

ARCHAEOZOOLOGY OF THE NEAR EAST VI

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archaeozoology of southwestern Asia and adjacent areas

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ASWA VI



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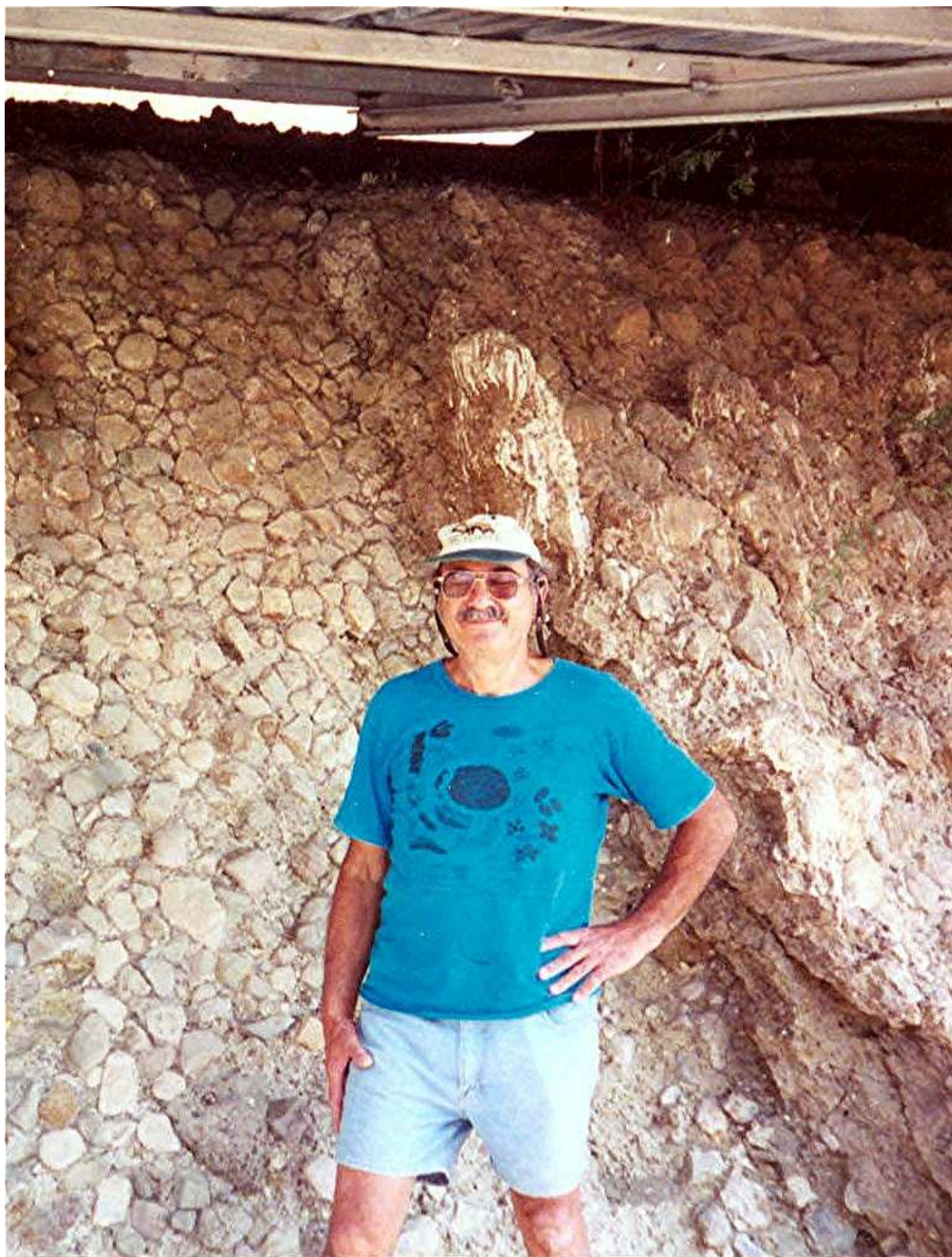
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Prof.Dr. Eitan Tchernov

This volume is dedicated to the memory of Prof. Dr. Eitan Tchernov, in fond memory of his enthusiasm and support to many in the field of archaeozoology.

Preface

The ASWA VI meeting was held at the Institute of Archaeology, University College London, from 30th August-1st September 2002, timetabled to follow on the heels of the ICAZ meeting in Durham, UK. Over 55 participants attended the meeting, travelling from 13 countries, bringing the latest research results from our field. As usual, it was a pleasure to see so many doctoral students presenting their research – a sign for a very healthy future for zooarchaeology in south west Asia. It is still unfortunate, however, that colleagues from some Middle Eastern countries were unable to attend due to financial and political constraints.

Presentations were organized into the following six themes, which highlight the scope of the ASWA membership: Animals in Palaeolithic and Epipalaeolithic Levant; Neolithic Patterns of Animal Use; Animals in Neolithic Anatolia; Animals in the Chalcolithic and Bronze Ages; Iron Age, Nabatean and Roman Patterns of Animal Use; Animals in Ancient Egypt. There was also a poster session, and contributors were invited to submit papers to this volume.

As always with the ASWA forum, the meeting served to welcome new scholars to the group, but was also very much a reunion of old friends and colleagues who have been sharing new information and discussing issues of joint interest for many years now. In this vein, it is a great sadness that ASWA VI was the last international meeting attended by Prof. Eitan Tchernov, an original founder of the group and mentor and inspiration to so many. For many of us, it was the last time we saw Eitan, and experienced his usual incisive comment, unstoppable enthusiasm for the subject, and warm friendship. He will be greatly missed.

