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MODELING A MYCENAEAN MENU: CAN AEGEAN POPULATIONS BE DEFINED IN NEAR EASTERN CONTEXTS BASED ON THEIR DIET?

One of the key questions asked by archaeologists working in the Near East, and for that matter elsewhere, is whether ethnicity can be identified in the archaeological record. As a field, we have looked primarily at such criteria as pottery decoration to try and identify ethnic groups. In some cases, where dietary taboos have been assumed, we have looked to the presence or absence of forbidden species, such as pig in potentially Israelite contexts in the Levant (Hesse 1986; 1990). Surprisingly overlooked, however, is the more positive approach that seeks to reconstruct the actual cuisine consumed by a population group. Most faunal analysts examine the faunal record from an economic point of view rather than a culinary one. Yet, as is widely recognized, ethnic groups will often maintain their native cuisine, even as they assimilate otherwise with the indigenous culture.

This study examines cooking and food consumption as preserved in the archaeological record in the form of faunal remains to determine whether a Mycenaean cuisine can be reconstructed, and used as a comparative model for identifying a Mycenaean presence in the eastern Mediterranean. Given the assumption by many that the Sea Peoples were ultimately of Mycenaean origin (cf. Stager 1998), sites on the coast of Israel that are rich in Aegean-like material culture should show a similar pattern in their cuisine to that of Late Helladic (LH) III settlements in the Aegean (even if modified by exposure to local populations). Similarly, if there was a Mycenaean presence at Tell Ta'yinat, located in the North Orontes Valley, during the Early Iron Age, there should be a noticeable difference in the cuisine of the site's inhabitants from that seen during earlier and later phases in its settlement history. This paper therefore will focus on the faunal osteological evidence with the aim of identifying culinary patterns that might reflect the arrival of this intrusive culture. In future, it is hoped that studies of the ceramic and documentary evidence will further enlighten our understanding of Mycenaean and Sea Peoples cuisines.

To determine whether culinary patterns can be clearly identified in the archaeological record, a number of factors must be examined. By examining the faunal remains from a number of Mycenaean sites, it should be possible to reconstruct a Mycenaean culinary pattern. In this study, I have examined the faunal data from three Mycenaean sites—Nichoria, Lerna, and Tiryns—to determine whether a clear

Mycenaean culinary pattern can be identified. I then compare the culinary pattern from these three sites with the faunal evidence from Tel Mique/Ekron, a known Philistine (or Sea Peoples) site located on the southern coastal plain of Israel, and Tell Ta'yinat in the North Orontes Valley.

Methodological Considerations

Before interpreting the faunal data from these five sites, a number of methodological issues should be addressed, particularly as they concern the question of inter-site comparability. First, there is the issue of sampling strategy. The Ta'yinat Project sieves all excavated material, and therefore has an essentially 100% recovery rate for faunal remains. Such is not the case elsewhere. Secondly, there is the issue of the functional difference between and within the sites themselves and the excavation areas involved. Is it reasonable, for example, to compare the domestic areas of Iron I Tayinat (Field I) to the Iron I/II public space of Field II at the site? Is it appropriate to compare the Ta'yinat data to the collection from Mique? Are the sites of Nichoria, Tiryns and Lerna comparable to each other, or to Ekron and Ta'yinat? Third, can data based on calculations of the minimum number of individuals (MNI), as used at Lerna and Nichoria, be compared to data constructed from the number of individual specimens present (NISP), as used at Tiryns, Tel Mique and Tell Ta'yinat? Fourth, how do the varying identification methods used by the zooarchaeologists involved affect the data sets they produce? In the case of Ta'yinat, for example, large amounts of the bone were identifiable only to broad size classes. It is likely that much of this material represents *Ovis aries* and *Capra hircus* remains, which might unduly skew the data towards a culinary pattern dominated by sheep and goat meat. These issues therefore render it very difficult to determine how representative the data sets are from these five sites, and achieve meaningful insight into their dietary practices.

