera</i>	1		
					<i>Ficus carica</i>	2		
					<i>Ficus carica</i>	9		fruit frags
					<i>Lens</i> sp.	30		
					cf. <i>Vicia ervilia</i>	1		
					cf. <i>Pisum</i> sp.	(2)		

TABLE 2, CONTINUED

No.		Lot No.	Samples	Liters	Species	Number	No./L	Comments	
1994-64	1	34		<i>Lathyrus</i> sp.	2	1			
				Leguminosae indet.	2				
				<i>Triticum</i> sp.	6				
				<i>Hordeum</i> sp.	8				
				<i>Olea europaea</i>	(4)				
				<i>Vitis vinifera</i>	(3)				
				<i>Ficus carica</i>	1				
				<i>Ficus carica</i>	2				fruit
				<i>Lens</i> sp.	1(4)				
				<i>Pisum</i> sp.	(1)				
				<i>Lathyrus</i> sp.	(1)				
				Leguminosae indet.	(4)				
CONSTRUCTION FILLS OF PHASE 2									
1994-65	1	36		<i>Triticum</i> sp.	1	0.3			
				<i>Hordeum</i> sp.	3				
				<i>Olea europaea</i>	(4)				
				<i>Vitis vinifera</i>	2				frags. in amphora
				<i>Ficus carica</i>	1				
				<i>Vicia</i> sp.	(1)				
1994-66	1	36		<i>Triticum</i> sp.	6	1			
				<i>Hordeum</i> sp.	7(1)				
				<i>Olea europaea</i>	(1)				
				<i>Vitis vinifera</i>	(4)				
				<i>Ficus carica</i>	2				
				<i>Ficus carica</i>	5				fruit frags.
				<i>Lens</i> sp.	2(3)				
				<i>Vicia</i> sp.	(4)				
			<i>Floor deposit</i>						
NB 637 B 127	1	36		<i>Vitis vinifera</i>	(2)	0.05			
AREA 2, ROOM 2									
<i>Floor deposits</i>									
1994-81	1	58		<i>Triticum aestivum</i> s.l.	5(3)	0.2			
				<i>Hordeum</i> sp.	1				
				Gramineae indet.	1				
				<i>Vitis vinifera</i>	(2)				seeds
				<i>Vitis vinifera</i>	1				
				<i>Olea europaea</i>	(1)				
				cf. <i>Lens</i> sp.	(1)				
<i>Fill deposits</i>									
1994-82	1	80		<i>Triticum aestivum</i> s.l.	1	0.2			
				Gramineae indet.	(2)				
				<i>Vitis vinifera</i>	(1)				
				<i>Olea europaea</i>	(24)				
				<i>Ficus carica</i>	(3)				fruit frags.

TABLE 2, CONTINUED

		<i>No.</i>		<i>Species</i>	<i>Number</i>	<i>No./L</i>	<i>Comments</i>
<i>Lot No.</i>	<i>Samples</i>	<i>Liters</i>					
				<i>Ficus carica</i>	4		seeds
				cf. <i>Lens</i> sp.	(1)		
				cf. <i>Scirpus</i> sp.	1		
<b>AREA 2, ROOM 3</b>							
<i>Floor deposits</i>							
1994-85	1	56		<i>Hordeum</i> sp.	(2)	0.2	
				Gramineae indet.	(1)		
				<i>Vitis vinifera</i>	(4)		
				Labiatae	1		
				cf. Compositae	1		
				Leguminosae indet.	(3)		
				seed indet.	2		
<i>Fill deposits</i>							
1994-83	3	116		Gramineae indet.	(7)	0.5	
				<i>Olea europaea</i>	(7)		shell frags.
				<i>Olea europaea</i>	(1)		fruit frag.
				<i>Olea europaea</i>	6		wood
				cf. <i>Vitis</i> sp.	(1)		
				cf. <i>Vicia ervilia</i>	(1)		
				cf. <i>Scirpus</i> sp.	5		
				cf. <i>Quercus</i> sp.	1		wood
				fruit frags. indet.	2		
				seed indet.	(20)		
				<i>Pinus</i> sp.	1		wood
NB 637 B 107	1	32		<i>Triticum</i> sp.	1	0.3	
				<i>Hordeum</i> sp.	(1)		
				cf. <i>Panicum</i> sp.	(1)		
				Gramineae indet.	(2)		
				<i>Olea europaea</i>	(4)		
				<i>Vicia ervilia</i>	1		
NB 637 B 108	1	36		<i>Hordeum</i> sp.	1	0.08	
				Gramineae indet.	(1)		
				<i>Capparis spinosa</i>	1		
NB 637 B 114	1	52		<i>Triticum</i> sp.	(1)	0.02	
NB 637 B 113	1	?		<i>Olea europaea</i>	(2)		
NB 637 B 112	1	?		<i>Olea europaea</i>	(4)		
				<i>Pinus</i> sp.	1		wood
<b>AREA 2, GENERAL FILL</b>							
NB 637 B 103	1	60		cf. <i>Scirpus</i> sp.	1	0.03	
				cf. <i>Juniperus</i> sp.	1		wood

TABLE 3: PRIMARY SPECIES REPRESENTED IN FLOOR AND FILL DEPOSITS

	<i>Wheat</i>	<i>Barley</i>	<i>Lentil</i>	<i>Vetch</i>	<i>Pea</i>	<i>Grape</i>	<i>Olive</i>	<i>Fig</i>
<b>AREA 1, BUILDING N:21</b>								
<b>ROOM 1</b>								
<i>Phase 1</i>								
Floor 4 (1994-79)	x	x				x	x	x
Fill (1994-80)	x							
<i>Construction fills of Phase 2</i>								
Fill (1994-78)		x	x			x	x	
Fill (1994-77)	x		x				x	x
<i>Phase 2</i>								
Floor 3 (1994-70)	x	x	x	x		x	x	x
Floor 2 (1994-68)	x	x		x				x
Floor 1 (1994-67)		x				x	x	
Fill (1994-69)	x	x	x	x		x	x	x
<b>ROOM 2</b>								
<i>Phase 1</i>								
Fill (1994-62)	x	x	x	x		x	x	x
Fill (1994-63)	x	x	x	x	x	x	x	x
Fill (1994-64)	x	x	x		x	x	x	x
<i>Construction fills of Phase 2</i>								
Fill (1994-65)	x	x		x		x	x	x
Fill (1994-66)	x	x	x	x		x	x	x
<i>Phase 2</i>								
Floor 1 (NB 637 B 127)						x		
<b>AREA 2, ROOM 2</b>								
Floor (1994-81)	x	x	x			x	x	
Fill (1994-82)	x		x			x	x	x
<b>AREA 2, ROOM 3</b>								
Floor (1994-85)		x				x		
Fill (1994-83)				x		x	x	
Fill (NB 637 B 107)	x	x		x			x	
Fill (NB 637 B 108)		x						
Fill (NB 637 B 114)	x							
Fill (NB 637 B 113)							x	
Fill (NB 637 B 112)							x	

and could well have been consumed at the ritual feasts in the sanctuary. Grapes (*Vitis vinifera*) may also have been offered or eaten as fruit, in the form of either fresh grapes or raisins, or preserved in some other way (see below). In addition, the discovery of some grape seeds in the bottom of an amphora may reflect the drinking of wine (lot 1994-65). Figs (*Ficus carica*) are not as well represented on this site as one might expect, given the large number of seeds per fig. Nevertheless, both seeds and segments of fig fruit are present.

## CONTEXT

There are two basic contexts from which samples for water-sieving were derived at the Sanctuary of Demeter and Kore: floors and leveling fills above and below floors. In addition, packings for couches were occasionally sampled. One would naturally expect that the plant remains derived from floors were deposited during the dining activity in the room, while those from fill or packing were of less specific origin. As will become clear, however, there is no significant difference between the assemblage of species represented in floor deposits and that in fills.

### *Area 1, Building N:21, Room 1: Phase 1*

A total of 44 liters of sediment was water-sieved from two strata, consisting of the fill on top of the burned patch on the lowest floor, 5 (lot 1994-80), reached in this area, and floor 4 (lot 1994-79) above this fill. Both of these contexts produced a few fragmentary remains of wheat, barley, olives, grapes, and figs. The density of remains from the fill is only 0.25 specimens per liter of sediment water-sieved (Fig. 16), while the material from the floor comprises the greatest density of plant remains (1.6 specimens per liter of sediment; Fig. 17) of all floor deposits from the site, although the overall quantity of material is not large (59 items).

### *Area 1, Building N:21, Room 1: Phase 2*

One hundred twelve liters of sediment from two deposits of construction fill for Phase 2 (lots 1994-78, 1994-77) produced less material than that found on the floor of the earlier phase (0.27 and 0.45 specimens per liter, respectively; Fig. 16), although it is slightly more than that from the earlier fill. In addition to the species represented in Phase 1 of this room, in these fills lentils and one chickpea fragment were recovered.

Three clay floors and one leveling fill, totaling 575 liters of sediment, were water-sieved from Phase 2. The greatest density of material was found in floor 3 (lot 1994-70; Fig. 17), where olive fragments make up the bulk of the plant remains. These could be the remnants of oil pressing used as fuel in a brazier or possibly the refuse from dining, which was broken up as a result of postdepositional trampling and/or movement of material on the floor. Floors 2 and 1 had substantially less plant material per liter of sediment, although the species represented are similar to those of the other deposits. The leveling fill beneath floor 2 (lot 1994-69; Fig. 16) contained more material than floors 1 and 2, but the range of species is similar.

Figure 16. Number of botanical specimens per liter of sediment water-sieved from fills

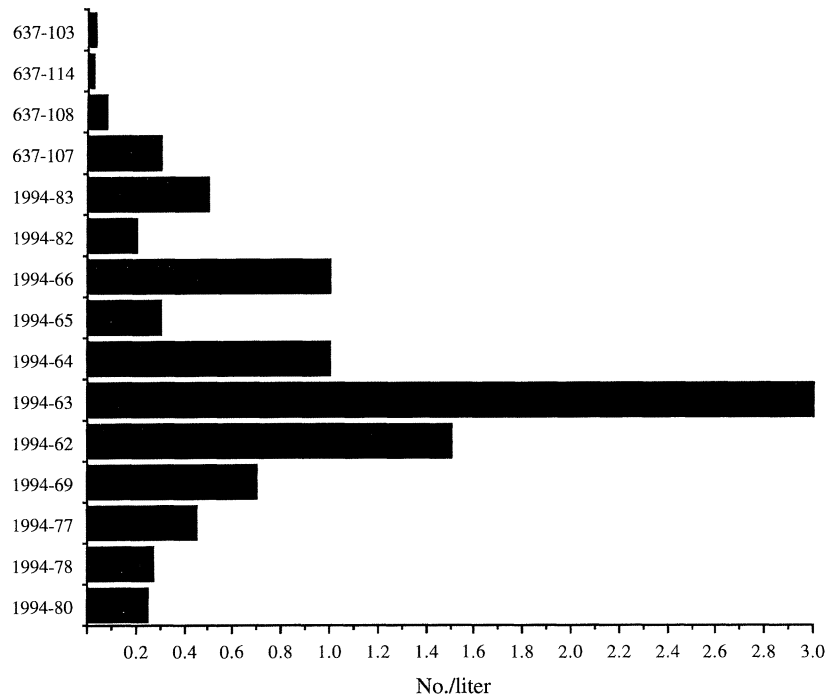
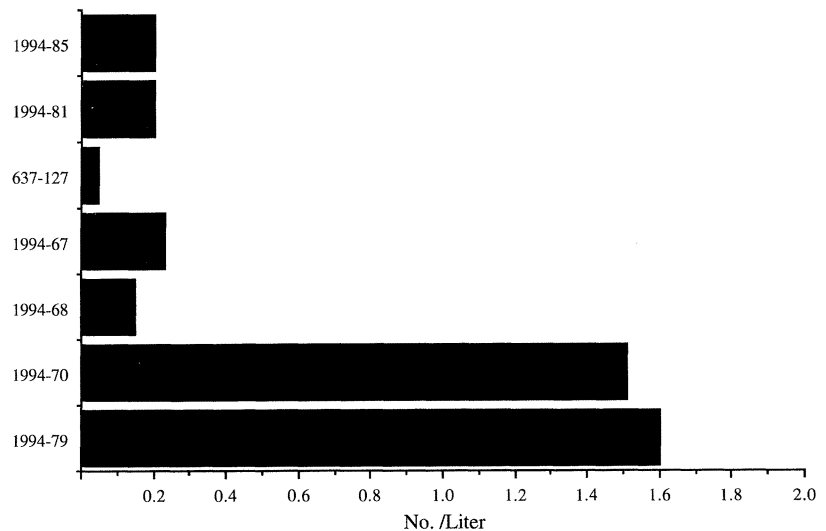


Figure 17. Number of botanical specimens per liter of sediment water-sieved from floor deposits



#### *Area 1, Building N:21, Room 2: Phase 1*

While only 130 liters of fill were water-sieved from the early phase of this room, they provided a greater density of plant remains than those from Room 1 (Fig. 16). Of particular note is the quantity of lentils, together with the other legumes such as *Lathyrus* sp. (Fig. 18:a) and pea (Fig. 18:c), which is not represented elsewhere on the site. Wheat and barley are also more abundant in these samples. Lot 1994-62 represents the packing for the east couch and belongs to the time of the room's initial construction; therefore, its contents comprise redeposited material collected from another part of the site. The only pomegranate seed (Fig. 19:b) also comes

from this deposit. Lot 1994-63 comes from the fill over the floor and provides the greatest density of plant remains of all samples from the site (Fig. 16).