ASWA VI was supported by the Institute of Archaeology, UCL, who provided facilities and financial and administrative help. In particular, the organizing team was aided greatly by the administrative assistance of Jo Dullaghan at the Institute. ARC bv (Archaeological Research and Consultancy, Groningen, The Netherlands) once again shouldered the finances of the publication of the proceedings, and we are extremely grateful for their continuing support. Many thanks are also due to the post-graduate student helpers from the Institute of Archaeology who made the meeting run so smoothly: Banu Aydinoğlu, Jenny Bredenberg, Chiori Kitagawa, Peter Popkin, and Chris Mosseri-Marlio (who also produced the logo reproduced on the frontispiece of this volume).

Many thanks to all the participants for making the meeting such a success!

Louise Martin
London 2005



Participants of the 6th ASWA Conference, held at the Institute of Archaeology, University College London.

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SHEEP AND GOAT REMAINS FROM ÇAYÖNÜ TEPEŞİ, SOUTHEASTERN ANATOLIA

Hitomi Hongo¹, Richard H. Meadow², Banu Öksüz³ and Gülçin İlgezdi⁴

Abstract

Results of the analysis of sheep and goat remains from Prepottery and early Pottery Neolithic levels of Çayönü Tepesi, southeastern Turkey, are presented in this paper. The relative frequency of sheep and goats in NISP increased through time, especially in the Large Room subphase, the latest PPN level at the site. A shift from a broad-spectrum resource exploitation to a strategy focusing on sheep and goats is a widespread trend in southeastern Anatolia, which took place by the Late PPNB. A shift in the size of sheep and goats toward smaller animals at Çayönü began to occur in the Channelled subphase. The change was continuous for goats, but clear reduction in the size of sheep is observed only as late as the Large Room subphase. Hunting of wild sheep and goats continue throughout the PPN, but only very few large animals are represented in the Large Room subphase. A delay in the kill-off schedule for sheep and goats is observed in the Cobble-paved subphase and later.

Résumé

Les résultats d'analyses de restes de moutons et de chèvres des niveaux Néolithiques précéramique et céramique de Çayönü Tepesi au sud-est de la Turquie sont présentés dans cet article. Les fréquences relatives des restes de moutons et de chèvres augmentent au cours du temps, spécialement dans la sous-phase de la Grande Pièce, le niveau le plus tardif du PPN sur le site. Un changement d'une exploitation de ressource à large spectre vers une stratégie plus centrée sur le mouton et la chèvre est une tendance répandue dans le sud-est de l'Anatolie, qui débuta à la fin du PPNB. A Çayönü, un décalage de la taille du mouton et de la chèvre vers des animaux de taille plus réduite commença dès la sous-phase du bâtiment à tunnel. La réduction de taille est continue pour les chèvres mais une celle-ci n'est nettement visible pour le mouton que plus tardivement durant la sous phase de la Grande Pièce. Un retard d'abattage est visible entre le mouton et la chèvre dans la sous-phase du bâtiment pavé aux galets.

Key Words: Çayönü, Southeastern Anatolia, Neolithic, domestication, sheep and goats.

Mots Clés: Çayönü, Sud-est de l'Anatolie, Néolithique, domestication, moutons et chèvres.

Introduction

The focus of this paper is the changes in the exploitation of sheep and goats that took place during the Prepottery Neolithic and early Pottery Neolithic periods at Çayönü Tepesi in southeastern Anatolia. These are reviewed in the context of contemporary developments occurring at the site and throughout the region both in subsistence practices and in other aspects of ancient society as reflected in the archaeological record.

Although sheep and goats have always played an important role in the pastoral economy of South-west Asia, their representation in the faunal assemblages of many early Neolithic sites in southeastern Anatolia was rather low until late in the Prepottery Neolithic period. Since the occupation at Çayönü covers the entire span of the Prepottery Neolithic, its faunal assemblage provides us with the opportunity to examine changes in the exploitation patterns of sheep and goats through time at a single site. Here we present data on the relative proportion of sheep and goat remains in the faunal assemblages of Çayönü, on animal body sizes, and on kill-off patterns for each occupation period at the site. We compare these results with those from contemporary sites in southeastern Anatolia, and we also examine how changes in animal exploitation patterns at Çayönü correspond to changes in other archaeological evidence at the site, such as archaeobotanical evidence, architectural configurations, and kinds

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of small finds and their distribution. We do this in order to obtain a better understanding of the development of social differentiation and economic specialization at Çayönü and in southeastern Anatolia in general.

Prepottery Neolithic sites in southeastern Anatolia

Çayönü Tepesi is located near Diyarbakır in southeastern Turkey, about five kilometers from the foot of the Taurus Mountains on a small tributary of the Tigris (A. Özdoğan 1994: Plate 74; Hongo and Meadow 2000: Figure 1). Our knowledge of the Prepottery Neolithic (PPN) in southeastern Anatolia has increased dramatically in the last decade as more PPN sites in the region have been excavated. The archaeological evidence from these PPN sites suggests that a certain degree of social stratification and craft specialization, together with elaborate communal rituals, characterized social systems during the PPN period in the region. With respect to the communal rituals, the sites typically have “cult buildings” that were clearly different both in location and structure from domestic structures (Hauptmann 1999; Rosenberg *et al* 1995, 1998; Rosenberg 1999; M. & A. Özdoğan 1998; M. Özdoğan 1999). At Çayönü, the settlement was maintained according to strict protocols of spatial planning, and the buildings were periodically rebuilt (M. & A. Özdoğan 1998). Some sort of community organization is suggested by such orderly operations. In addition, non-utilitarian objects are abundant at the PPN sites in southeast Anatolia, some of which reflect long-distance trade in raw materials or finished artifacts. This archaeological evidence suggests the non-egalitarian nature of society.