All of these issues notwithstanding, the large samples and extensive exposures achieved from all but Lerna nevertheless argue strongly that they are at least broadly representative, and therefore capable of revealing meaningful culinary patterns.

Mycenaean Culinary Practices

Nichoria

Excavations at the site of Nichoria, located on the Peloponnese, have produced a substantial LH III faunal collection. Using the estimates provided for meat yields, during the LH III, beef accounted for 26.6% to 42.8% of the animal protein, sheep and goat 13.6% to 28.8%, pork 23.7% to 36.6%, and game animals provided between 10.4% and 17.8%, while dog may have provided between 0.2% and 0.5% of the animal protein (Sloan and Duncan 1978: 62–63; see Tables 1–2).¹ This

¹ The estimates for meat yields are based on the MNI values given in the re-

suggests that the Mycenaean diet was dominated by pork and beef, which made up more than half of the dietary source of animal protein. In the last phase of the LH III (B2), pork and beef (26.6% each) were consumed in essentially equal proportions to sheep/goat meat (28.8%). Game animals made up approximately 17.8% of the diet, and dog, if it played a role, was minimal (0.2%) (Sloan and Duncan 1978: 62–63). Age at death for both cattle and sheep/goat suggests that the animals were raised during the LH III for meat, whereas in other periods they were primarily raised for their secondary products (Sloan and Duncan 1978: 66). The key trends to note here are the prevalent use of beef and pork, the likelihood that dog meat played some minor role in the cuisine, and the emphasis on meat production rather than secondary products.

Lerna

The LH III faunal assemblage from Lerna, located on the east coast of the Peloponnese, is very small and, as noted by Gejvall (1969: 6), is probably too small to yield meaningful interpretations. Nevertheless, during Lerna VII, the diet was dominated by pork, which comprised some 41.2% of the diet. This was followed in importance by beef at 27.6%. Sheep and goat made up 17.4% of the diet, while game animals made up 13.8% of the animal protein intake. Thus at Lerna, as at Nichoria, beef and pork dominated the menu (Gejvall 1969: 6; see Tables 3–4).

Tiryns

The faunal remains from the important Mycenaean site of Tiryns were analyzed by Angela von den Driesch and Joachim Boessneck (1990) based on NISP calculations. Consequently, it is difficult to compare the data from Tiryns directly with the evidence from Lerna and Nichoria, where MNI calculations were used. In addition, several game species present at Tiryns were apparently not identified at these other sites. Nevertheless, meat yield estimates were made for these species and applied to the data, permitting approximations of the meat represented for each species in the assemblage that could be loosely compared with the evidence from the other two Mycenaean sites.²

During the LH III at Tiryns, beef accounted for between 58.6% and 75.8% of the diet, pork between 14.3% and 18.3%, and sheep and goat between 9.0% and 21.7%. Game animals made up 0.2% to 6.2% of the meat. Dogs, if they contributed to the diet in any way, did so minimally, representing between 0.02% and 0.1% of the potential meat yield. When combined, beef and pork clearly dominated sheep and goat in the diet at Tiryns. In the final LHIII phase at the site, sheep

port. The yield per animal value used in this analysis for all of the sites also stems from the Lerna report.

² *Dama dama* was assumed to produce roughly the same amount of meat as sheep/goat. Wild pig was treated as if it yielded the same amount of meat as domestic pig. *Lepus* was assumed to produce about 1.2 kg of meat per animal.

and goat provided almost equal amounts of meat as pork, but both were outweighed by the importance of beef. Game meat comprised approximately 6.2% of the diet. Fish appears to have played a fairly minimal role, with a total of only 65 fragments recovered for the entire LH III (von den Driesch and Boessneck 1990: 118; see Tables 5–6). While the pattern is not entirely consistent, as with the previous sites, pork and beef appear to have dominated the diet of the inhabitants at Tiryns during the LH III.