#### *Area 1, Building N:21, Room 2: Phase 2*

Two samples of sediment (lots 1994-65, 1994-66) were taken from the west and north sides of the room, respectively. Both represent part of a unified filling operation belonging to the remodeling of the room. The plant remains found in these deposits are consistent with those of other fills and floors, while the density of plant remains is considerably less than that in the previous fills (Fig. 16).

Finally, only one sample may be from Phase 2 of Room 2 (NB 637 B 127), a fragment of a single grape seed that was recovered from the removal of the floor. That so little was found is owing to the fact that most of this phase was excavated in 1965 and 1969.

The plant remains from Building N:21 are a good indication of the types of foods that could have been consumed within this dining room. Because most of these remains were recovered from the floors, it is quite likely that they can be identified as refuse from ritual meals. Wheat, barley, lentils, olives, grapes, and figs make up a significant portion of the material. It is also interesting that the same species were found in the fills between floors; this suggests that the sediment used for leveling operations derived from elsewhere in the dining area of the sanctuary and incorporated earlier dining refuse.

#### *Area 2, Room 2*

Two samples, totaling 138 liters, were water-sieved from this room. The first was taken from the fill covering the east couch and floor (lot 1994-82) and is dated between 450 and 375 B.C., based on the ceramics. Relatively little material was recovered, nearly all of it fragmentary, and the species represented are the same as those identified from Building N:21. Excavations of the floor and underlying packing of this room yielded wheat, barley, grape, olive, and lentil (lot 1994-81).

#### *Area 2, Room 3*

At least 292 liters were water-sieved from this room (the quantity of sediment was not recorded for two samples). One floor (lot 1994-85) yielded the usual assemblage of plant remains that we have seen elsewhere on the site, with the addition of one seed of the mint family (Labiatae) and one possible seed of the daisy family (Compositae). These two were not identifiable to species due to lack of comparative material, but the families are both well represented by numerous species in the Mediterranean flora. One caper seed was recovered from the fill above an earlier floor (NB 637 B 108). One possible millet seed (cf. *Panicum*) was recovered from a fill in this room as well (NB 637 B 107). As for lot 1994-83, since this represents a large dumped fill that covered the entire room, the plant remains contained in it probably represent material from another location or even several locations within the sanctuary.

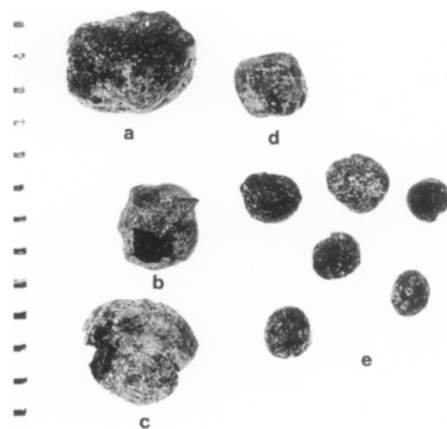


Figure 18. a: *Lathyrus* sp.; b: *Cicer arietinum*; c: *Pisum* sp.; d: *Vicia ervilia*; e: *Lens culinaris*. (scale in mm)

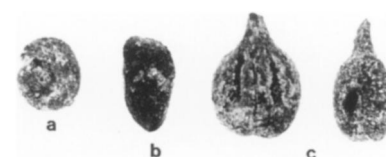


Figure 19. a: *Capparis* sp.; b: *Punica granatum*; c: *Vitis vinifera*. (scale in mm)



## INTERPRETATION

The species of plant remains represented in the deposits from the dining rooms at the Sanctuary of Demeter and Kore are typical of the foods one would expect to find in any household kitchen in Greece in the 5th century B.C. The primary plants represented are wheat (*Triticum aestivum* s.l., Fig. 20:a), barley (*Hordeum vulgare*, Fig. 20:b), grape (*Vitis vinifera*, Fig. 23), fig (*Ficus carica*, Fig. 21), and olive (*Olea europaea*, Fig. 22), together with a few lentils (*Lens culinaris*, Fig. 18:e). Bitter vetch (*Vicia ervilia*, Fig. 18:d),<sup>67</sup> pea (*Pisum* sp., Fig. 18:c), vetchling (*Lathyrus* sp., Fig. 18:a), and a single chickpea (*Cicer arietinum*, Fig. 18:b) are also present.

Wheat, barley, and the various legumes had been eaten since the Neolithic period in Greece and probably formed the primary staples in the Greek diet at the time.<sup>68</sup> Grapes were also known from the Neolithic period and were made into wine at least as early as the Late Bronze Age, as attested by the Linear B tablets from various sites. Olives were certainly known from the Bronze Age, if not earlier, and figs are very common at many sites from the Neolithic period onward. These species make up the principal plant remains recovered from the dining rooms. Lentils were a common component of the diet in Greece. Much attention is paid to this food by Athenaeus in *The Deipnosophists* (especially book III), where we learn that lentils were eaten soaked in vinegar, in the form of soup, or made into bread. In addition, the single pomegranate seed is not unusual in a context involving Demeter and Kore, although actual finds of this plant are rare in Greece. According to Clement of Alexandria, pomegranate seeds that had fallen to the ground were not to be eaten at the Thesmophoria.<sup>69</sup> Pomegranate seeds were found in Late Bronze Age deposits at Tiryns,<sup>70</sup> as well as at the 7th-century B.C. Heraion on Samos.<sup>71</sup>

With regard to the types of plant foods represented, there is nothing specifically "ritualistic" about any of the species, although certainly several of them can be related to the deities being honored in this context. If the plants represented in these deposits did derive from ritual meals, then we might conclude that the meals consumed were fairly typical of the daily Greek diet at the time. Unfortunately, we cannot determine how the collected remains were cooked, beyond the evidence provided by stewpots and casseroles, and one cannot exclude the possibility that this differed from the standard fare.

Festivals or other rituals associated with Demeter are known to have taken place throughout the year<sup>72</sup> in relation to the agricultural cycle in Greece, and it is not possible to state with any certainty on the basis of the plant remains what particular festival is represented by the remains in the dining rooms sampled. A number of the species represented in the deposits from the Sanctuary of Demeter and Kore, most notably grapes, figs, and pomegranates, could have some bearing on the season or seasons during which some rituals might have taken place, however. For example, grapes figure prominently among the remains. Indeed, one nearly whole grape was found in a carbonized state (Fig. 23:a). It did not appear to be shriveled and dried like a raisin but rather was nearly spherical. Other whole grapes have occasionally been found on archaeological sites,<sup>73</sup> but

67. Bitter vetch was found in a pithos in a domestic context of the second half of the 6th century B.C. in Monte San Mauro di Caltagirone, together with wheat, barley, *Vicia faba*, *Lathyrus*, and *Galium*; see Costantini 1979.

68. For a discussion of the importance of barley in the ancient diet, see Foxhall and Forbes 1982.

69. Clem. Alex., *Protr.* 2.16P. This passage is often quoted as evidence of a general prohibition against pomegranates, but the passage states specifically that it is pomegranate seeds that have fallen to the ground which are forbidden.

70. Kroll 1982, 1984.

71. Kučan 1995. For a reasonably complete summary of plant remains from Greece, see Kroll 1991.

72. Brumfield 1981.

73. E.g., Isthmia; Gebhard and Hemans 1998.



Figure 20 (left). a: *Triticum aestivum* s.l.; b: *Hordeum vulgare*. (scale in mm)

Figure 21 (right). a: *Ficus carica* fruit; b: *Ficus carica* seeds. (scale in mm)

they are rare because they are extremely fragile. Moreover, the high water content of grapes makes it difficult for them to become carbonized. If this is a whole fresh grape rather than a swollen, possibly rehydrated raisin, this would suggest that it was brought to the sanctuary in the early autumn, since that is when the grapes would have been harvested. On the other hand, Pliny (*NH* 14.3.16, 18) states that grapes can last throughout the winter if hung from the ceiling, and others are preserved in their own juice in sealed jars or in must. Thus it is not certain that the whole grape recovered from Corinth represents a truly fresh fruit.

Figs too can be dried, and it is impossible to determine whether the charred fragments of fruit or the seeds were derived from fresh or dried fruit. As for pomegranates, Pliny tells how they can be preserved. For this purpose they are boiled in seawater and dried in the sun for three days, after which they are hung in a dry place, "and when wanted for use, they should be thoroughly washed in fresh water."<sup>74</sup> Citing Marcus Varro, Pliny further notes that pomegranates will continue to grow if stored in pots covered with earth and the stalk smeared with pitch. We must therefore conclude that while these fruits do suggest the possibility of at least one autumnal feast, they are not incontrovertible evidence for it.

It is regrettable that so very few Greek sanctuaries have produced plant remains. Among the known sanctuaries of Demeter and Kore, plant remains have been mentioned only in conjunction with the small rural shrine at San Nicola di Albanella near Paestum.<sup>75</sup> There, carbonized seeds of bitter vetch were found in miniature vases placed around the perimeter of the enclosure. Whether these were offerings or remnants of meals is not clear, although burned cooking pots from other parts of the same enclosure suggested to the excavator that meals were a part of the ritual. At three Sicilian sanctuaries of Demeter that have produced probable evidence of cult meals, namely, Eloro, Sant'Anna at Agrigento, and Bitalemi, Gela, the recorded remains are confined to animal bones.<sup>76</sup> Outside of the cult of Demeter and Kore, carbonized grains of barley, wheat, and fava are recorded from a building within the Sanctuary of Athena at Gela,<sup>77</sup> while

74. Pliny, *NH* 15.18.60 (H. Rackham, trans., Cambridge, Mass. 1952).

75. Cipriani 1989, p. 25.

76. Most useful here is an article by Orlandini (1968–1969), which summarizes the evidence for all three sites. See also Kron 1992.

77. Fiorentini 1977, p. 111. These were found in a pitcher in a context of the late 5th to early 4th century B.C.



Figure 22 (left). *Olea europaea*.

(scale in mm)

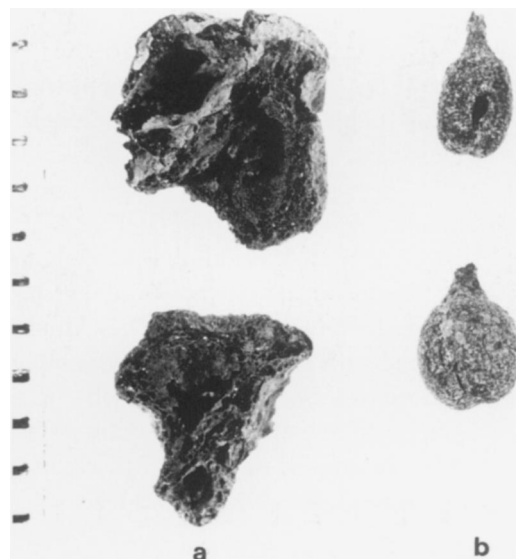


Figure 23 (right). a: *Vitis vinifera* fruit (2 fragments of whole grape); b: *Vitis vinifera* seeds. (scale in mm)

further botanical specimens have been found in the Roman Palaimonion pits at Isthmia,<sup>78</sup> and in an Archaic context at the Heraion on Samos.<sup>79</sup> Unfortunately, these offer little help in interpreting the remains from the Corinth sanctuary, since none of them was found in connection with a dining establishment. They do, however, show how universal certain plants were in the ancient diet.

### Addendum

In the summer of 1993 several samples from earlier excavations in the sanctuary were examined by Julie Hansen. The material came from two separate contexts. Sample 1993-1-3 consists of charred material recovered from two phialai that rested on the hearth of dining building K-L:24-25.<sup>80</sup> Samples 1993-1-1, 1993-1-2, and 1993-1-4 were found in a stone chip layer directly overlying the east foundation trench of Building I-J:14. Again, the charred material was contained in two phialai, similar in shape

78. Palaimonion pit A at Isthmia yielded a variety of plant remains similar to those from the Sanctuary of Demeter and Kore at Corinth, as well as some species that were not found in the latter context. Numerous grains of wheat, fig seeds, pomegranate seeds, a date stone fragment, and a few pinecone bracts make up the bulk of the remains recovered from pit A, dated between A.D. 50 and 100 (Gebhard 1993, p. 85).

The uppermost of three layers of ash in Palaimonion pit C, dated to the late 2nd or early 3rd century A.C., was the most productive in terms of quantity of material, yielding the full range of cereals, fruits, and nuts that appeared in pit A. In addition, an apple

or pear seed and a lentil fragment were recovered from these samples, as well as pistachio, both wild and domesticated types. For the middle ash layer in pit C, dated between A.D. 150 and 250, only one grain of wheat, a few fig seeds, and a pomegranate seed make up the bulk of the sample. The lowest layer of ash, dated to the same period, contained the same types of species that occur in the upper layer. We would like to thank Elizabeth R. Gebhard for permission to include this material here.