As for subsistence, Çayönü (and probably also other PPN sites in southeastern Turkey) seems to have obtained animal products mostly by hunting and plant products mostly by gathering during much of the PPN period. The faunal and botanical remains from Çayönü suggest that the environment surrounding the site was rich and diverse, providing the inhabitants of the site with a wide variety of plant and animal resources. The site was probably surrounded by open forests consisting of oak, pistachio, and almond. There was also an area covered with steppe vegetation (van Zeist and de Roller 1994). The presence of red deer and gazelle in the faunal remains suggests that both forest and steppe were included within the exploitation zone of the inhabitants of the site. Wild sheep and goats, which inhabit more mountainous areas, were also hunted. The marshy zone on the northern side of the site probably attracted a variety of wild animals, especially wild pigs, which are abundantly represented in the faunal record.

Stratigraphy of Çayönü

Each subphase of Çayönü is characterized by particular types of buildings (M. & A. Özdoğan 1990; Hongo and Meadow 2000, Table 2). In chronological order, from earliest to latest, these are the Round Building, Grill Building, Channelled Building, Cobble-paved Building, Cell Plan Building, and Large Room Building subphases. The Round Building subphase and perhaps the early part of the Grill Building subphase correspond to the Prepottery Neolithic A (PPNA) period of the Levant (ca. 10,200/10,000–9600/9500 radiocarbon years bp). The remainder of the Grill subphase corresponds to the Early PPNB (ca. 9600/9500–9200 bp). The following Channelled Building subphase goes into the beginning of the Middle PPNB (ca. 9200–8500 bp), which continues with the Cobble-paved Building into the Cell Building subphase. The Late PPNB (ca. 8500–8000/7900 bp) includes most of the Cell and Large Room Building subphases, but with at least part of the latter continuing into the Final PPNB (or “PPNC”: ca. 8000/7900–7500 bp). With an estimated date of 8000–7500 radiocarbon years BP, the following early Pottery Neolithic at Çayönü would also be contemporary with the Final PPNB in the Levant (A. Özdoğan 1994, 1995, 1999; Hongo and Meadow 2000; Ervynck *et al* 2001, but following the periodization of Cauvin and Cauvin 1993, for the northern Levant).

Analysis

Relative proportion of taxa

Figure 1 shows the relative proportion of taxa for each subphase of Çayönü based on the number of identified specimens (NISP). For the Pottery Neolithic, only the materials from the early part of that period immediately following the Prepottery Neolithic layers at the site are included in this chart.

At Çayönü, pigs are the single most abundantly represented taxon through the Cell subphase, although the proportion of pig bones slightly decreases from the Cobble-paved subphase. The most important trend through time is the gradual increase of 'pro-domestic' taxa. Pig, sheep, goat, and cattle bones together comprise about 60 percent of the faunal remains up to the Cobble-paved subphase. By the Cell subphase, however, the proportion of the bones of these pro-domestic taxa increases to about 75 percent and then to about 82 percent in the Large Room subphase. The main contributor to this trend is the increase of sheep and goat bones in the assemblage. In contrast, the representation of cervids, gazelle, and other wild animals began to decrease from the middle of the sequence to less than 10 percent of NISP by the end of the Prepottery Neolithic.

The proportion of sheep and goat remains in each subphase at Çayönü and from other PPN sites in southeastern Turkey are compared in Figure 2. In the chart, the sites are arranged in roughly chronological order, with the earliest site at the bottom of the chart. Faunal data from more than one phase are available from Nevali Çori and Çayönü. Proportions of sheep and goat bones at most of the sites in southeastern Anatolia are only about 10 percent into the Middle PPNB (through Nevali Çori III). This proportion shows a gradual increase, but still remain less than 25 percent into the Late PPNB (through the Cell Plan Building subphase at Çayönü). The exceptions to this generalization are Hallan Çemi and Cafer Höyük, where faunal assemblages are dominated by the remains of wild sheep and wild goats, respectively.

At least up to the end of the Middle PPNB, each settlement in southeastern Anatolia specialized in the exploitation of one particular animal species that was probably the most accessible taxon in the vicinity of that site. The most abundantly represented taxon at each site and its proportion of NISP are listed in Table 1. At Çayönü, wild pigs were the most abundant. Wild sheep were dominant at Hallan Çemi. At sites located close to the Urfa Plains, such as Göbekli Tepe and Nevali Çori, gazelle dominated the faunal assemblages. At Cafer Höyük on the northern side of the Taurus Mountains, wild goats were actively hunted (Cauvin 1985; Helmer 1988). These dominant species comprise more than one third and up to as much as 60 percent of NISP at each site. At Çayönü, while concentrating on pigs, a wide variety of wild animals were also hunted, which was the case for contemporary sites as well. Thus the pattern of animal exploitation at early Neolithic sites in southeastern Anatolia, up through the Middle PPNB, can be defined as a broad-spectrum strategy combined with the intensive exploitation of one dominant taxon.

Table 1. Dominant species at Neolithic Sites in S-E Anatolia.

Site	Dominant Species	% NISP
Hallan Çemi	wild sheep	43.0
Çayönü r	pig	36.5
Göbekli Tepe	gazelle	43.0
Nevali Çori	gazelle	63.0
Çayönü g	pig	44.7
Çayönü ch	pig	37.9
Nevali Çori	gazelle	59.0
Cafer Höyük	wild goat	42.9
Çayönü cp	pig	31.3
Nevali Çori	gazelle	42.0
Çayönü c	pig	31.9
Gritille	sheep and goat	71.0
Hayaz Höyük	sheep and goat	64.0
Gürcütepe II	sheep and goat	65.0
Çayönü lr	sheep and goat	53.6
Çayönü PN	sheep and goat	46.6