Although it might appear from this brief review that the dietary patterns at these three sites differed significantly, broadly speaking, they are remarkable when compared to a traditional Mediterranean diet. At all three sites, beef and pork played very significant roles in the diet, as did wild game. According to von den Driesch and Boessneck, these species were being raised primarily for meat rather than for any of their secondary products, at least in the latest phases (1990). The sheep and goat consumption typical of an eastern Mediterranean dietary pattern does not appear to have been a significant part of Mycenaean culinary practices. The culling patterns reconstructed from age at death data of the various *Ovis/Capra* remains, meanwhile, suggest that sheep were raised primarily for their wool, while goats were raised for their meat (von den Driesch and Boessneck 1990: 97).

Mycenaean in the Southern Levant

If, as is widely believed, the origins of the Philistines should be traced back to the Mycenaean world, it would seem reasonable to assume that their diet should reflect a LH III Aegean culinary pattern. By examining the faunal record from a known Philistine site with both earlier and later occupations, therefore, it should be possible to determine whether changes in dietary patterns might be linked to the introduction of a non-indigenous cuisine. Brian Hesse and Paula Wapnish have examined the faunal remains from the Late Bronze and Iron Age levels at Tel Miqne, located in the Shephelah of Israel, and identified with the Philistine city of Ekron (Hesse 1986). The Iron I faunal assemblage, therefore, should reflect the diet of early Philistine arrivals.

In their analysis of the faunal remains, Hesse and Wapnish noted an increase in the amount of cattle with the onset of the Iron Age, as well as a significant increase in the amount of pig (Hesse 1986: 21). During the subsequent Iron II, the proportional amounts of both these species decreased, returning to levels similar to those seen in pre-Iron I levels. When these estimates are adjusted to account for meat yields, beef accounts for approximately 64.6% of the meat consumed at Tel Miqne during the Iron I, with pork accounting for a further 15.6%, and sheep and goat only 19.8% (Hesse 1986: 23; see Table 7). The Philistine diet thus appears to have been dominated by beef, with pork also playing a significant dietary role, a pattern not seen in the preceding LBA levels. Conversely, the importance of sheep and goats diminished dramatically in the Iron I, and only regained its second place standing in the subsequent Iron II, when Philistine material culture also became assimilated.

A preference also appears to have been given to sheep herding over goat rearing. The culling patterns reflected in the cattle fauna suggests that they were raised primarily for meat during the Iron I, as opposed to their more traditional role as a source of secondary products. Based on their age at slaughter, sheep and goats appear to have been raised primarily for wool, with goats possibly being raised for both meat and hair. There is little evidence that they were being raised for milk production in the Iron I (Hesse 1986: 22).

While these patterns do not match completely with the Mycenaean culinary evidence, they do share some similarities and, perhaps more importantly, differ significantly from both the preceding Late Bronze Age and succeeding Iron Age culinary patterns. The early Iron Age faunal record very likely reflects a combination of two dynamics. First, it is clear that the Philistine presence at the site did not replace the local population, but rather augmented it. Thus, the faunal evidence very likely reflects a mixing of Aegean and local dietary practices. Secondly, environmental factors may account for some of the differences.

The Faunal Evidence from Tell Ta'yinat

The recently renewed excavations initiated by the University of Toronto at Tell Ta'yinat, located in the Amuq Valley of southeastern Turkey, have uncovered a series of areas that preserve Iron I, transitional Iron I/II, and Iron II occupations at the site (Harrison et al. 2006 and 2007). Although the excavations are still ongoing, the faunal remains recovered from these levels have produced a number of interesting patterns.