79. At the Samian Heraion a large quantity and variety of remains were found in waterlogged deposits of the 7th century B.C.; see Kučan 1995. The most abundant remains were those of

fig and grape, while olive, pomegranate, and melon (*Cucumis melo*) were also fairly common. Interestingly, wheat (*Triticum aestivo* subsp. *compactum*) and barley (*Hordeum vulgare*) are represented by only a few grains, and only one lentil was recovered. Seeds of a variety of spices and vegetables were also found in these deposits, including wild celery (*Apium nodosum*), wild lettuce (*Lactuca serriola*), radish (*Raphanus raphanistrum*), coriander (*Coriandrum sativum*), and dill (*Anethum graveolens*). Nuts of acorn and hazelnut were also recovered.

80. *Corinth* XVIII, iii, p. 113. For the two phialai, see *Corinth* XVIII, i, p. 159, nos. 431 and 432 (C-72-210, C-72-211).

to those from Building K-L:24-25.<sup>81</sup> Both contexts dated to the second half of the 4th century B.C. The bulk of the material recovered was charred pine wood. But, in addition, some unidentified lumps of what may be burned cake or bread were also present. These last specimens must be analyzed more thoroughly, however, before their identification can be clarified.<sup>82</sup>

Sample 1993-1-3: Building K-L:24-25: 18 pieces of pine wood.

Sample 1993-1-1: Building I-J:14, in phiale C-72-87: 6 pieces of pine wood and one unidentified lump, possibly cake or bread.

Sample 1993-1-2: Building I-J:14, in phiale C-72-86: one lump of mud with nonwoody carbon fragments, possibly soft tissue of fruit or other organic material.

Sample 1993-1-4: Building I-J:14, probably in phiale C-72-86: 20 pieces of pine wood and 7 pieces of unidentified organic material, possibly cake or bread.

The charcoal found in Building K-L:24-25 may have been used as fuel for the kitchen hearth; however, pine is not the best fuel for an enclosed space since it tends to throw off many sparks. As for the samples from Building I-J:14, it was the excavator's suggestion that these may have formed part of a burnt offering made at the time of the building's construction.

## THE FAUNAL REMAINS

Faunal materials were recovered primarily by two methods, hand sorting in the trenches (T.S.) during excavation, and water-sieving or flotation. Faunal materials were also recovered by dry-sieving (D.S.) of deposits before flotation. The flotation sample can be further divided into the "heavy fraction" (H.F.), that is, those materials which did not float and were caught in the 3 mm metal screen, and the "fine fraction" (F.F.), or nonfloating residues which were caught in the finer 1 mm screen. Identifiable materials were recovered by all methods. The species represented, and thus the picture of dining which may be drawn from these samples, however, are dramatically different.

In both the hand-sorted (T.S., D.S.) materials and the flotation residue (H.F., F.F.), elements of domestic pig (*Sus scrofa*) predominate. In addition, there were a small number of domestic sheep (*Ovis aries*) or domestic goat (*Capra hircus*) bones. It was only in the flotation residue samples, however, that the remains of fish (Osteichthyes) and sea urchin (Echinidae) were found. Evidence of these orders was completely absent from the hand-sorted and dry-sieved assemblages. All recovered faunal materials are more fully discussed below; a detailed inventory of these materials is presented in Table 4.<sup>83</sup>

## RESULTS

One hundred eighty-one bone fragments were recovered by hand sorting (T.S.) during excavation and by dry-sieving (D.S.). Approximately 550 bone fragments, ranging in size from less than 3 mm to ca. 25 mm, are from the

81. *Corinth* XVIII, iii, p. 228. For these phialai, see *Corinth* XVIII, i, pp. 158-159, nos. 428 and 429 (C-72-86, C-72-87).

82. Time did not permit the return of these samples and subsequent reapplication for analysis in another laboratory.

83. We would like to thank Mark Rose, Deborah Ruscillo, and Dimitra Mylona for assistance with and comment on the identification and interpretation of fish and shell materials. We also thank David Reese for making available as yet unpublished information on previously excavated faunal materials from the Sanctuary of Demeter and Kore at Corinth. The analysis of the faunal materials discussed here, which were collected in 1994, was conducted at the Wiener Laboratory of the American School of Classical Studies at Athens and supported by a summer research associateship and stipend.

heavy fraction flotation residue (H.F.). In addition, an estimated 4,775 tiny bone fragments, less than 8 mm in size, were recovered in the fine screen residues (F.F.).<sup>84</sup> As might be expected, despite the presence of multiple pig tooth fragments and the remains of fish and sea urchin noted above, much of the flotation residue consisted of unidentifiable bone fragments. A total of 164 specimens from all recovery methods were identifiable as to animal (e.g., sheep, goat, pig, fish) and skeletal part (e.g., tooth or tooth fragment, vertebra, humerus, ulna). Identified taxa include domestic pig, domestic sheep or goat, a number of small fishes and sea urchin, and the scattered bones of small rodent (mouse or shrew) and small reptile (probably lizard).

### *Domestic pig (Sus scrofa)*

Eighty-eight identifiable pig tooth and bone fragments were recovered, representing 53.7 percent of all identified specimens. Seventy-six specimens (87.3 percent) are from Area 1; an additional twelve specimens are from Area 2. Twenty-one fragments (23.9 percent) are clearly burned.<sup>85</sup> Nearly 80 percent of identified specimens are fragments of deciduous teeth or unerupted tooth buds recovered in the flotation residue (Fig. 24:a). Of 69 recovered teeth or tooth fragments only one, a left lower incisor found over Room 1, Building N:21 (lot 1994-69), comes from an adult animal.

Nineteen nontooth cranial and postcranial pig elements were identified. In addition, two burned rib segments and two thoracic vertebra fragments are probably also from domestic pig. Three cranial fragments appear to be from very young animals. A partial left mandible with deciduous 4th premolar and 1st permanent molar represents an animal from 7 to 13 months old at time of death (Fig. 25:b, c).<sup>86</sup> A left mandible segment from Room 3 of Area 2 is burned, and although no teeth are preserved, the small size of this element and the presence of the crypt for the unerupted first molar tooth germ suggest an animal less than 4-6 months of age at death.<sup>87</sup> Postcranial specimens include both front and hind limb elements. Upper limb bones (humerus, ulna) as well as metapodials and toe bones were recovered, indicating that all portions of the pig carcass were brought to the area. Although broken and thus not measurable, these elements vary in size from the very small and immature bones of newborn or young piglets (Fig. 26:c)<sup>88</sup> to several slightly larger elements (Fig. 26:d, e), which represent older juveniles.

Unfortunately, the remains of newborn or very young piglets cannot be used with confidence to establish the season during which the sanctuary and dining rooms might have been used. It is common for wild pigs to breed only once a year, producing litters of piglets primarily in the months of March, April, and May. Modern domesticated pigs, however, commonly farrow twice yearly or five times in two years and thus may produce piglets in almost any month or season.<sup>89</sup>

### *Domestic Sheep (Ovis aries) or Domestic Goat (Capra hircus)*

Eleven sheep or goat specimens were recovered. All are too fragmentary or eroded to be identified more specifically than as either sheep or goat. Three of the identified specimens are tooth fragments, two from Area 1

84. All recognizable bone fragments were sorted from the fine fraction (F.F.) residues and retained. Because of the difficulty of distinguishing tiny bone fragments from eroded shell, stone, and the like, no attempt was made to count the exact numbers of unidentifiable fragments recovered by this method.

85. See Table 5 for summary information. The presence of burning was noted only on those materials recovered by hand sorting (T.S., D.S.) and in the heavy fraction (H.F.). Because of their small size and often eroded surfaces, no attempt was made to systematically assess burning on fragments recovered in the fine fraction (F.F.) residues.

86. Bull and Payne 1982; Silver 1970.

87. Rolett and Chiu 1994. The permanent first molar begins to erupt at 4 to 6 months; nearly all permanent teeth have begun erupting by 12 to 14 months.

88. Because of breakage and burning no more exact estimations of age based on these specimens are possible, but it is likely that the animals represented ranged in age from a few weeks to a few months old at time of death.

89. Lauwerier 1983. The farrowing interval for ancient domestic pigs is unknown.

TABLE 4. FAUNAL MATERIALS

*Pottery Lot/**Basket No. Taxa: element (side, portion, comment)*

## AREA 1, BUILDING N:21, ROOM 1

## PHASE 1

- 1994-80 Osteichthyes: 4 vertebrae (burned?)  
ca. 100 unidentified fragments
- 1994-79 Osteichthyes: vomer, 2 dorsal spines, pectoral/dorsal spine fragment,  
5 vertebrae (burned)  
Echinidae: mouth part  
*Sus scrofa*: 2 deciduous incisors, 6 tooth fragments  
25 unidentified fragments (9 burned)  
ca. 500 unidentified fragments

## CONSTRUCTION FILLS OF PHASE 2

- 1994-78 Osteichthyes: dorsal spine  
Small rodent/insectivore: distal humerus fragment  
*Sus scrofa*: 3 unerupted and deciduous teeth (1 burned),  
3rd phalange (juvenile)  
8 unidentified fragments (3 burned)  
ca. 100 unidentified fragments
- 1994-77 Osteichthyes: dorsal spine  
*Sus scrofa*: deciduous incisor fragment  
13 unidentified fragments (8 burned)  
ca. 75 unidentified fragments
- 1994-72 2 unidentified fragments

## PHASE 2

- 1994-70 Osteichthyes: 7 vertebrae, 4 dorsal spines, 5 dorsal/pectoral spine  
fragments, 3 rib fragments  
Echinidae: mouth part, spine fragment  
Small reptile: long bone diaphysis fragment  
Small rodent/insectivore: humerus diaphysis segment, ilium  
fragment  
Ovicaprid: molar tooth fragment  
*Sus scrofa*: 10 tooth fragments (1 burned)  
51 unidentified fragments (29 burned)  
ca. 1,300 unidentified fragments
- 1994-69 Osteichthyes: maxilla/premaxilla fragment, vertebra, 2 spine  
fragments, 3 rib fragments  
Echinidae: spine fragment  
Small reptile: vertebra  
Small rodent/insectivore: long bone diaphysis, segment, metapodial  
*Sus scrofa*: left lower incisor (adult), deciduous incisor, unerupted  
right incisor, 11 deciduous and unerupted tooth fragments  
(3 burned), humerus (left diaphysis fragment, fetal/neonatal)  
100 unidentified fragments (46 burned)  
ca. 900 unidentified fragments

TABLE 4. CONTINUED

<i>Pottery Lot/ Basket No.</i>	<i>Taxa: element (side, portion, comment)</i>
1994-68	Echinidae: spine fragment Ovicaprid: right upper 1st/2nd molar, right astragalus (heavily eroded), unsided astragalus fragment <i>Sus scrofa</i> : unerupted right canine, 4 tooth fragments (3 burned) 59 unidentified fragments (23 burned) ca. 150 unidentified fragments
1994-67	Osteichthyes: cranial fragment Ovicaprid: right astragalus (fragmented and eroded) <i>Sus scrofa</i> : humerus (left diaphysis fragment, juvenile) 30 unidentified fragments (4 burned) ca. 300 unidentified fragments

## AREA I, BUILDING N: 2I, ROOM 2

## PHASE I

1994-62	<i>Sus scrofa</i> : 7 tooth fragments, ulna (left diaphysis segment, juvenile), 4th metacarpal (left proximal, juvenile, burned), 3rd metatarsal (right proximal), 1st/2nd phalange (distal fragment, juvenile?, burned) cf. <i>Sus scrofa</i> : thoracic vertebra (posterior fragment, burned) 94 unidentified fragments (68 burned)
1994-63	Osteichthyes: 2 vertebrae, 2 spine fragments cf. <i>Sus scrofa</i> : humerus (right distal diaphysis, fetal/neonatal, burned) 34 unidentified fragments (22 burned) ca. 250 unidentified fragments
1994-64	Osteichthyes: vertebra <i>Sus scrofa</i> : supraorbital/zygomatic cranial fragment (juvenile), 2 tooth fragments cf. <i>Sus scrofa</i> : 2 rib fragments (burned) 73 unidentified fragments (44 burned) ca. 300 unidentified fragments

## CONSTRUCTION FILLS OF PHASE 2

1994-65	Echinidae: 2 spine fragments <i>Sus scrofa</i> : 3 tooth fragments (1 burned), humerus (right distal diaphysis, juvenile) cf. Ovicaprid: astragalus (right fragment, eroded) 64 unidentified fragments (15 burned) ca. 100 unidentified fragments
1994-66	Ovicaprid: astragalus (left, flattened on dorsal surface), astragalus (left fragment, eroded), astragalus (left) <i>Sus scrofa</i> : mandible (left w/deciduous 4th premolar, 1st molar), 7 deciduous & unerupted tooth fragments, humerus (left diaphysis, fetal/neonate), ulna (left proximal diaphysis, juvenile), metapodial (diaphysis segment, burned) cf. <i>Sus scrofa</i> : 2 thoracic vertebra fragments 85 unidentified fragments (30 burned)