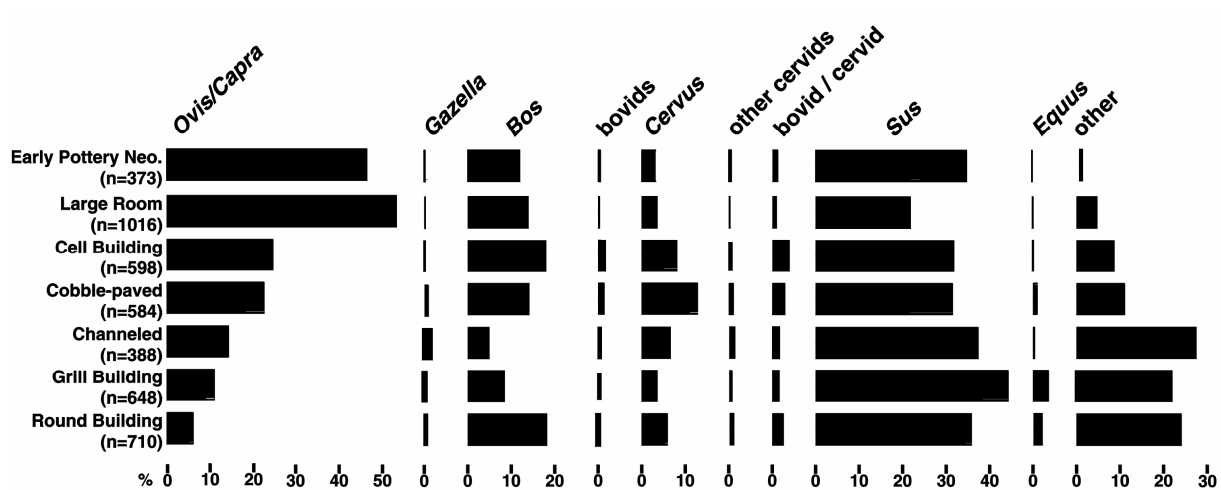


Fig.1. Relative proportion of taxa at Çayönü (based on NISP).

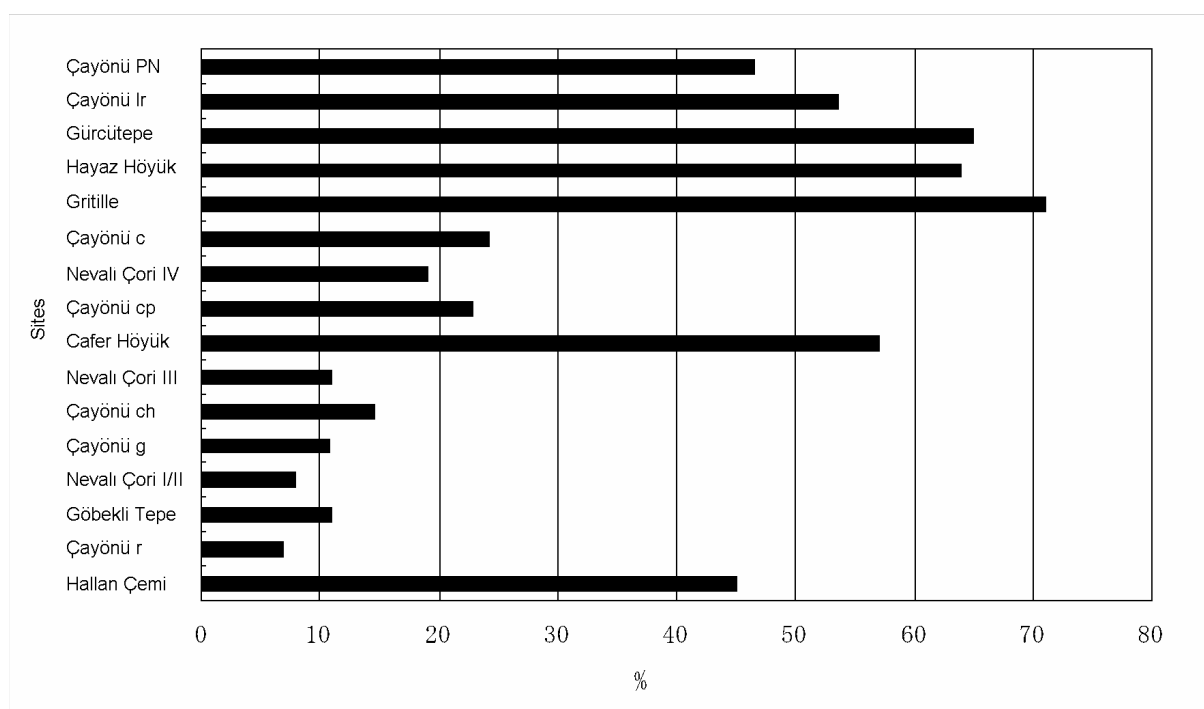


Fig. 2. Proportion of sheep and goats at Neolithic sites in southeastern Anatolia (based on NISP).

Table 2. Sheep to Goat Ratio at Çayönü.

Phase	# sheep	# goat	ratio
r	16	2	8:1
g	32	22	1.45:1
ch	65	113	0.57:1
cp	26	24	1.1:1
c	56	44	1.3:1
lr	201	76	2.6:1
Early PN	40	19	2:1

Note: The figures are based on material analyzed by summer 2002.

ately preceding Cell Building subphase (Fig. 2). Sheep and goats also comprise 60 to 70 percent of the faunal remains at other Late or Final PPNB sites in the region, such as Gritille, Hayaz Höyük, and Gürcütepe II (Table 1 and Fig. 2). Most sheep and goats from these sites are considered as domestic based on bone size and kill-off pattern (Stein 1986; Buitenhuis 1985; Driesch and Peters 1999; Peters *et. al* 2000).

In fact, beginning with the Late PPNB, an NISP proportion of more than 60 percent sheep and goats, and 15 to 20 percent each of cattle and pigs became a typical assemblage composition at archaeological sites in Anatolia until the Middle Ages, when the proportion of cattle increased (for example, see Hongo 1997, 1998; Boessneck and Driesch 1975). We can thus see that the typical pastoral economy of the region had been established by the Late PPNB, but not much earlier.

