

still relatively high, do not stand out as dramatically. TAs noted in the 2012 faunal report, the other two levels with relatively high proportions levels of cattle have small sample sizes (H and J).

The majority of material assigned to the South area derives from spaces 370 (Building 96), 470 and 475 (Table 7.4).

Building/Level	H	L	M	M, L	N	O	P	Q	T	UA	Total
South	7	9	301	2	74	1279	74	6	11	841	2604
43		2									2
68								6			6
75							2				2
80						13					13
89					74						74
96						1013					1013
97						44				2	46
104			1								1
118	7										7
370							5				5
76, 80						209					209
UA		7	300	2			67		11	839	1226
Total	7	9	301	2	74	1279	74	6	11	1662	2604

Table 7.4. NISP for Buildings by Hodder Phase. UA is material as yet unassigned to a Level.

TPC

Analysis continued on the assemblages from the infill deposits and the cluster of animal bones (20255; 20255.X38; 20255.X43; .X44; .X46; .X47) found between the walls of Buildings 110 and 111 in the 2012 season. In total, the number of animal bones from this context has increased to 601. Most of the results from this deposit have been presented in the 2012 archive report. The identification of the distal end of the femur (as derived from a calf) was verified. Astragali with modified surfaces were divided in 4 groups, according to the degree of wear and the side of modification.

In the 2013 season, dog skeletons (30260) (30259), bones in the sequence of Space 486 of Building 110, and evaluated deer antlers (30779.X1) were developed from the TPC Area. Samples for radiocarbon dating were selected and priority units were assessed (30293) (30705) (30716), and the rest of the material from the TPC Area as was briefly scanned.

Space 508, post-Neolithic dog burial

A dog skeleton (30260) was found in the N part of trench 2. The almost complete skeleton was lying on its right side in an anatomical position indicating intentional burial. The cranium, mandibles, atlas, three cervical vertebrae, three lumbar vertebrae, sacrum, left scapula, femurs, patellae, two metatarsals, three first phalanges, and four third phalanges were not found. Axis, pelvis, and caudal vertebra were recovered in (30259). Considering the epiphyseal fusion, the skeleton comes from an adult. In the absence of maxillae and mandibles, more precise determination of the age is not possible. The bones have good surface condition, being light brown in colour with the presence of salt concretions on the surface, and the slightly shiny surface. No cut marks were found, a fracture with dislocation is visible on the left humerus, and osteomyelitis is present on the ribs, phalanx, left

radius, and ulna. In addition, a few thoracic and lumbar vertebrae have pathological lesions. Skeletal elements were generally found in anatomical order. The particular displacement of some elements (the phalanges, metacarpals, and metatarsals), and the post depositional fracture of the humerus in the middle of the shaft (with one shiny edge, though not due to a modification) suggest that the skeleton underwent slight post depositional movement.

Building 110

Three units (30216) (30221) (30241) were recorded in the sequence of Space 486, Building 110. One of the first units in the sequence (at the top) was (30216). This unit could potentially be subject to contamination by later material. The relative proportions of sheep/goat and of cattle in it are not similar (caprine a little more frequent), and these predominate over other taxa (namely fox, cervid, and homo). The condition of the material is striking in terms of surface condition (good) and fragmentation (in case of sheep/goat, mostly cylinders, with no signs of biting at the ends, and with one end and shaft). Such preserved long bones suggest that processing involved bone marrow extraction but excluded the bone grease extraction stage. The presence of the heads and feet of caprines demonstrates that the early stages of butchery occurred. Skull elements, including the maxillae, are underrepresented, as matching with jaws indicates. This leads to a higher MNI (minimum number of individuals) than does counting postcranial elements. Such a low degree of processing of animal bones is remarkable for the Neolithic in Çatalhöyük, and is more reminiscent of the post Neolithic. In addition, cattle astragali with modification of the dorsal surface may strengthen this, as so far only one such astragalus (North Area, Building 58, Space 227, 10205.F158) has been described from the Neolithic context. Conversely, were the context to be the Neolithic, this would be unusual. Measurements of cattle astragali using the log ratio (LSI) method fall in the domestic range. The cut marks on the one of the astragali would be unusual if considered as butchery marks, as they are not midway along the bone but on the distal articular surface. This unit has provided a flute/whistle, among other worked ones. It is made of a caprine femur with two holes and evidence of butchery marks.