TABLE 4. CONTINUED

<i>Pottery Lot/ Basket No.</i>	<i>Taxa: element (side, portion, comment)</i>
PHASE 2	
NB 637 B 127	cf. Ovicaprid: astragalus (left lateral fragment) <i>Sus scrofa</i> : tooth fragment (burned) 16 unidentified fragments (8 burned) ca. 50 unidentified fragments
AREA 2, ROOM 2	
1994-82	Ovicaprid: tooth fragment <i>Sus scrofa</i> : deciduous incisor fragment 28 unidentified fragments (16 burned)
1994-81	4 unidentified fragments (burned) ca. 50 unidentified fragments
AREA 2, ROOM 3	
1994-83	Echinidae: spine fragment <i>Sus scrofa</i> : left(?) frontal fragment (juvenile, burned), mandible (left anterior fragment, juvenile, burned), unerupted molar fragment 8 unidentified fragments ca. 150 unidentified fragments
1994-85	Osteichthyes: 2 vertebrae Small rodent/insectivore: caudal vertebra <i>Sus scrofa</i> : unerupted right lower canine fragment ca. 300 unidentified fragments
NB 637 B 107	<i>Sus scrofa</i> : right posterior zygomatic cranial fragment (juvenile, burned) 3 unidentified fragments ca. 50 unidentified fragments
NB 637 B 108	ca. 50 unidentified fragments
NB 637 B 114	<i>Sus scrofa</i> : unerupted molar fragment ca. 50 unidentified fragments
NB 637 B 113	1 unidentified fragment (burned)
NB 637 B 112	<i>Sus scrofa</i> : unerupted premolar (burned), ulna (right proximal fragment, juvenile, burned), metapodial (distal portion, epiphysis unfused, burned) 14 unidentified fragments (burned)
AREA 2, FILL COVERING ROOM 5	
NB 637 B 103	<i>Sus scrofa</i> : unerupted molar/premolar fragment 5 unidentified fragments (burned)



TABLE 5. NUMBER OF BONE FRAGMENTS RECOVERED BY AREA AND ROOM

<i>Total Deposit Specimens</i>	<i>Sus</i>			<i>Ovis/Capra</i>			<i>Fish</i>	<i>Sea</i>	<i>Small</i>	<i>Total</i>	
<i>tooth</i>	<i>cran</i>	<i>post</i>	<i>tooth</i>	<i>cran</i>	<i>post</i>	<i>Urchin</i>		<i>Mammal/ Reptile</i>	<i>Identified</i>	<i>Unidentified</i>	
AREA I, BUILDING N:2I, ROOM 1											
PHASE 1											
47(18)	8						13(9)*	1		22(9)	25(9)
CONSTRUCTION FILLS OF PHASE 2											
72(16)	10(1)		1				9		3	23(1)	49(15)
PHASE 2											
282(105)	25(7)		2	2		3	20	4	4	60(7)	222(98)
AREA I, BUILDING N:2I, ROOM 2											
PHASE 1											
219(137)	9	1	5(3)				3			18(3)	201(134)
CONSTRUCTION FILLS OF PHASE 2											
171(47)	10(1)	1	3(1)			4	2	2		22(2)	149(45)
PHASE 2											
18(9)	1(1)					1				2(1)	16(8)
TOTAL AREA I											
809(332)	**63(10)	2	11(4)	2		8	47(9)	7	7	147(23)	662(309)
TOTAL AREA 2											
80(52)	6(1)	3(3)	3(3)	1			2	1	1	17(7)	63(45)
SITE TOTAL											
889(384)	69(11)	5(3)	14(7)	3		8	49(9)	8	8	164(30)	725(354)

\*Number of burned specimens indicated in parentheses.

\*\*Five additional probable *Sus* sp. rib and vertebra fragments were recovered from Area 1, Room 2.

and one from Area 2. The remaining eight specimens are whole or fragmentary astragali, or “knuckle bones,” recovered from the construction fill (4 specimens) and floor deposits (4 specimens) of Building N:21. Neither the tooth fragments nor the astragali are burned.

Apart from three isolated fragments of teeth, the restricted nature of the recovered sheep or goat bones, all astragali, suggests that these specimens are the remnants of votive or gaming pieces. Over 120 bone astragali have been recovered from elsewhere in the sanctuary,<sup>90</sup> as well as four bronze and two terracotta votive astragali.<sup>91</sup> In the present assemblage, one astragalus from the Phase 2 construction fill in Building N:21 has clearly been modified by flattening on the dorsal surface; the other astragali are unmodified or so fragmentary or eroded that possible modifications cannot be observed (Fig. 27:d). Nevertheless, the small number of sheep or

90. Reese, preliminary unpublished report.

91. Bronze: MF-12006, MF-12557, MF-14218, MF-69-343; terracotta: MF-10394, MF-70-214.



Figure 24. Identified materials from flotation residues. a: deciduous unerupted piglet incisor (1994-70); b: sea urchin spine fragment (1994-69); c: reptile vertebra (1994-69); d, e: fish spine segments (1994-79, 1994-70); f, g: fish vertebrae (1994-64, 1994-70); h: modern rice grain for scale (L. 4 mm).

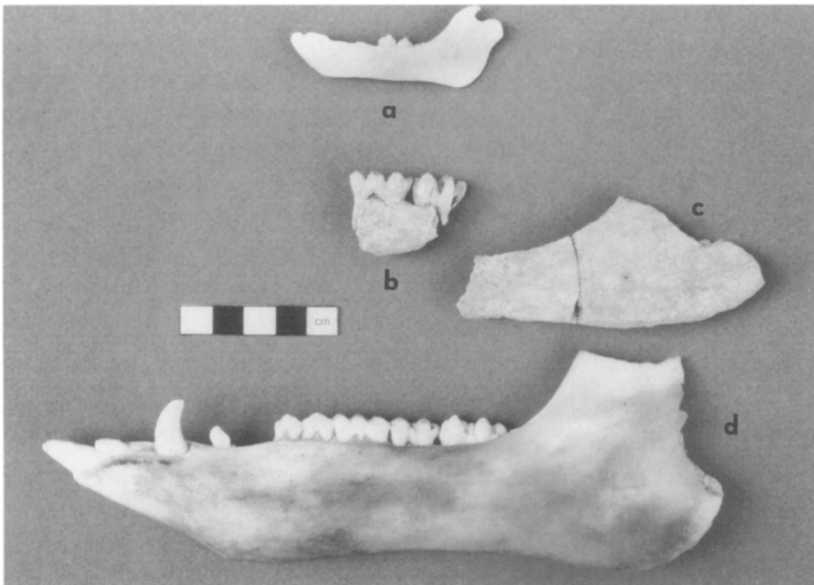


Figure 25. Identified pig bones from dry-sieved materials. a: Wiener Laboratory modern comparandum (WL 1003), right mandible of stillborn full-term piglet; b, c: two fragments of left mandible from the sanctuary, juvenile animal (1994-66); d: Wiener Laboratory modern comparandum (ARV 706), right mandible of animal 7-13 months of age at death.

goat bones recovered, virtually all of which are astragali, offer little evidence that these animals were either sacrificed or eaten in the sanctuary.

### *Fish (Osteichthyes)*

A total of 49 fish bones was recovered by flotation processing, 48 in the fine fraction and one in the heavy fraction screen. All portions of the fish are represented by cranial fragments, vertebrae, dorsal and pectoral spines, and ribs. Two small vertebrae were recovered from the deposits in Room 3 of Area 2. The remaining fish elements come from Building N:21 in Area 1.

All fish elements are extremely small, and many are broken. Nearly one-half (24 specimens, 49.0 percent) of the Demeter fish assemblage is made up of undiagnostic rib and spine fragments (Fig. 28:e-g). In addition, 3 cranial fragments and 22 vertebrae or vertebra fragments (Fig. 28:b-d) were recovered. While fish cranial elements are often diagnostic as to species, fish vertebrae vary in morphology, depending on their position in

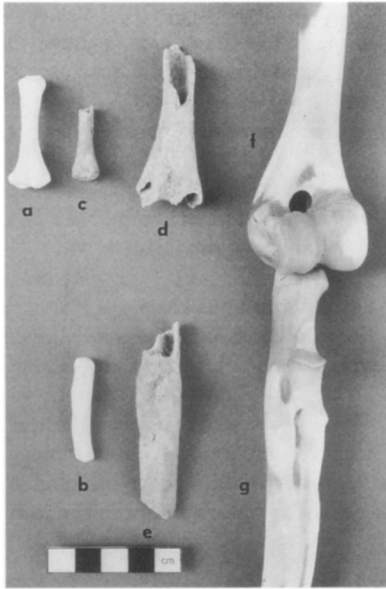


Figure 26. Identified pig bones from dry-sieved materials. a: Wiener Laboratory modern comparative skeleton (WL 1003), humerus; b: same, ulna; c: fetal/neonatal humerus from the sanctuary (1994-66); d: distal humerus segment (1994-65) from juvenile animal; e: proximal ulna segment (1994-66) from juvenile animal; f, g: Wiener Laboratory modern comparandum (ARV 706), distal humerus, proximal ulna of animal ca. 7-13 months at death.

the vertebral column, and may be broadly similar between species.<sup>92</sup> Therefore, vertebrae, while often the most abundant fish element, are generally identifiable only to the family or higher levels.

A number of fish vertebrae and one cranial element in the Demeter assemblage were identifiable to family level. Sea bream (Sparidae) are represented by several vertebrae and a premaxilla fragment. Bream elements came from the area of the possible hearth in Room 1, Phase 1, of Building N:21 (lot 1994-80) as well as the floor above it (lot 1994-79). The nine vertebrae recovered from this deposit appear to be burned; they were the only burned fish elements in the Demeter assemblage. Also in Room 1, three possible bream elements were found in the removal of the later floors 3 (2 vertebrae) and 1 (premaxilla fragment) of Phase 2. Finally, in the fill that covered the floor of Room 2, Phase 1, of Building N:21, one of two vertebrae was identifiable as Sparidae (bream, lot 1994-63). Measurable fish vertebrae vary in maximum length from approximately 1 mm to 3 mm, representing very small fishes, probably no greater than 12-15 cm in length.<sup>93</sup>

#### *Sea urchin (Echinidae)*

In addition to the fish remains described, sea creatures are also represented by eight fragmentary sea urchin spine (Fig. 24:b) or jaw fragments. All of these fragments are from the fine fraction flotation residue. A fragment of a spine was recovered from fill covering Room 3 in Area 2 (lot 1994-83). The remaining seven specimens (two jaw fragments and five spine fragments) were recovered in Building N:21, in both fill and floor deposits. The specimens of sea urchin are not burned.

#### *Shell*

Fourteen shells or fragments of shell were recovered from contexts associated with both Building N:21 and the dining rooms in Area 2 (Table 6). Single valves or valve fragments of dog cockle and common cockle come from the construction fill in Building N:21, Phase 2. Phase 2 deposits in Building N:21, Room 1 produced three *Dentalium* sp. (tusk shell) fragments, none of which showed clear evidence of modification, two common cockle valves, and one spiny oyster (*Spondylus gaederopus*) valve fragment. Area 2 produced two common cockle valves, one common European oyster (*Ostrea edulis*), one spiny hinge fragment, and two murex (*Murex trunculus*) fragments. All recovered shells are from common Mediterranean species<sup>94</sup> and, with the exception of the small cockle shells, were fragmentary and eroded. Spiny oyster and murex were the most commonly recovered shells elsewhere in the sanctuary.<sup>95</sup> Although the identified shell fragments are from edible species, their scarcity and their fragmentary and eroded condition makes association with dining doubtful.

#### *Small Mammal and Reptile*

Six small rodent or insectivore (mouse or shrew) bones and two small lizard bones (Fig. 24:c) were recovered in the flotation residue. These elements are not burned, and they probably represent the remains of intrusive small animals which died naturally in the area, although they may or may not have entered the area during its use as a sanctuary. Such scattered

92. Rose 1995, p. 211; Wheeler and Jones 1989, pp. 108-109.

93. For further discussion, see below, pp. 44-45.

94. Tornaritis 1987; Whitehead et al. 1984.

95. Reese, preliminary unpublished report.



Figure 27. a: Materials from lot 1994-65; b: materials from lot 1994-66; c: Wiener Laboratory modern comparandum (WL 1025), astragalus from adult sheep; d: eroded and broken astragalus fragment from the sanctuary (1994-65).



Figure 28. Identified materials from flotation residue. a: modern rice grain for scale (L. 4 mm); b-d: fish vertebrae (1994-64, 1994-70, 1994-79); e, f: fish spine segments (1994-79, 1994-70); g: fish pectoral spine segment (1994-70).

remains of small “commensal” or intrusive animals are commonly found in screened assemblages and flotation residues.<sup>96</sup>

## DISCUSSION

### *Comparison of Areas 1 and 2*

As we have noted above, one of the objectives of this project was to identify what foods might actually have been consumed in the dining rooms of the Lower Terrace. Because of the close proximity of Building N:21 to the area of sacrifice on the Middle Terrace, it became important to distinguish between the remains of foods actually consumed by diners and possible sacrificial debris that might have been dumped, washed down, or carried from the nearby sacrificial area into the dining rooms with leveling fills during periods of construction.