Sheep remains are much more abundant than those of goats in the earliest Round Building subphase, with a ratio of 8 to 1, although this figure may be problematic due to the small sample size (Table 2). The ratio of sheep to goat NISP at Çayönü fluctuates around 1 to 1 during most of the PPNB, dropping markedly in the Grill Building subphase and continuing to decrease until the Channelled Building subphase. In the Channelled Building subphase, sheep NISP is only about half that of goats.

Sheep remains gradually increase again through the rest of the Prepottery Neolithic, with a dramatic increase to about 2.6 to 1 in the Large Room Building subphase (Late into Final PPNB).

Size of sheep and goats

Measurements of post-cranial elements of sheep and goats from each subphase of Çayönü were compared using the "difference of logs" or "log size index" (LSI) technique (Meadow 1981, 1983, 1999; Uerpmann 1979). The standard measurements for the calculation of the LSI for sheep were taken from a female wild sheep from Iran (Chicago Field Museum, specimen # FMC57951). The standard measurements for goats are based on the average element dimensions of one female and one male wild goat from southern Turkey (Natural History Museum, London, specimen # BMNH653M and 653L2) (Uerpmann and Uerpmann 1994: Tables 12 & 14).

In the analyses reflected in Figures 3 and 4, only breadth and depth dimensions were used, because of the small number of length measurements available. In addition, LSIs for the Round and Grill subphases were combined due to the small sample sizes. The arrow at the bottom of each chart indicates the median of the LSI distributions.

We reported previously that a clear size diminution in sheep took place only as late as the Large Room Building subphase, but for goats there was a more gradual change throughout the Prepottery Neolithic period (Hongo *et al* 2002). Since then, more specimens from the Cobble-paved and Cell Building subphases have been analyzed and the picture has become clearer, although the small sample size for the former subphase makes any observations rather tenuous.

The sheep in the Round and Grill subphases were relatively large, suggesting the hunting of a wild population (Fig. 3). More small animals appear in the following Channelled subphase, although both the distribution of the LSIs and their upper range remain similar to those of the previous subphases. Further size diminution is suggested for the Cobble-paved subphase by the reduction in the median value and increased proportion of measurements from smaller animals, although the range of the LSI distribution remains largely unchanged from the previous subphase. As noted above, however, the

In the Late PPNB, however, there was a shift to a subsistence strategy concentrating on sheep and goats, and especially on sheep. This change was a universal trend in southeastern Anatolia. While a gradual increase in the representation of sheep and goats continued throughout the Çayönü sequence, it was not until the Late and Final PPNB, in the Large Room Building subphase, that the NISP of sheep and goats exceeded 50 percent of the assemblage, increasing from about 25 percent in the immedi-

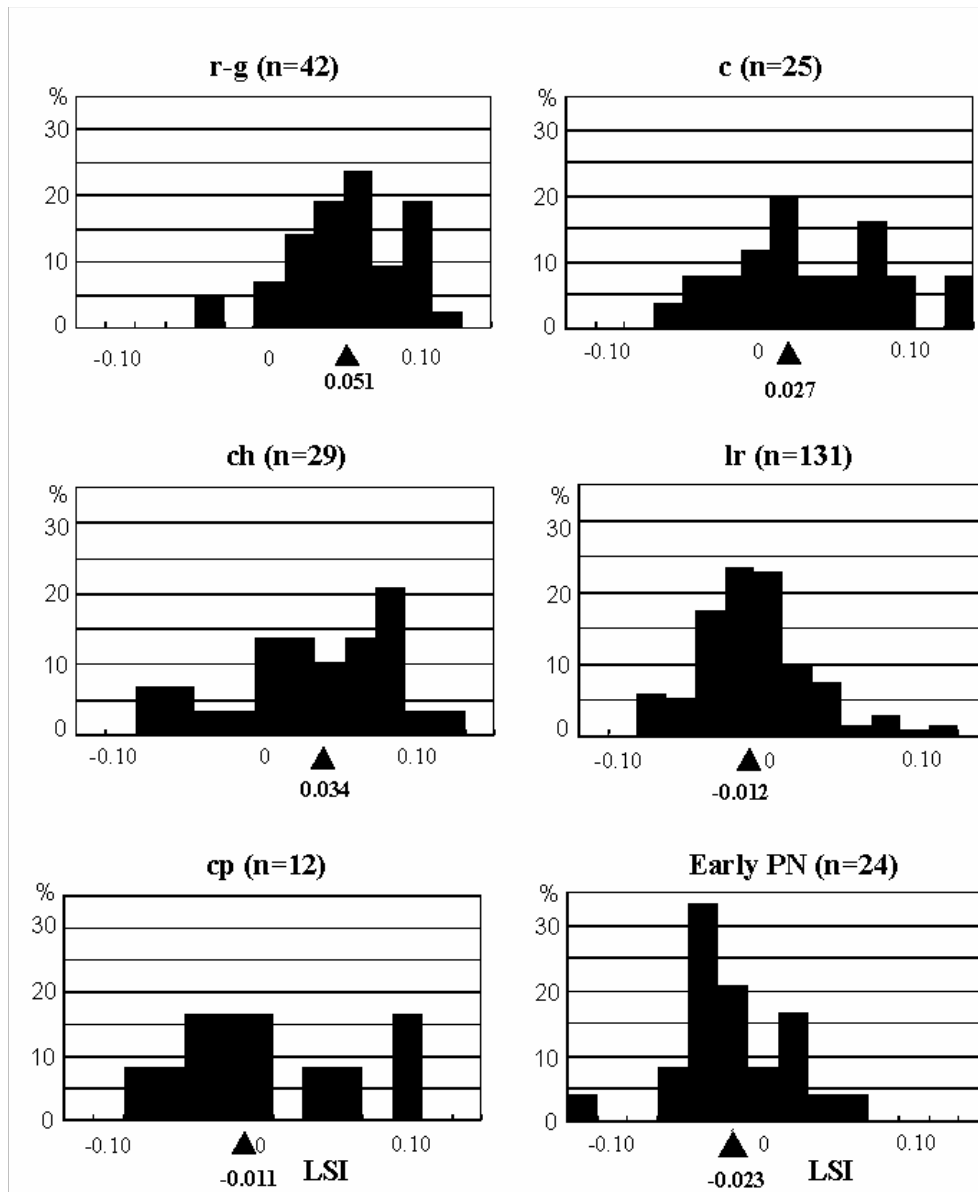


Fig. 3. Log size index distributions of *Ovis*.