In contrast to the Aegean sites and Tel Mique, the Iron I faunal assemblage at Tell Ta'yinat was dominated by the remains of sheep and goat. Factoring in meat yields, they provided more than 72.1% of the meat consumed at Iron I Ta'yinat. Cattle remains, meanwhile, made up 25.9% of the meat supply, and pork accounted for only 1.8% of the meat consumed, while wild game made up a minute 0.1% of the diet. In the transitional Iron I/II phase, beef played a dramatically more important role, at 78.8%, dominating sheep and goat, which comprised 16.3% of the diet. Pork made up some 3% of the diet, while game animals (*Cervus elaphus* and *Gazella*) accounted for only a minor portion (less than 2%) of the meat eaten (see Tables 8–9). During the Iron II, beef continued to dominate, comprising approximately 81.4% of the diet, followed by sheep and goat meat at 16.3%. Pork continued to play a minor but noticeable role in the diet.

While the Ta'yinat assemblage does not appear to reflect the dietary patterns witnessed at the Aegean sites, and at Tel Mique in the southern Levant, similar patterns have been observed in the faunal remains recovered from the contemporary levels at Kinet Höyük, located on the Cilician Plain to the northwest of Ta'yinat. In addition to high percentages of *Ovis/Capra* remains, the faunal evidence from the Early Iron Age levels at Kinet Höyük indicate that a significant change in dietary practices occurred at the site during this period (Ikram 2003:

Table 1. Percentage of the Faunal Assemblage (Based on MNI) at Nichoria.

	LHIII A1	LHIII A2	LHIII A2-B2	LHIII B2
<i>Bos taurus</i>	17.1%	18.1%	20.9%	10.9%
<i>Ovis aries</i>	1.3%	0.7%	0%	1.6%
<i>Capra hircus</i>	1.3%	3.2%	0.5%	6.2%
<i>Ovis/Capra</i>	26.3%	32.3%	42.3%	39.1%
<i>Cervus elaphus</i>	1.3%	4.5%	5.1%	6.2%
<i>Capreolus capreolus</i>	7.9%	5.2%	3.7%	10.9%
<i>Sus Scrofa</i>	39.5%	32.9%	23.3%	21.9%
<i>Equus caballus</i>	1.3%	0.7%	1.4%	1.6%
<i>Equus asinus</i>	0%	0.7%	0%	0%
<i>Canis familiaris</i>	4.0%	1.9%	2.8%	1.6%

Table 2. Percentage of Different Meat Sources in the Diet at Nichoria (Based on MNI).

	LHIIA1	LHIIA2	LHIIA2-B2	LHIIIB2
<i>Bos taurus</i>	32.0%	37.1%	42.8%	26.6%
<i>Ovis/Capra</i>	13.6%	18.7%	22.0%	28.8%
<i>Cervus elaphus</i>	2.4%	9.3%	10.3%	15.1%
<i>Capreolus capreolus</i>	15.0%	1.1%	0.8%	2.7%
<i>Sus scrofa</i>	36.6%	33.6%	23.7%	26.6%
<i>Canis familiaris</i>	0.5%	0.2%	0.3%	0.2%

Table 3. Percentage of the Faunal Assemblage (Based on MNI) at Lerna.

	<i>Sus scrofa</i>	<i>Ovis/Capra</i>	<i>Bos taurus</i>	<i>Cervus elaphus</i>
Lerna VII	42.9%	35.7%	14.3%	0.7%

Table 4. Percentage of Different Meat Sources in the Diet at Lerna (Based on MNI).

	<i>Sus scrofa</i>	<i>Ovis/Capra</i>	<i>Bos taurus</i>	<i>Cervus elaphus</i>
Lerna VII	41.2%	17.4%	27.6%	13.8%

Table 5. Percentage of the Faunal Assemblage (Based on NISP) at Tiryns.