96. Davis 1987, p. 15; Tchernov 1984, 1991; Payne 1995.

TABLE 6. MARINE AND TERRESTRIAL SHELLS

<i>Pottery Lot/ Basket No.</i>	<i>Taxa (common name): portion, comment</i>
<b>AREA 1, BUILDING N:21, ROOM 1</b>	
CONSTRUCTION FILL OF PHASE 2	
1994-71	cf. <i>Glycymeris glycymeris</i> (dog cockle): valve
PHASE 2	
1994-70	<i>Dentalium</i> sp. (tusk shell): fragment
1994-69	<i>Dentalium</i> sp.: fragment
	<i>Spondylus gaederopus</i> (spiny oyster): valve fragment
	<i>Cerastoderma edule</i> (common cockle): valve
1994-68	<i>Cerastoderma edule</i> : valve
1994-67	<i>Dentalium</i> sp.: fragment
<b>AREA 1, BUILDING N:21, ROOM 2</b>	
CONSTRUCTION FILL OF PHASE 2	
1994-66	<i>Cerastoderma edule</i> : valve
<b>AREA 2, ROOM 2</b>	
1994-82	<i>Cerastoderma edule</i> : valve fragment
<b>AREA 2, ROOM 3</b>	
1994-83	<i>Murex trunculus</i> (murex): fragment
	<i>Ostrea edulis</i> (common European oyster): hinge fragment
	<i>Spondylus gaederopus</i> (spiny oyster): hinge
	<i>Cerastoderma edule</i> : valve
1994-85	<i>Murex trunculus</i> : fragment

Because the dining rooms explored in Area 2 were farther removed from the sacrificial space on the Middle Terrace, it might be assumed that the faunal assemblage from this section would more reliably reflect dining only. Comparison of the materials from both areas (Table 5) reveals virtually no differences in the types of bone recovered. At the same time, there is a vast difference in the amount of bone material recovered from the two areas. While approximately 26 percent of the water-sieved matrix (by weight) came from Area 2, less than 9 percent of the bone assemblage came from there. This distinction is also reflected in the bone fragments that could be identified. Nearly 90 percent (147 of 164 specimens) of identified materials were recovered from Building N:21 in Area 1, while a mere 17 specimens (10.4 percent) were recovered from Area 2. The eroded state of the archaeological remains in Area 2 and the rockiness of the soil suggest that poor preservation largely accounts for the paucity of identifiable bone recovered.<sup>97</sup>

97. Breakage and erosion also made it impossible to detect cut marks on recovered specimens from either area.

It is also useful to compare the animal taxa represented in each area. There is no difference in the types of animals found. Pig, fish, and sea urchin were present in both, although, as might be expected, far fewer identified specimens of each were recovered from Area 2. Only 13.6 percent of identified pig bones (12 of 88 specimens) and none of the sheep or goat astragali came from Area 2. The contrast in the distribution of fish remains is even greater. Over 95 percent of recovered fish bone (47 of 49 specimens) came from Building N:21. Nevertheless, the occurrence of burned and unburned pig bone, as well as fish and sea urchin, in both areas suggests that similar foodstuffs were being consumed in the dining rooms of both sections and that their proportions were not skewed by the proximity of Building N:21 to the sacrificial area of the Middle Terrace.

### *Comparison of Floor and Fill Deposits*

A second way in which we might distinguish foods of communal meals, also noted above, is by comparing bone materials found on, or embedded in, floors with those contained in the leveling fills above and beneath the floors. Once again, potential foods such as fish, sea urchin, and piglet occur in both fills and floors deposits (Table 7). In this case, however, some differences in their proportions can be noted. Approximately 65 percent of all recovered fish bones (32 of 49 specimens) and one half (4 of 8) of the sea urchin spine and jaw fragments come from excavated floor deposits. In contrast, only 32.6 percent (29 of 89 specimens) of the pig bones were recovered from dining room floors, the remaining 67.4 percent deriving from fills.

This contrast (almost mirror opposite) between the occurrence of fish and piglet bones seems too extreme to be the result of chance. Rather, a likely interpretation is that some tiny fish bones were dropped or brushed aside during dining and subsequently overlooked during cleaning. They then became embedded in the dining room floors. The somewhat larger pig bones, including teeth which would have still been associated with skull or jaw, were presumably more routinely removed from the dining rooms during cleaning. Thus the presence of a majority of fish bones in floor deposits argues that, if lost or discarded from the table or hearth, these tiny elements, though delicate, sometimes survived to become a part of those floors. Conversely, the larger pig bones were more likely to be removed from the dining rooms and perhaps discarded nearby, later inadvertently returned in leveling fills during periods of construction.

### *Animals as Food for Dining versus Sacrifice*

The association of small piglets with the worship of Demeter and Kore is well established through literary and epigraphical sources.<sup>98</sup> Representations of piglets are also common among the votive figurines recovered from sanctuary deposits. Indeed, at the Demeter sanctuary in Corinth a number of terracotta figurines of pigs have been found, as well as nearly 400 figurines of votaries or priestesses carrying small piglets in their arms.<sup>99</sup>

The importance of pigs and piglets in the ritual is also illustrated by the recovery of domestic pig remains from areas of sacrifice within Demeter sanctuaries. We have already spoken of the sacrificial Pit B in the Corinth

98. Kadletz 1976; Detienne 1979; Burkert 1983, pp. 256–264; Jameson 1988. For further discussions see also Cipriani 1989, pp. 7–9 and Kron 1992, p. 619.

99. Stroud 1965, pp. 17–18 and pl. 11:a, b; Bookidis and Stroud 1987, title page and fig. 13; Merker 1996.

TABLE 7. SUMMARY OF IDENTIFIED FAUNAL MATERIALS FROM FLOOR AND FILL DEPOSITS

<i>Taxa</i>	<i>Floor</i>	<i>Fill</i>	<i>Total</i>
Fish	32(5)*	17(4)	49(9)
Sea urchin	4	4	8
Reptile	1	1	2
Rodent/insectivore	3	3	6
Pig	29(5)	59(16)	88(21)
Sheep/goat	6	5	11
Total	75(10)	89(20)	164(30)

\*Number of burned specimens indicated in parentheses. Five possible additional *Sus* sp. rib and vertebra fragments are not included in counts.

sanctuary that contained the bones of young pigs together with “coarse cooking pots, terracotta figurines, much broken pottery, and miniature votives.”<sup>100</sup> At Knossos pigs make up more than 90 percent of the identifiable bone assemblage from the Demeter sanctuary.<sup>101</sup> Jarman notes that this pattern contrasts strongly with underlying Geometric levels, which presumably preceded worship of the goddess, where pig remains constitute only 17 percent of the animal bone assemblage. At the Sanctuary of Demeter and Persephone in Cyrene pig bones make up nearly 78 percent of all identified faunal materials. Although pigs of all ages are represented in the Cyrene assemblage, the remains of suckling pigs and young animals less than two years old are interpreted as probably representing sacrificial offerings.<sup>102</sup> Most recently, excavations of a sanctuary of Demeter on the acropolis of Mytilene have recovered a faunal assemblage of young sheep and goats as well as piglets.<sup>103</sup>

These studies convincingly document the ubiquitous use of piglets for sacrifice or dedication in sanctuaries of Demeter; however, they do not directly address the question of whether piglets were actually eaten in associated ritual dining rooms. As has been noted elsewhere, so few dining room deposits have been specifically investigated that information on foods actually consumed therein is generally lacking. One of the rare such contexts is the Thesmophorion at Bitalemi, Gela, where pig bones, indeed a whole pig jaw, were discovered together with the pottery associated with dining.<sup>104</sup> Until now in the sanctuary at Corinth there has been little direct evidence of the association of pigs or other animals with the dining rooms below the sacrificial area.<sup>105</sup> Although relatively small in volume, the bone assemblage discussed here, recovered through intense screening in strictly controlled stratigraphic context within the dining rooms, is more directly pertinent to the identification of the contents of ritual meals consumed within these rooms.

***Pigs and Piglets*** While consisting predominantly of isolated teeth or tooth fragments, the assemblage of domestic pig bones from Areas 1 and 2 contains a number of cranial and postcranial elements, indicating that young

100. Stroud 1965, pp. 8–10.

101. Jarman 1973.

102. Crabtree and Monge 1990.

103. Ruscillo 1996.

104. In the Thesmophorion at Bitalemi the bones of small animals, especially pig, were found in ash layers with fire-scarred cooking pots, all of which have been interpreted as remnants of meals; in addition, the jaw of a pig lay between two hearth stones. Pig bones also lay in the center of at least one ring of whole vases at Eloro. See Orlandini 1968–1969 and Kron 1992, p. 646 with references therein.

105. In a publication now in preparation on the large assemblage of faunal materials recovered from previous excavations of the sanctuary, Reese documents the presence of burned and unburned pig, sheep, goat, and cow bones. These assemblages, however, were collected largely without systematic screening or water-sieving and are therefore not directly comparable to the materials recovered during the 1994 excavations.

juvenile pigs and piglets might well have been brought to the dining rooms whole. We know from both literary sources and archaeological remains that piglets were sacrificed to Demeter through immolation. In addition, as part of the Attic Thesmophoria, whole, perhaps live, piglets were thrown into an underground pit or megaron,<sup>106</sup> from which, it seems, the rotted pig remains were later scooped to mix with sprouting seed.<sup>107</sup> The discovery of a pit in the Sanctuary of Demeter at Mytilene that was filled only with the apparently whole *unburned* carcasses of very young piglets is perhaps an example of such a ritual.<sup>108</sup>

Our assemblage of pig bones contains both burned and unburned elements. Of 14 postcranial elements, 50 percent (7 specimens) show clear evidence of burning. It is possible that some of these elements represent sacrificial debris inadvertently transferred to the dining area, perhaps as part of construction fills. Conversely, since as yet no evidence of a pit or megaron filled with unburned bones of piglet has been discovered at Corinth, the unburned elements may represent discarded or overlooked food debris from the dining rooms. The majority of these come from Building N:21 in Area 1.

**Fishes and Sea Urchins** Perhaps the most intriguing aspect of the faunal assemblage recovered by flotation screening is the presence of numerous small fish bones. The recovery of one or two fish bones has previously been reported from contexts associated with Demeter sanctuaries at Cyrene<sup>109</sup> and Knossos on Crete.<sup>110</sup> Literary sources also indicate that fishes were occasionally sacrificed to both Herakles and Poseidon.<sup>111</sup>

In a sense, the occurrence of fish should not be surprising, for literary sources attest to the eating of fish during festivals of Demeter celebrated elsewhere. We are told by the scholiast to Lucian, *Dial. Meretr.*, that the tables at the Haloa were filled with the fruits of land and sea; only some foods were forbidden, namely, pomegranates, apples, domestic fowl, eggs, and certain fish: the red mullet (*triglis, erythinos*), the black-tail (*melanouros*), crayfish (*karabos*), and a kind of shark (*galeos*).<sup>112</sup> Red mullets were also forbidden to Eleusinian initiates.<sup>113</sup>

In both number and size the fish remains from the dining rooms, however, are quite different from those at Cyrene and Knossos.<sup>114</sup> Of 49 recovered elements none appears to have come from fishes larger than 11–15 cm in length. Furthermore, with the exception of 9 possibly burned vertebrae, which come from the hearth, or “hot spot,” or just above it in Room 1 of Building N:21, the fish bones are unburned. Perhaps these small fish were prepared by boiling or by frying in the “fish casseroles” discovered in the dining rooms.<sup>115</sup> It is also possible, however, that the bones of these very small fishes were contained in a sauce, “garum” or “alec,” which was prepared from pieces of larger fishes, including viscera, or from the whole bodies of small fishes.<sup>116</sup>

In addition, unburned beak parts and spine fragments of sea urchin also suggest that sea creatures might have been part of the dining menu, although we cannot say this with certainty.<sup>117</sup> An alternative source for such scattered remains in archaeological contexts is proposed by Rose. Sparidae commonly feed on mollusks, crustaceans, and other invertebrates,

106. Burkert 1983, p. 257 with references therein. See Clinton 1988, pp. 72–79 for the possible identification of megara at Eleusis.

107. Detienne 1979 and references therein.

108. Ruscillo 1996.

109. Crabtree and Monge 1990.

110. Jarman 1973. Reese (preliminary unpublished report) also cites two large fish bones from fill of the 3rd century A.C. in the cistern at P:20–21 on the Middle Terrace beside the Propylon. For an extended discussion of fish remains from other Classical cult and ritual contexts, see Rose (forthcoming).

111. Kadletz 1976, pp. 149–155, 170–178.

112. Scholiast Lucian (Rabe), *Dial. Meretr.* 7.4.21–22. Athenaeus (*Deipn.* 3.104.c–f) quotes a passage from a lost second *Thesmophoriazousai* of Aristophanes, regarding crayfish and the festival of the Thesmophoria.

113. Plut., *De soll. animal.* 983F.

114. They also differ from the larger bones found in the Roman cistern in the sanctuary at Corinth, mentioned above, note 110.