number of specimens in the Cobble-paved subphase is small, with the size distribution pattern likely to be unreliable. That this is so is supported by the fact that the Cell subphase pattern is similar to that of the Channelled subphase. The peak of the LSI distribution clearly shifts toward the smaller size in the following Large Room subphase. This nature and distribution of the histograms suggests that this is due to an increase in the number of females represented in the measured assemblage. There is a further size diminution in the early Pottery Neolithic period, suggesting a sharp increase in the number of females but accompanied by an overall shift in the range of the LSI distribution toward smaller sized elements.

The LSI distributions for goat post-cranial measurements show a different pattern from those for sheep (Fig. 4). Although the number of specimens is few, goat bones in the Round and Grill subphases were large and comparable in size to those of a wild goat population. A gradual decrease in size, indicated both by the appearance of smaller animals and by a decrease in median values, is observed through the Cobble-paved subphase (Middle PPNB). The range of the LSI distribution increases in the Cobble-paved subphase, indicating more variability in the size of goats. A clear shift in

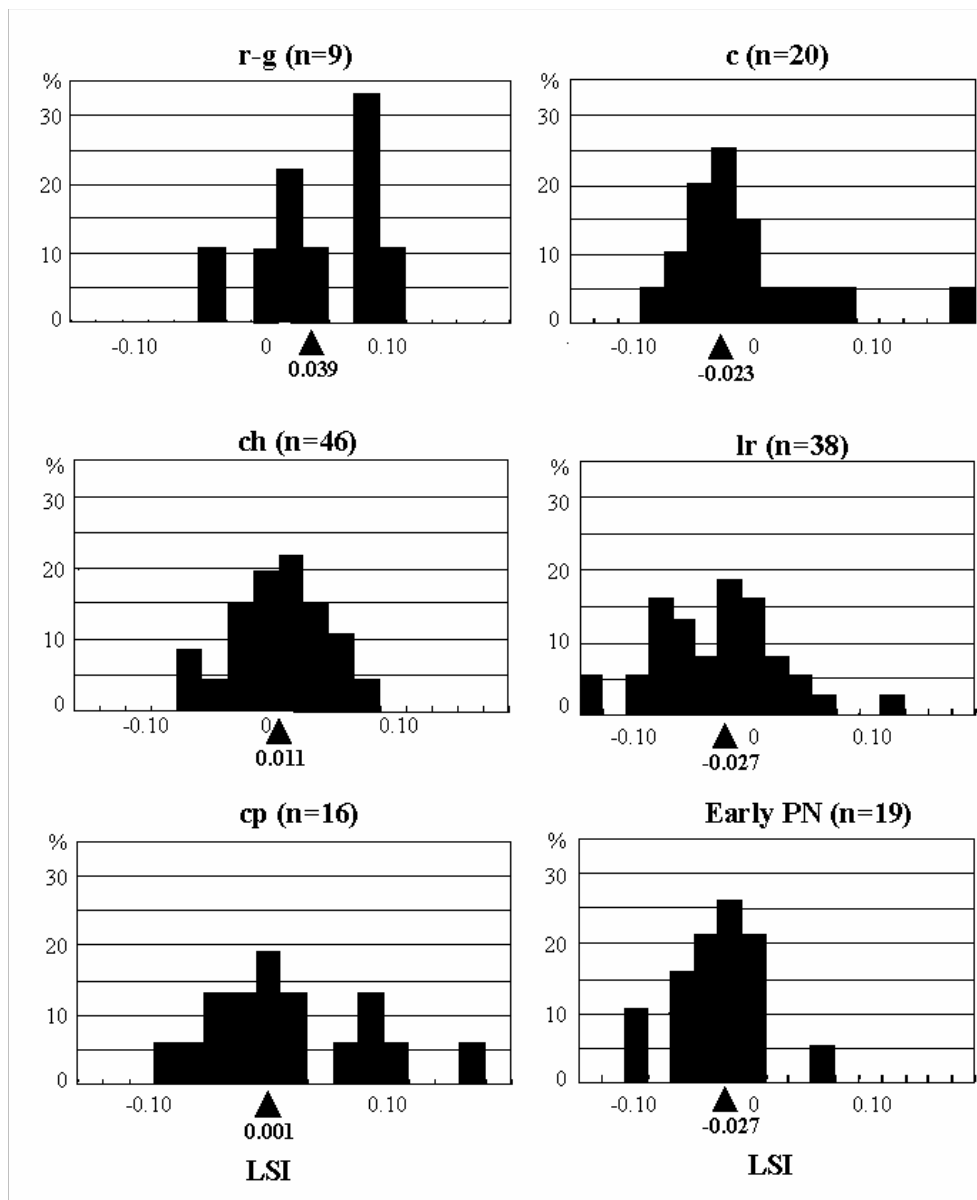


Fig. 4. Log size index distributions of *Capra*.

the size distribution toward smaller animals (females?) occurs in the Cell subphase (Late PPNB) as indicated by the decrease of the median value and by the distribution of dimensions, even though the overall range of the LSI distribution remains the same. Even this changes in the Large Room subphase, when only very few large animals are represented, a pattern that continues into the Pottery Neolithic when it seems that very few if any wild animals were hunted at all.