	LHIIIB1	LHIIIB2	LHIIIC (early)	LHIIIC (mid)	LHIIIC (late)
<i>Bos taurus</i>	26.31%	34.92%	31.62%	38.39%	40.35%
<i>Ovis/Capra</i>	55.33%	40.74%	46.62%	36.84%	35.43%
<i>Sus scrofa</i>	31.84%	20.95%	19.86%	21.33%	18.97%
<i>Canis familiaris</i>	0.46%	1.28%	0.87%	1.17%	0.82%
<i>Cervus elaphus</i>	0.58%	1.55%	0.54%	1.83%	3.75%
<i>Dama dama</i>	0.12%	0.05%	0.09%	0.06%	0.05%
<i>Capreolus capreolus</i>	0%	0.03%	0.02%	0.06%	0.17%
<i>Lepus capensis</i>	0.35%	0.18%	0.16%	0.11%	0.12%
<i>Sus scrofa ferus</i>	0.58%	0.3%	0.22%	0.21%	0.32%

Table 6. Percentage of Different Meat Sources in the Diet at Tiryns (Based on NISP).

	<i>Bos taurus</i>	<i>Ovis/Capra</i>	<i>Sus scrofa</i>	Game animals	<i>Canis familiaris</i>
LHIII B1	75.8%	9.0%	14.3%	0.8%	<0.1%
LHIII B2	60.9%	17.9%	18.1%	0.2%	0.1%
LHIII C - early	58.6%	21.7%	18.3%	1.3%	0.1%
LHIII C - mid	63.7%	15.4%	17.5%	3.3%	0.1%
LHIII C - late	64.4%	14.2%	15.0%	6.2%	0.1%

Table 7. Percentage of Different Meat Sources in the Diet at Tel Miqne/Ekron.

	LBA	IA 1	IA 2
<i>Bos taurus</i>	49.0%	64.6%	58.8%
<i>Ovis/Capra</i>	41.7%	19.8%	31.1%
<i>Sus scrofa</i>	9.3%	15.6%	10.0%

Table 8. NISP for Iron Age Faunal Remains from Tell Ta'yinat.

	<i>Bos taurus</i>	<i>Sus scrofa</i>	<i>Cervus elaphus</i>	<i>Ovis/Capra</i>
Field I (Iron I)	163 (15.8%)	75 (7.3%)	3 (0.3%)	792 (76.7%)
Field II (Iron I/II)	63 (19.8%)	16 (5.2%)	5 (1.6%)	235 (73.7%)
Field III (Iron II)	82 (22.2%)	16 (4.9%)	5 (1.4%)	264 (71.5%)

Table 9. Percentage of Different Meat Sources from Tell Ta'yinat.

	<i>Bos taurus</i>	<i>Sus scrofa</i>	<i>Cervus elaphus</i>	<i>Ovis/Capra</i>
Field I (Iron I)	25.9%	1.9%	0.1%	72.1%
Field II (Iron I/II)	78.8%	3.2%	1.7%	16.3%
Field III (Iron II)	81.4%	2.8%	1.3%	14.5%

292).³ Much of the regional difference may also be attributed to local environmental conditions. Relatively high amounts of pig remains, for example, may reflect the ability of pig to thrive in those environments that were less arid and more humid.

Conclusions

While an examination of the faunal evidence from three Late Helladic III sites in the Mycenaean heartland does not identify a clear culinary pattern for the Mycenaean world, it does indicate that there was a preference for beef and pork over sheep and goat as source of meat. The Iron I evidence from Tel Miqne-Ekron in Israel, while suggesting some similarity with Aegean culinary practices, perhaps more revealingly, differs significantly from its Late Bronze Age predecessors in a manner that supports the possibility of Aegean influence. The faunal evidence from Iron Age Ta'yinat, meanwhile, though different, likely reflects a local adaptation to the marshy environment, at least more so than the potential presence of an intrusive Aegean element in the population, even though some of the noted peculiarities may reflect Aegean influence. In any event, more definitive conclusions must await the continuing excavations at Tell Ta'yinat, and the ongoing analyses of the remains being produced by these excavations.

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³ For slightly different faunal profiles representing the Anatolian highlands, see the data presented by Hongo (2003) for Kaman-Kalehöyük, and von den Driesech and Pöllath (2003) for Büyükkaya/Boğazköy.

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