115. Bats 1988, pp. 44, 50.

116. Curtis 1991, pp. 6–15; Dalby 1996, pp. 75–76; Dalby and Grainger 1996, pp. 19–20; Radcliffe 1969, pp. 212–214.

117. For the eating of sea urchin see Dalby 1996, pp. 74–75. Farnell (1907, p. 46) states that the sea urchin was prohibited at the Haloa, quoting the scholiast on Lucian, *Dial. Meretr.* Sea urchin, however, is not mentioned in that passage, for which see above, note 112.



including echinoderms. Citing Barash and Danin, Rose notes that fragments of sea urchin “could conceivably derive from sea bream stomach contents.”<sup>118</sup> Four of the eight specimens were found in Room 1 of Building N:21 in both floors and fills that also contained identifiable Sparidae (bream) elements. The small size of the fishes represented in the sanctuary, however, makes their consumption of sea urchins seem unlikely. It is also not uncommon to find scattered sea urchin spine or test fragments in archaeological sites in Greece that are close to the sea.<sup>119</sup> Therefore, the means by which these fragments of spine and jaws became part of the sanctuary deposit is unclear. That they represent food debris cannot, however, be ruled out.

### PART III: MICROMORPHOLOGICAL STUDY OF SELECTED SEDIMENTS

Soil/sediment samples from the Sanctuary of Demeter and Kore were studied with the aim of identifying the composition of clay floors and earthen fills within Building N:21. Methodologies employed in the study of these samples entailed, first and foremost, detailed descriptions of the sample localities in the field. Such descriptions included attributes, such as color, texture, and lithology, as well as their vertical and lateral changes. Field descriptions were accompanied by sampling of both loose sediments and intact, oriented blocks that were then used for micromorphological analyses.

Field observations such as color, texture, structure, and consistence are useful in describing a soil or sediment, and they normally provide criteria by which to infer the environmental conditions responsible for the accumulation of a geogenic or anthropogenic sediment or the development of a soil. Based on these data alone, however, erroneous inferences can be made. One strategy employed to supplement field observations utilizes laboratory analyses of samples collected in the field. Such analyses commonly include grain-size and chemical studies, such as pH, calcium carbonate, organic matter, and phosphate contents.

Soils and sediments associated with archaeological sites, however, are typically complex, and interpretations based on field and laboratory data can be of limited value or accuracy. Grain-size analysis of a “gray,” “ashy” dump deposit, for example, does not discriminate between the mineral (e.g., quartz sand, silt; calcareous ash crystals; phytoliths; bone) and nonmineral components (charcoal or disseminated organic matter). Moreover, most standard laboratory techniques are restricted in their ability to recognize and discern a succession of soil-forming (pedological) geological or anthropogenic events that have been superimposed on the same material or substrate. At the field scale, for example, a dark layer within a Holocene archaeological site context may represent a soil horizon, an occupation layer, or both. Measurement of Munsell color or organic matter does not really help in this case.<sup>120</sup> Similarly, measurement of calcium carbonate content may comprise primary (depositional) or secondary (pedogenic) carbonate.

A technique that is proving increasingly valuable in avoiding many of

118. Rose 1995, pp. 207–208, 214; Barash and Danin 1971.

119. Reese 1995.

120. Courty, Goldberg, and Macphail 1989.

the above-mentioned limitations is micromorphology, the study of undisturbed soils, sediments, and other archaeological materials (e.g., ceramics, bricks, mortars) at a microscopic scale. Employing undisturbed, oriented samples in which the original components and their geometrical relationships are conserved, micromorphological analysis allows for the observation of composition (mineral and organic), texture (size, sorting), and most important, fabric—the geometric relationships among the constituents. Within an individual thin section it is therefore possible to observe microstratigraphic sequences that reflect temporal changes in depositional processes.

In conjunction with field description, samples from exposed baulks were collected as undisturbed blocks, which were then wrapped tightly in soft paper and plastic tape to maintain their integrity. These were then imbedded in polyester resin under vacuum to produce hardened blocks of sediment. The indurated blocks were then processed into thin sections by Spectrum Petrographics, Oregon. Each thin section was examined by means of a microfiche viewer and a petrographic microscope under plane polarized (PPL) and cross-polarized light (XPL); magnifications ranged from 18× to 200×. Thin sections were characterized using the descriptive terminology of Bullock et al.<sup>121</sup> and Courty, Goldberg, and Macphail.<sup>122</sup>

#### NORTHERN BAULK: SAMPLES D-94-1, D-94-2

In the Sanctuary of Demeter and Kore samples were collected from two slightly different areas within Room 1 of Building N:21 (Figs. 2; 8, section A). The first set, the so-called northern baulk, comprising D-94-1 and D-94-2, was taken from the northwest corner of the room beneath the stone dais for the north banquette in Phase 2. It extended from the level of floor 2 (+171.11 m here) down to floor 3 (+170.93 m), cutting through a deep leveling fill (Fig. 8, layer 2A).<sup>123</sup> Sample D-94-2 represents the uppermost 0.10 m, and sample D-94-1 the underlying 0.08 m with a slight overlap of sample D-94-2. This northern baulk consisted largely of stony, crumbly, tan, silty (ashy?) floor material, mixed with burned and reddened tiles and pottery fragments, *terra rosa*, and some charcoal.

#### SAMPLE D-94-1: MICROMORPHOLOGY

The lower D-94-1, corresponding to fill 2A in Figure 8, includes some coarse sandy sediment that differs from the slope sediments; these are comprised of stony colluvium or reworked *terra rosa*. In the field this sediment resembled a silty daublike material that might have been taken from an outcrop of fluvial silts and/or reworked from a prior building phase.

Sample D-94-1 is composed predominantly of granule-size limestone pieces in a compact calcareous matrix. The coarse fraction is composed of the following materials:

rounded granule-size grains of calcareous materials, such as limestone, calcareous sandstone, and pedogenic crusts. Some of these grains appear to be partially calcined, indicating that they have been heated.

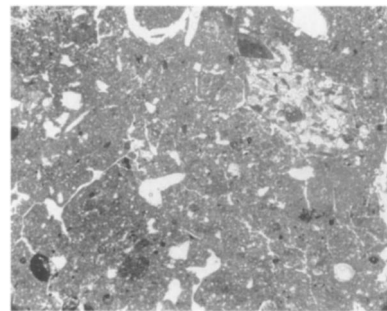


Figure 29. Sample D-94-1. Length of frame 3.5 mm. Plane polarized light (PPL).

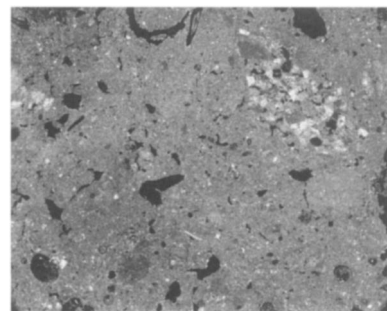


Figure 30. Sample D-94-1. Length of frame 3.5 mm. Cross-polarized light (XPL).

121. Bullock et al. 1985.

122. Courty, Goldberg, and Macphail 1989.

123. Lots 1994-68 and 1994-76.

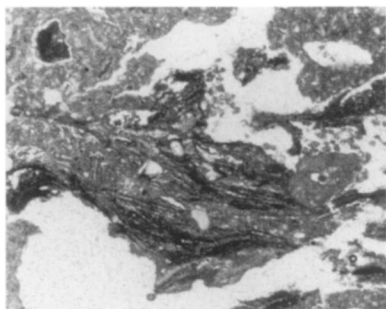


Figure 31. Sample D-94-2. Length of frame 3.5 mm. Plane polarized light (PPL).

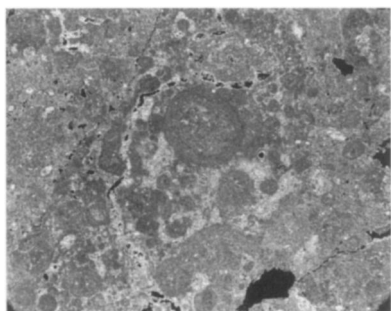


Figure 32. Sample D-94-2. Length of frame 3.5 mm. Cross-polarized light (XPL).

some sand-size and centimeter-size pieces and splinters of bone. a sand-size isotropic grain of calcareous silty material that has been heated; this grain is likely to have come from a hearth or some kind of heating installation such as a kiln. The charcoal and pottery fragments go along with this idea of heated materials. some sand- and silt-size grains of quartz and traces of chert. traces of mm to  $\mu\text{m}$  size grains of charcoal and snail shells. fine, silt-size domains of red clay.

These components are intimately mixed into the fine-grained (fine silt-size) calcareous matrix (micrite). This matrix is quite heterogeneous and is locally enriched in finely divided, silt-size pieces of charcoal. The relatively dense nature of the matrix suggests that these materials have been mixed or stirred together, although irregular fissures delineating a subangular blocky microstructure point to drying of this prepared material.

In addition, the upper part of the sample shows a well-defined slaking crust as indicated by a fining upward lamination that is about 100  $\mu\text{m}$  thick. This lamination could be produced accidentally in the process of applying a plaster or daub; its presence implies a wet/saturated material.

In sum, this sample seems to represent a calcareous, plasterlike material, such as daub, that was intentionally applied by humans. The original sediment is cultural in origin, or in part, as shown by the inclusions of charcoal, pottery, and burnt matrix.

#### SAMPLE D-94-2: MICROMORPHOLOGY

This overlay sample D-94-1. The sediment is similar, but it displays a ca. 0.05 m-thick zone of pinkish calcareous or plasterlike material that is quite hard and dense, corresponding to floor 2. It is not clear if this hardened material is indeed plaster made by humans or just tamped down calcareous soil material (similar to a calcrete), which was rapidly recemented.

This sample is composed of two parts. The lower part is a heterogeneous mixture of a number of components of diverse composition. These include clasts of limestone, plaster (some of which appears heated), chert, quartz, rock fragments, and numerous aggregates of *terra rosa* that contain inclusions of quartz silt. These components occur within a tightly packed calcareous matrix that is not unlike that of sample D-94-1, although it is richer in finely divided coarse calcareous silt. Cultural elements are represented by traces of bone, charcoal, and pottery.

At the contact with the overlying dense white layer are remains of fibrous brown vegetation, which appear to be interbedded with fine calcareous material as in sample D-94-1. In other words, this vegetal material resembles a binder that is common in mud bricks or daub. Here such material could have been added to the flooring material, either as a binder or possibly matting. It is difficult to evaluate the latter possibility because of the small size of the sample.

The upper part of the sample is composed primarily of compact, dense calcareous material of geological or pedological origin, mostly grains and aggregates of oolites and pisolites. These aggregates are densely packed

and also exhibit some inclusions of quartz, chert, and fine sand-size aggregates of *terra rosa*. This chalky upper part of the sample does not look cultural in origin, for there are no traces of bone, charcoal, or vegetation. It is rather the result of pedogenic processes. In fact, it strongly resembles the fabrics and components found commonly in calcretes (calcareous soil horizons typical of arid and semi-arid environments such as that of the area of Corinth).

In sum, this sample seems to represent a basal unit of culturally derived calcareous dump that was intentionally covered by chalky material of pedogenic origin.<sup>124</sup> The latter is assumed to be locally available, although a survey of the area is needed to confirm this. In any case, this massive whitish sediment is not a plaster but an exploited natural material.

#### SOUTHERN BAULK: SAMPLES D-94-3, D-94-4

Samples D-94-3 and D-94-4 were taken further to the south in the same room, by the northeast corner of the later west banquetta in Room 1. The sample taken extended from floor 2, through floor 3 and intervening leveling fills, to floor 4, into which it partially cut.<sup>125</sup> Here the floors were noticeably different and overall consisted of softer, more clayey sediment. Sample D-94-4 comes from the top 0.14 m (top +171.22 m) and comprises floor 2 and the fill beneath it. Sample D-94-3 comes from the lowest 0.17 m, overlapping the fill beneath floor 2, and continuing down into floor 4. Close to the base in sample D-94-3 is a band of red clay, about 8 cm thick, overlain by gray silty clay. The red clay is actually quite sandy and more closely resembles a sandy loamy soil than the clayey *terra rosa* found on slopes in this region. If indeed it is sandy, it might suggest that the sand was quarried from lower down the slope, in the area of exposures of oolitic sandstone.

#### SAMPLE D-94-3A, B: MICROMORPHOLOGY

The lower sample D-94-3 was divided in two, with D-94-3A representing the upper part. Micromorphologically, it is identical to sample D-94-1 from the northern baulk. Sample D-94-3B is from the basal, reddish part of the exposure<sup>126</sup> and is considerably different from the samples taken from the northern baulk, as expressed by its overall sandy nature and its intermixing with fragments of plaster. The sand is composed of some quartz, chert, and snail shells, but much of it is calcareous, in the form of rounded grains of calcite of both mineral and biological origin (e.g., shells). These sand-size grains are clearly derived from the calcareous sandstones that were quarried extensively in the area.<sup>127</sup> In addition, whole fragments of these sandstones are found within the slide, and the grain-size distribution of the sand is the same both within the sandstones and among the loose sand grains within the matrix. The red color of the sample in the field is expressed in thin section as diffuse coatings and bridges between sand grains; much of this clay appears to be secondarily cemented or impregnated with calcium carbonate, most likely associated with weathering or soil formation that postdates the site.