In sum, it appears that major changes in the distribution of measured element sizes took place with the Large Room subphase for both sheep and goats. Before that, size diminution in goats seems to have been more gradual than that for sheep, although the relatively small size of the twelve measured sheep bones in the Cobble-paved subphase may presage the later changes for that taxon.

Kill-off patterns for *Ovis* and *Capra*

Kill-off patterns for sheep and goats were investigated using the state of epiphyseal fusion of long bones. In general, Age Stage I corresponds to infantile (fusion between c. 6-12 months), Stage II to juvenile to subadult (c. 12-28 months), Stage III to subadult (c. 28-36 months), and Stage IV to full adult (36-42 months) (based on Silver 1969; Bökönyi 1972; Habermehl 1975).

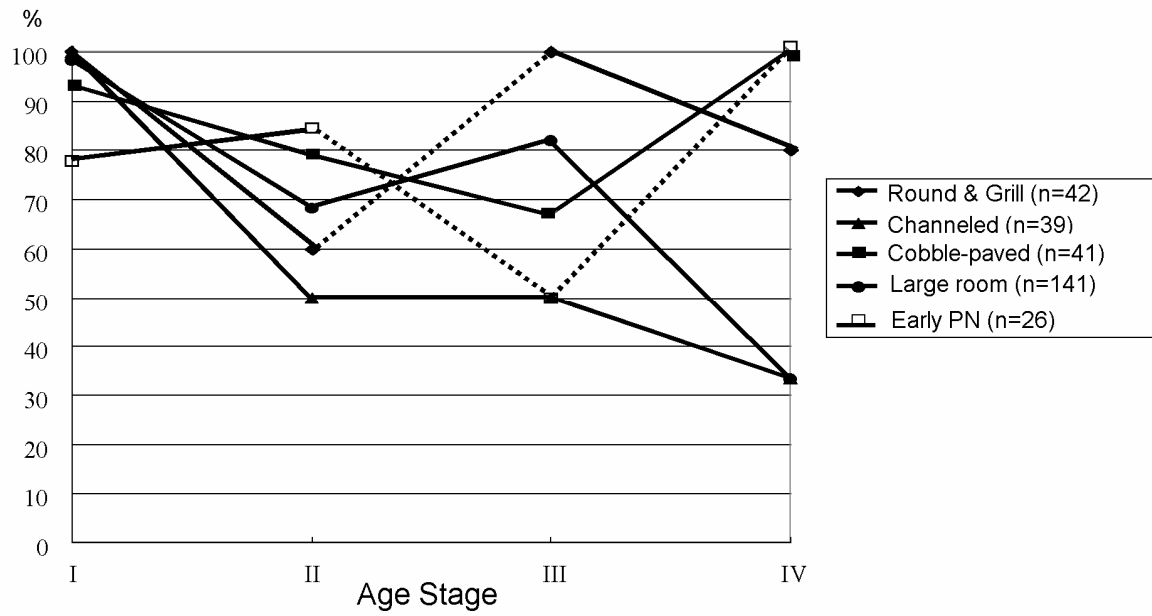


Fig. 5. Survivorship curves for *Ovis* based on epiphyseal fusion.

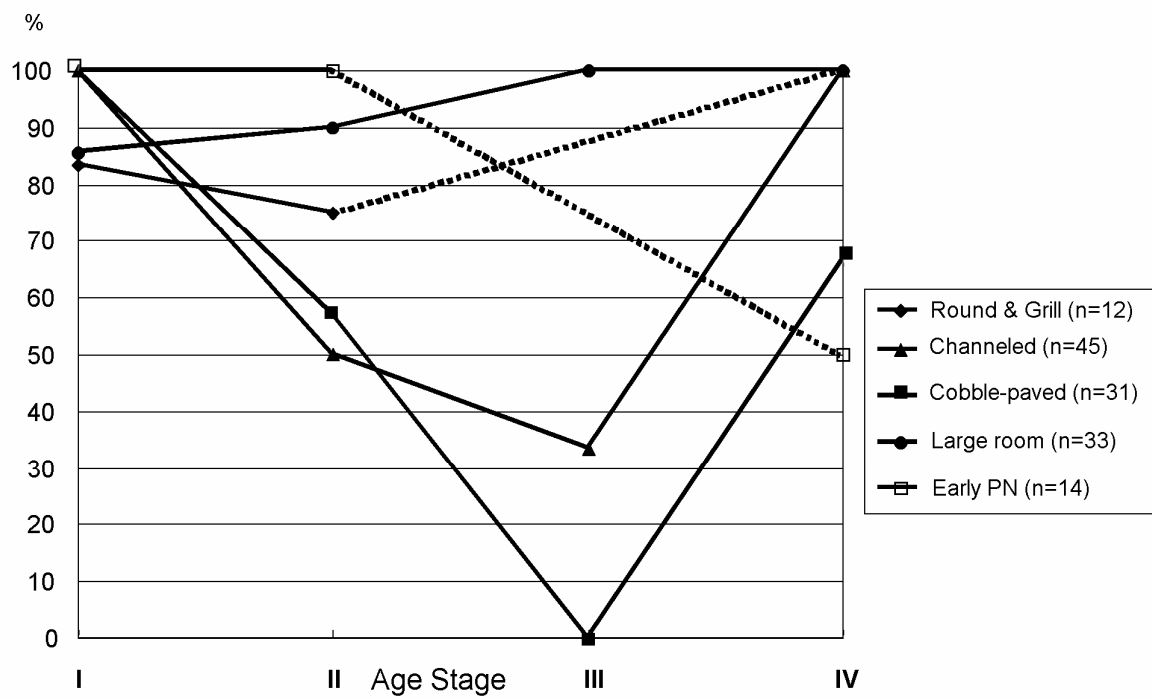


Fig. 6. Survivorship curves for *Capra* based on epiphyseal fusion.

When sheep and goats are examined separately, the results are problematic due to the small sample sizes of the late-fusing skeletal parts, which cause “rebounds” in the survivorship curves at Age Stages III or IV. Another problem stems from the identification of sheep and goats, since the specimens clearly able to be identified as either sheep or goat are more likely to have fused epiphyses. These problems relate especially to late-fusing elements such as femora, proximal tibiae, and proximal humeri. With these biases in mind, only the trends for Stages I and II are discussed here.

Figure 5 shows a trend through time in the kill-off patterns for sheep. In the earlier subphases (Round, Grill, and Channelled), 50 to 60 percent of sheep survived Age Stage II, while the survival rate in the later subphases (Cobble-paved to Pottery Neolithic) are higher at 70 to 85 percent. The survivorship curve for the Large Room subphase, which should be more reliable because there is a large sample size, shows that only about one third of animals survived Stage IV, suggesting that much of the sheep kill-off took place during the subadult stage.

The survivorship curve for goats also suggests earlier kill-off in the earlier subphases. In Figure 6, epiphyseal union patterns for the Cobble-paved and Cell subphases are combined because of the small sample size available for the former. When examined separately, the survival rate at Age Stage II in the Cell subphase is about 85 percent. Thus, the survival rates at Age Stage II were relatively low in the earlier subphases, possibly until the Cobble-paved subphase, while more than 85 percent survived Stage II (juvenile) in the Cell and later subphases.

Discussion and conclusion

Sheep and goats became increasingly important through the Prepottery Neolithic at Çayönü, in congruence with a widespread trend in southeastern Anatolia. Relative proportions of different animal taxa at Çayönü and at other sites in the region suggest that a shift from a broad-spectrum resource exploitation strategy to a strategy focusing on sheep and goats took place by the Late PPNB. The ratio of sheep to goats at Çayönü suggests that sheep especially contributed to this trend starting from the Cobble-paved subphase. This shift in animal exploitation is likely to be related to the beginning of caprine husbandry in the region. The present study confirmed the observation made by Lawrence (1980, 1982) that domestic sheep were kept in the “uppermost level” (which is now known to correspond to the late Cell Building and Large Room Building subphases, and perhaps also to some features now included in the Cobble-paved Building subphase). Lawrence (1980) was inconclusive about the status of goats at Çayönü. The results of the present analysis suggest that a clear shift in the size distribution of goats occurs in the Cell subphase, and by the Large Room subphase the majority of the goats in the assemblage are domestic. Gradual decrease in the size of goats started as early as in the Channelled Building subphase. Whether sheep and goats were locally domesticated, or domestic animals were initially introduced to the region is still an open question.

The timing of the transition in subsistence strategy at Çayönü is largely in conformity with the general trend observed at Prepottery Neolithic sites throughout southeastern Anatolia. At Çayönü, smaller sheep and goats, as well as smaller pigs and cattle, start to appear as early as the Channelled subphase (beginning of the Middle PPNB). Based on the size index distributions, we can conclude that a shift in size toward smaller animals began to occur in the Channelled subphase for both sheep and goats, but while it was more continuous for goats, the situation for sheep is less clear with a definitive change perhaps occurring only as late as the Large Room subphase (Late PPNB). Later kill-off schedules are also observed in the Cobble-paved subphase and later. The dramatic increase in the proportions of sheep and goats in the Large Room subphase is accompanied by clearly smaller animals, the measured bones probably dominated by those from females. Elements from very large sheep and goats continue to be found through the Large Room subphase, however, suggesting that active hunting of wild animals continued throughout the Prepottery Neolithic. As previously reported, this was also the case for pigs and cattle (Hongo and Meadow 2000; Hongo *et al* 2002). Initially domestic animals (and probably also cultivated crops) were exploited only as additional subsistence options in a broad-spectrum subsistence strategy, although they became increasingly important through time.

The results presented above confirm previous observations that key periods of change at Çayönü were in the Channelled Building and Large Room subphases from the point of view of archaeozoological and archaeobotanical data, as well as from the chipped stone industry and architectural con-

figurations (Bıçakçı 1998; Caneva *et al* 1998; Hongo and Meadow 2000; Hongo *et. al* 2002).

Until the Cell Building subphase, subsistence patterns as well as community organization at the site was relatively stable, founded on a long tradition of sedentary hunter-gatherers in the region. And even though cultivated cereals and pulses and the exploitation of ‘pro-domestic’ or domestic animals became increasingly important by the Cell Building subphase (A. Özdoğan 1995, 1999: 52), wild plants and animals continued to play an important role at Çayönü (van Zeist 1972, 1988; Stewart 1976; van Zeist and de Roller 1994). As for the patterning of structures at the site, spatial planning of the settlement was strictly maintained, probably supported by a strong community organization. A review of the history of so-called “cult buildings” (M. and A. Özdoğan 1998; Rosenberg 1999) suggests that this tradition also originated as early as the PPNB in southeastern Anatolia. This pattern started to collapse during the Cell Building subphase, and by the time of the Large Room subphase (Late to Final PPNB), the socio-economic basis of the site was drastically transformed. Heavy reliance on domestic animals, and especially on sheep and goats is characteristic of the Large Room subphase and of the Pottery Neolithic. During these periods, community space and cult buildings were no longer maintained, which suggests that a fundamental change had taken place in the social and even psychological structure of the population, perhaps with a move toward more limited (“private”) control over both productive and social resources. Overall, the process of “Neolithization” at Çayönü was a gradual one, perhaps starting by the end of early PPNB and spanning a thousand years or more, culminating in a major shift during the Late to Final PPNB, which laid the foundation for the Pottery Neolithic tradition at the site.

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