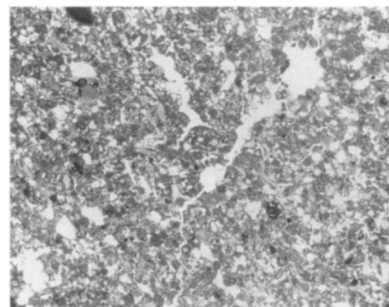


Figure 33. Sample D-94-3. Length of frame 3.5 mm. Plane polarized light (PPL).

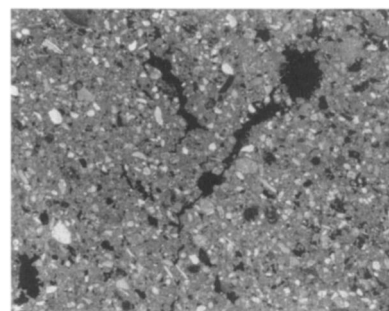


Figure 34. Sample D-94-3. Length of frame 3.5 mm. Cross-polarized light (XPL).

124. Presumably floor 2. Note that in this area floor 3 and floor 4 are immediately superimposed one above the other.

125. Lots 1994-68, 1994-69, 1994-70, 1994-78, 1994-79.

126. This is represented by pottery lot 1994-78.

127. Hayward 1996.

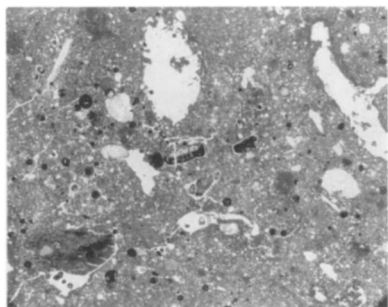


Figure 35. Sample D-94-4. Length of frame 3.5 mm. Plane polarized light (PPL).

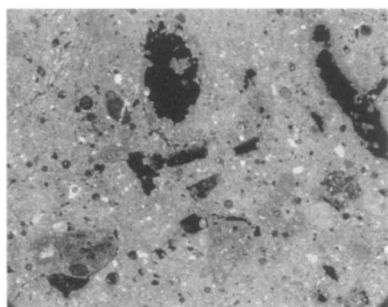


Figure 36. Sample D-94-4. Length of frame 3.5 mm. Cross-polarized light (XPL).

Intermixed with this sand are massive domains of dense fine-grained calcite (micrite). These domains commonly contain what appears to be finely divided charcoal; charcoal is also locally concentrated in a few places within the slide. These domains contain inclusions of quartz sand and bioclastic and oolitic limestone; they appear to be lime plaster.

The constituents of this sample appear to have been imported from near one of the sand quarries in the area; it includes red clayey loamy soils that develop on these sandy units. Interestingly, the clay does not appear to be derived from the *terra rosa* soils that occur on the slopes in the region.

#### SAMPLE D-94-4: MICROMORPHOLOGY

Sample D-94-4 overlies D-94-3, from near the top of the exposed cut. It consists of grayish tan clayey silt with abundant mm-size pebbles, some charcoal, and pottery. The sample includes clumps of soft whitish powdery material that resembles marl. Much of the deposit has been extensively reworked by earthworms, again visible by earthworm casts. The sediment appears to resemble deposits that have been dumped in place, a hypothesis that concurs with the excavator's opinion.

The sample is very reminiscent of samples D-94-1 and the upper part of D-94-3, and the soft whitish powdery aspect in the field does not appear to be related to hypothesized marl deposits. The fine-grained calcitic matrix contains cm-size angular limestone fragments (one grain of oolitic limestone was noted), snail shells, and pottery; chert grains are also relatively abundant. This sample is relatively rich in finely divided charcoal and bone and displays clear evidence of earthworm activity, as noted in the field; earthworm activity was not evident in other samples.

As in sample D-94-1, this is rich in chalky cultural material and appears to represent dumped deposits that have been reworked by earthworms.

In conclusion, the four samples from the Sanctuary of Demeter and Kore are, for the most part, cultural deposits that were apparently dumped or placed there. Interesting, however, is the reddish sandy material in sample D-94-3, which is derived from the area of the oolitic limestone quarries and clearly had to have been imported from further down the slopes, closer to sea level. The reddish clay that is intermixed with the sand-size material represents either a soil developed on the sand (most likely) or material that was added to the sand. The reason for this importation of sand is not clear; it could have provided a firm foundation for the floors or couches that other materials were possibly less capable of providing. Perhaps for some reason other construction materials were not available.

## PART IV: CONCLUSIONS

In concluding our discussion of the excavations of 1994, it is useful, first of all, to review certain points about the buildings themselves. Given their plans, their identification as dining rooms is indisputable. Since two places for sacrifice lay further south on the Middle Terrace, there is no reason to

expect that sacrifices were carried out in these structures. We have tentatively identified a small hearth, or “hot spot,” created by a portable brazier in Room 1, Building N:21, in its earlier phase, and we have made references to kitchens which were attached to a number of Classical and Hellenistic dining rooms in the sanctuary. These, combined with the ubiquitous cooking pots, indicate that some sort of food was prepared on the premises.

Because these buildings were consistently used over a long period of time, they were also repeatedly cleaned. Therefore, we have not found the vivid kind of evidence of undisturbed dining ritual that was found at the Thesmophorion at Bitalemi, Gela, or in the Sanctuary of Demeter at Eloro.<sup>128</sup> Moreover, whereas at those sites the communal meal apparently took place outdoors, here as yet no open-air expanse has been discovered large enough to accommodate such dining.<sup>129</sup> Since the limits of the dining buildings have not been found, it is our view at this date that all who participated in the communal banquets here did so indoors.<sup>130</sup> Finally, within the whole limit of the sanctuary excavations not a single refuse pit has ever been found. If these did exist, they lie some distance from the center.

In describing the modifications that were made to the buildings during their long use, we have pointed to the variety of stratigraphic contexts in which floral and faunal specimens were found, namely, couch packings, construction and leveling fills, floors, and final debris. We have made clear that at least some of that material cannot have been found in its primary place of deposition but was redeposited with earth as fill. Nevertheless, we believe that the food debris was generated within the sanctuary, although some of the sediments were brought from outside the sanctuary. This interpretation is based on the repetition of the same varieties of foods through two centuries of stratified fills in widely separated parts of the sanctuary.

Were these specimens of food the remnants of communal meals or of sacrifice? Perhaps they were both, but that some, at least, derive from meals is suggested to us by two further factors. One is the paucity of specimens recovered in the dining rooms as contrasted with the larger volume of bone refuse found in sacrificial contexts on the Middle Terrace. The second is the absence within the rooms of the sort of ash layer that accompanied sacrificial deposits elsewhere. We have mentioned the black ashy layers that characterized the two places of sacrifice as well as the construction fill for the Trapezoidal Building on the Middle Terrace. In addition, Julie Hansen has referred to a fourth context of Early Roman date, the nearly 1.00 m deep deposit of soft black earth, filled with carbonized wheat and small particles of animal bones, that served as construction packing behind the central temple to Persephone.<sup>131</sup> This could well have been discarded sacrificial debris. Nothing in any way comparable was found in the dining rooms. There, evidence of burned material, apart from the floral and faunal remains, is limited to bits of charcoal within the earth fills, as described by Paul Goldberg. These do not comprise a solid layer of ash and burned material, however.

Furthermore, as Tables 2 and 3 reveal, the floral specimens from the 1994 excavations consist of isolated grains of wheat, barley, and so forth,

128. For Bitalemi, see Kron 1992, with references to earlier excavation reports by Orsi and Orlandini. For Eloro see Van Buren 1966, p. 358 and Orlandini 1968–1969.

129. While it might be argued that the western half of the Middle Terrace provided such a space, the concentration of dining evidence on the Lower Terrace suggests that all dining activity took place below or outside the confines of the Middle Terrace.

130. In January 1997, after this report was written, devastating winter floods carved deep, narrow gullies down the north slope of Acrocorinth. Although there is a strip below the sanctuary in which no walls appear, they resume some 80–100 meters further north. Here the Byzantine Archaeological Service exposed part of a building much like those in the sanctuary above. Whether these remains are a continuation of the sanctuary, whether all of the dining rooms represent private constructions, as Bergquist (1990, p. 44) and Will (1976) have suggested, or whether the newly exposed remains are a part of one of the other nine sanctuaries on the slope of Acrocorinth mentioned by Pausanias (2.4.6–7) has yet to be determined. We would like to thank Dine Skarmoutza, Epimeletria of the Byzantine Service, for sharing this information with us.

131. See note 3.

often only one of each species, rarely several. Julie Hansen suggests that these may be the spillings from food preparation; this is surely a more logical explanation than that they are random pickings from a sacrificial heap. With a bean parcher like that shown in Figure 12 individual grains could all too easily have fallen out into the fire and onto the floor.

For the faunal remains the evidence is less clear-cut. A comparison of bone materials recovered from Area 1, Building N:21, located just below the Middle Terrace and the general area of sacrifice, with those from Area 2 reveals no difference in the kinds of animals represented. Furthermore, in all strata Lynn Snyder has tabulated the incidence of burned versus unburned bones because it is often suggested that burned bones derive from sacrifice, unburned from meals.<sup>132</sup> Both occurred here side by side. But we might ask whether the distinction between burned and unburned is as meaningful as commonly thought. As Jameson and others have noted, it is often assumed that in Classical Greece nearly all meat consumed came either directly from sacrifice or indirectly from butchers who purchased unburnt meat from sacrifice for resale. In the Sanctuary of Demeter on Mytilene, unburned bones, representing the complete skeletons of young piglets that were apparently not the residue of meals, were found in a pit. These piglets, whole and unburned, may have been thrown there to rot as part of the ceremony of the Thesmophoria.

In attempting to address this issue of food versus sacrifice, we have further distinguished between specimens found in floors and those in fills, on the assumption that what fell onto the floor and was trampled into it represented food eaten on the spot, while specimens in fills could have been brought in from another part of the sanctuary. But ultimately of greater importance is the repeated occurrence of the same kinds of food throughout the stratigraphic sequence of excavation in two widely separated parts of the Lower Terrace, where dining was the prescribed function.

Julie Hansen has identified the following specimens: wheat, barley, olives, grapes, figs, lentils, bitter vetch, peas, grass peas, chickpea, and pomegranate, as well as seeds of mint, the daisy family, caper, and millet. As she has stated, these are all substances that were basic components of Classical Greek nutrition. Of these most common are the first five substances, and of these most common of all is the olive. Here Hansen has suggested that olive pits could be remnants either of the meal or of fuel used in hearths or portable braziers, a practice that has continued into modern times. The votive winnowing trays with their models of cakes, maza, and individual grains give further insight into what might have been not only offered but also eaten.<sup>133</sup>

Among the faunal remains Lynn Snyder has identified predominantly pig, with lesser amounts of small fish, sea urchin, and small shell. Evidence of sheep/goat is limited almost wholly to astragali, which were probably brought as votive gaming pieces. The pig bones were basically those of young juveniles or suckling babies. With regard to the fish, it is interesting that these were neither large fresh fish nor the cut and salted segments of large Atlantic tunny and sea bream that were imported to Corinth in the 5th century B.C. by the merchant owner of the Punic Amphora Building,<sup>134</sup> but small fish that could have been either fried in the numerous

132. Reese 1989; Courtils, Gardeisen, and Pariente 1996; Davis 1996 (Knossos).

133. The foods listed in the Cholargos inscription, which were to be provided by the *archousai* for the Thesmophoria, could well be the provisions for such cakes. See Sokolowski 1962, pp. 208–209, no. 124 (*IG II<sup>2</sup>* 1184). According to Deubner (1932, p. 57), these were sacrificial cakes, while Kron (1992, p. 619) and others have associated them with dining. Because the quantities specified are relatively small, Deubner's interpretation may be the correct one. See Bookidis 1993, p. 61.

134. Williams 1979, pp. 117–118.

casseroles recovered from the site or made into a sauce such as garum. The discovery of burned fish bones above the small hearth or hotspot in Room 1 of Building N:21 gives further support to the notion of their consumption in the dining room.

We had hoped to be able to draw some conclusions about the time or times of year when festivals were celebrated in the sanctuary, since this information is wholly lacking. Julie Hansen has discussed the problems in using the floral remains to determine seasonality. It is possible that figs, grapes, and pomegranates are a testimony to an autumnal festival. Nor would this be surprising; the Thesmophoria comes to mind as a primary festival to Demeter and Kore that was celebrated over all of the Greek world. But Hansen has also pointed out the difficulties inherent in placing too much emphasis on them, since all of these fruits could be preserved. Perhaps even more important in this respect is the recognition that a single sanctuary could have been used for a variety of festivals, as Kevin Clinton has recently argued for the sanctuary at Eleusis.<sup>135</sup>

As Andrew Dalby recently observed in his history of food and gastronomy in Greece, tangible food remains from Classical sites are slight in comparison with those recovered from prehistoric sites.<sup>136</sup> That more has not been recovered is due, in large measure, to the seductive influence of the written sources. These provide us with a considerable amount of information about ancient eating habits, although much comes from late texts and is Athenocentric. As a result, the incentive to illustrate or supplement that information through excavation is lacking. And yet it is not enough simply to know what was eaten in a given period when reconstructing religious practices, for food is one more component that can help us to understand the character and peculiarities of an individual cult in a specific place. In the Sanctuary of Demeter and Kore at Corinth we are fortunate in having a large number of buildings that were indisputably used for dining. As a result of the 1994 season we believe that we can begin to speak of the food that was consumed in them.

135. Clinton 1988. For two extremely interesting studies on the festivals of Demeter and their relation to the Attic calendar year, see Brumfield 1981 and Foxhall 1995.

136. Dalby 1996, p. 57.

## REFERENCES

- Agora = The Athenian Agora: Excavations Conducted by the American School of Classical Studies at Athens*, Princeton  
 X = M. Lang and M. Crosby, *Weights, Measures, and Tokens*, 1964  
 XII = B. A. Sparkes and L. Talcott, *Black and Plain Pottery of the 6th, 5th, and 4th Centuries B.C.*, 1970  
 Barash, A., and Z. Danin. 1971. "Mollusca from the Stomach of *Sparus auratus*," *Agamon, Journal of the Israel Malacological Society*, 2/3–4, pp. 97–104.  
 Bats, M. 1988. *Vaisselle et alimentation à Olbia de Provence* (Revue archéologique de Narbonnaise, Suppl. 18), Paris.  
 Bergquist, B. 1990. "Symptotic Space: A Functional Aspect of Greek Dining-Rooms," in *Sympotica*, O. Murray, ed., Oxford, pp. 37–65.  
 Bookidis, N. 1969. "The Sanctuary of Demeter and Kore on Acrocorinth: Preliminary Report III: 1968," *Hesperia* 38, pp. 297–310.  
 ———. 1990. "Ritual Dining in the Sanctuary of Demeter and Kore at Corinth: Some Questions," in *Sympotica*, O. Murray, ed., Oxford, pp. 86–94.  
 ———. 1993. "Ritual Dining at Corinth," in *Greek Sanctuaries: New Approaches*, N. Marinatos and R. Hägg, eds., London, pp. 45–61.



- Bookidis, N., and J. E. Fisher. 1972. "The Sanctuary of Demeter and Kore on Acrocorinth: Preliminary Report IV: 1969–1970," *Hesperia* 41, pp. 283–331.
- . 1974. "The Sanctuary of Demeter and Kore on Acrocorinth: Preliminary Report V: 1971–1973," *Hesperia* 43, pp. 267–307.
- Bookidis, N., and R. S. Stroud. 1987. *Demeter and Persephone in Ancient Corinth* (*Corinth Notes* 2), Princeton.
- Brumfield, A. C. 1981. *The Attic Festivals of Demeter and Their Relation to the Agricultural Year*, New York.
- . 1997. "Cakes in the Liknon: Votives from the Sanctuary of Demeter and Kore on Acrocorinth," *Hesperia* 66, pp. 147–172.
- Bull, G., and S. Payne. 1982. "Tooth Eruption and Epiphyseal Fusion in Pigs and Wild Boar," in *Aging and Sexing Animal Bones from Archaeological Sites*, B. Wilson, C. Grigson, and S. Payne, eds. (*BAR International Series* 109), Oxford, pp. 55–80.
- Bullock, P., N. Fedoroff, A. Jongerius, G. Stoops, and T. Tursina. 1985. *Handbook for Soil Thin Section Description*, Wolverhampton.
- Burkert, W. 1983. *Homo Necans*, Berkeley.
- Cipriani, M. 1989. *Corpus delle stipi votive in Italia*, IV. Reggio III.1, *San Nicola di Albanella*, Rome.
- Clinton, K. 1988. "Sacrifice at the Eleusinian Mysteries," in R. Hägg, N. Marinatos, and G. C. Nordquist, eds., *Early Greek Cult Practice*, Stockholm, pp. 69–80.
- Corinth = Corinth: Excavations Conducted by the American School of Classical Studies at Athens*, Princeton VII, ii = D. A. Amyx and P. Lawrence, *Archaic Corinthian Pottery and the Anaploga Well*, 1975 XIII = C. W. Blegen, H. Palmer, and R. S. Young, *The North Cemetery*, 1964 XVIII, i = E. G. Pemberton, *The Sanctuary of Demeter and Kore: The Greek Pottery*, 1989 XVIII, ii = K. W. Slane, *The Sanctuary of Demeter and Kore: The Roman Pottery and Lamps*, 1990 XVIII, iii = N. Bookidis and R. S. Stroud, *The Sanctuary of Demeter and Kore: Topography and Architecture*, 1997
- Costantini, L. 1979. "Monte San Mauro di Caltagirone: Analisi paleoetnobotaniche dei semi contenuti nei pithoi 4 e 6," *BdA*, pp. 43–44.
- Courtils, J. des, A. Gardeisen, and A. Pariente. 1996. "Sacrifices d'animaux à l'Hérakleion de Thasos," *BCH* 120, pp. 799–820.
- Courty, M. A., P. Goldberg, and R. I. Macphail. 1989. *Soils and Micromorphology in Archaeology*, Cambridge.
- Crabtree, P. J., and J. Monge. 1990. "Part III: Faunal and Human Skeletal Remains," in *The Extramural Sanctuary of Demeter and Persephone at Cyrene, Libya. Final Reports*, 4 (University Museum Monograph 67), D. White, ed., Philadelphia, pp. 113–153.
- Curtis, R. I. 1991. *Garum and Salsamenta Production and Commerce in Materia Medica*, Leiden.
- Dalby, A. 1996. *Siren Feasts*, London.
- Dalby, A., and S. Grainger. 1996. *The Classical Cookbook*, London.
- Davis, S. 1987. *The Archaeology of Animals*, London.
- . 1996. "Animal Sacrifices," in *The Sanctuary of Apollo at Kourion: The Archaic Precinct* (Studies in Mediterranean Archaeology 109), D. Buitron, ed., Göteborg, pp. 180–181.
- Detienne, M. 1979. "The Violence of Wellborn Ladies: Women in the Thesmophoria," in *The Cuisine of Sacrifice among the Greeks*, M. Detienne and J.-P. Vernant, eds., P. Wissing, trans., Chicago, pp. 129–157. Originally published as *La cuisine du sacrifice*.
- Deubner, L. 1932. *Attische Feste*, Berlin.
- Farnell, L. R. 1907. *The Cults of the Greek States*, III, Oxford.
- Fiorentini, G. 1977. "Sacelli sull'Acropoli di Gela e a Monte Adranone nella valle del Belice," in *Il tempio greco in Sicilia, architettura e culti* (Cronache di archeologia 16), pp. 105–114.
- Foxhall, L. 1995. "Women's Ritual and Men's Work," in R. Hawley and B. Levick, eds., *Women in Antiquity: New Assessments*, London, pp. 97–110.
- Foxhall, L., and H. A. Forbes. 1982. "Sitometreia: The Role of Grain as a Staple Food in Classical Antiquity," *Chiron* 12, pp. 41–90.
- Gebhard, E. 1993. "The Isthmian Games and the Sanctuary of Poseidon in the Early Empire," in T. E. Gregory, ed., *The Corinthia in the Roman Period* (*JRA Suppl.* 8), pp. 78–94.
- Gebhard, E., and F. Hemans. 1998. "University of Chicago Excavations at Isthmia, 1989: III," *Hesperia* 67, pp. 405–456.
- Hansen, J., N. Bookidis, and L. Snyder. 1995. "Foods of Ritual Dining in the Sanctuary of Demeter and Kore at Corinth" (lecture, San Diego), abstract in *AJA* 100, 1996, pp. 341–342.
- Hayward, C. L. 1996. "High-Resolution Provenance Determination of Construction-Stone: A Preliminary Study of Corinthian Oolitic Limestone Quarries at Examilia," *Geoarchaeology* 11, pp. 215–234.
- Jameson, M. H. 1988. "Sacrifice and Animal Husbandry in Classical Greece," in *Pastoral Economies in Classical Antiquity* (Cambridge Philological Society Supplementary Volume 14), C. R. Whittaker, ed., Philadelphia, pp. 87–119.
- Jarman, M. R. 1973. "Preliminary Report on the Animal Bones," in *Knossos: The Sanctuary of Demeter*, J. N. Coldstream, ed., Oxford, pp. 177–179.
- Kadletz, E. 1976. "Animal Sacrifice in Greek and Roman Religion" (diss. University of Washington).
- Kroll, H. 1982. "Kulturpflanzen von Tiryns," *AA*, pp. 467–485.
- . 1984. "Zum Ackerbau gegen Ende der mykenischen Epoche in der Argolis," *AA*, pp. 211–222.
- . 1991. "Südosteuropa," in *Progress in Old World Palaeoethnobotany*, W. van Zeist, K. Wasylikowa, and K.-E. Behre, eds., pp. 161–177.
- Kron, U. 1992. "Frauenfeste in Demeterheiligtümern: Das Thesmophorion von Bitalemi," *AA*, pp. 611–650.

- Kučan, D. 1995. "Zur Ernährung und dem Gebrauch von Pflanzen im Heraion von Samos im 7. Jahrhundert v. Chr.," *JDI* 110, pp. 1–64.
- Lauwerier, R. C. G. 1983. "Pigs, Piglets, and Determining the Season of Slaughtering," *JAS* 10, pp. 483–488.
- Merker, G. 1996. "Corinthian Terracotta Figurines: The Development of an Industry" (lecture, Athens 1996), forthcoming in N. Bookidis and C. K. Williams II, eds., *The Centenary, 1896–1996* (*Corinth* XX).
- Orlandini, P. 1968–1969. "Diffusione del culto di Demetra e Kore in Sicilia," *Kokalos* 14–15, pp. 334–338.
- Payne, S. 1995. Appendix 5.1 in *Kommos I: The Kommos Region and Houses of the Minoan Town*, Princeton, pp. 278–290.
- Pemberton, E. G. 1970. "The Vrysoula Classical Deposit from Ancient Corinth," *Hesperia* 39, pp. 265–307.
- Radcliffe, W. 1969. *Fishing from the Earliest Times*, New York.
- Reese, D. 1989. "Faunal Remains from the Altar of Aphrodite Ourania, Athens," *Hesperia* 58, pp. 63–70.
- . 1995. "Marine Invertebrates," in *Kommos I: The Kommos Region and Houses of the Minoan Town*, "The Minoan Fauna" by D. S. Reese, with contributions by M. J. Rose and S. Payne, Princeton, pp. 240–273.
- Rolett, B. V., and M.-y. Chiu. 1994. "Age Estimation of Prehistoric Pigs (*Sus scrofa*) by Molar Eruption and Attrition," *JAS* 21, pp. 377–386.
- Rose, M. J. 1995. "The Fish Remains," in *Kommos I: The Kommos Region and Houses of the Minoan Town*, "The Minoan Fauna" by D. S. Reese, with contributions by M. J. Rose and S. Payne, Princeton, pp. 204–239.
- . Forthcoming. "Fish," in *Kommos IV*, Princeton.
- Ruscillo, D. 1996. "The Secret Rites of Lesbos: A Faunal Reconstruction" (lecture, New York 1996), abstract in *AJA* 101, 1997, p. 362.
- Silver, I. A. 1970. "The Aging of Domestic Animals," in *Science in Archaeology*, E. Brothwell and E. Higgs, eds., New York, pp. 283–301.
- Sokolowski, F., ed. 1962. *Lois sacrées de cités grecques*, Supplément, Paris.
- Stroud, R. S. 1965. "The Sanctuary of Demeter and Kore on Acrocorinth: Preliminary Report I: 1961–1962," *Hesperia* 34, pp. 1–24.
- . 1968. "The Sanctuary of Demeter and Kore on Acrocorinth: Preliminary Report II: 1964–1965," *Hesperia* 37, pp. 299–330.
- Tchernov, E. 1984. "Commensal Animals and Human Sedentism in the Middle East," in *Animals and Archeology 3: Early Herders and Their Flocks*, J. Clutton-Brock and C. Grigson, eds. (*BAR International Series* 202), Oxford, pp. 91–115.
- . 1991. "Biological Evidence of Human Sedentism in Southwest Asia during the Natufian," in *Natufian Culture in the Levant*, O. Bar-Yosef and F. R. Valla, eds. (International Monographs in Prehistory, Archaeological Series 1), Ann Arbor, pp. 315–340.
- Tornaritis, G. 1987. *Mediterranean Sea Shells: Cyprus*, Nicosia.
- Van Buren, A. W. 1966. "Newsletter from Rome," *AJA* 70, pp. 349–361.
- Wheeler, A., and A. Jones, 1989. *Fishes*, Cambridge.
- Whitehead, P. J. P., N.-L. Bauchot, J.-C. Hureau, J. Nielsen, and E. Tortonese. 1984. *Fishes of the North-eastern Atlantic and the Mediterranean*, Paris.
- Will, E. 1976. "Banquets et salles de banquet dans les cultes de la Grèce et de l'Empire romain," in *Mélanges d'histoire ancienne et d'archéologie offerts à Paul Collart*, P. Ducrey, ed., Lausanne, pp. 353–362.
- Williams, C. K., II. 1979. "Corinth, 1978: Forum Southwest," *Hesperia* 48, pp. 105–144.

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