The unit also contains an astonishing quantity of human bones with good surface condition, grey in colour, and with slightly shiny surfaces. Their state of preservation is comparable to that of bones from OPAL. On the other hand, these bones do not have the orange dark brown patina observed at OPAL.

Aside from the issue of dating, the assemblage is homogeneous. Articulated pieces, the presence of delicate items like costal cartilage and hyoids, and the presence of juvenile elements indicate a lack of post depositional disturbances. The assemblage was covered fairly quickly (as shown by the good surface condition of the elements) but was also exposed for at least some time (as seen from the few gnawing marks and the low percentage of digested).

Although the unit's taxonomic and anatomical distribution is consistent with a midden, it has much more integrity. The characteristics of the unit are so consistent that it looks to have come from a single event. Hence, it seems to be fresh post consumption in origin, with also some primary butchery parts.

The unit below (30221) is comparable to (30216), but additionally contains pig remains (MNI = 2) and an avian long bone—presumably a femur with pathology in the joint. The minimum number of individuals is 10 sheep/goats (left mandibles) and 2 cattle (left humeri). Sheep/ goat vertebrae were found in articulation, as were cattle carpals. The next in the infill sequence in Space 486 is (30241), which is similar to (30216) and (30221). Among the human bones, a calcaneus has red staining in root etchings.

Space 514

In an infill layer of Space 514 in Building 121, a deer antler was found (30779.X1). This has not yet been completely recorded, but several characteristics were already visible during exploration. The presence of first, second, and middle tines, as well as of at least two terminal points, allows us to specify that the antler represents developmental stage 10 or 12 points of the cervid antler, and that it comes from an adult male. The antler base is not preserved, so it is not possible to determine whether it has been shed and collected or comes from hunted individual. It is noteworthy that this find is one of the best preserved antlers in Çatalhöyük. Another example of deer antlers from previous years comes from, e.g., Building 7.

In addition, six sets of articulated bones from different contexts were prepared for radiocarbon dating. During their selection, several units (20154) (20155) (20232) (20285) (20293) (30205) (30211) (30232) (30245) (30259) (30269) (30715) were scanned to qualitatively and quantitatively evaluate the material for their research value. From the taphonomic point of view, considering the homogeneity of the material, (30205), (30245), and (30259) worth further study. In turn, (30715) in Space 508—which includes parts of a skeleton from a disturbed burial of a dog together with a cow size scapula—will be able to, once fully recorded, provide measurement data for this taxa, regardless of the fact that it has post Neolithic dating.

Additionally, some field measurements of X finds were made in different spaces of the North Area. These include a cattle mandible (30567.X3; Space 18, Building 102); sheep horn cores incorporated into a bench (.X1 6; no unit number as not yet excavated in this season, but just exposed; Space 94, Building 52); cattle horn cores (20965.X24 and 20965.X25; Space 511); a cattle scapula (20988.X11; Space 511); a cattle tibia and humerus, representing the most likely foundation deposits, which have not been excavated or lifted this season; and horse scapula, cattle horn cores, and cattle pelvis (Space 512, Building 119). Those that have been consolidated and lifted from the ground are fully recorded.

Area	Year	Building	Space	Unit number	GID	Element	Taxon
TPC	2012	110	486	20232	20232.F1	sacrum	Ovis/Capra
	2013	110	486	30216	30216.F2	lumbar ertebra	sheep size
					30216.F3	lumbar ertebra	sheep size
					30216.F4	lumbar ertebra	sheep size
					30216.F5	sacrum	sheep size
	2013	110	486	30245	30245.F1	metacarpal III+IV	Ovis
	2013	110	486	30269	30269.F1	lumbar ertebra	sheep size
					30269.F2	lumbar ertebra	sheep size
	2013		508	30260	30260.F12	metacarpal I	Canis
					30260.F13	metacarpal II	Canis
					30260.F14	metacarpal III	Canis
					30260.F15	metacarpal IV	Canis
					30260.F16	metacarpal V	Canis
	2013	110	486	30716	30716.F1	axis	Ovis
					30716.F2	cervical vertebra	Ovis

Table 7.5. TPC area, samples selected for radiocarbon dating.

KOPAL Analyses Done in 2013

The majority of human remains from Çatalhöyük are recovered from intramural formal burials with faunal material recovered from floors, middens and infill layers. The human burials comprise small groups of individuals selected for internment and this combined with the low numbers recovered suggests that few people were buried on the mound. In 1995 the Konya Basin Palaeoenvironments excavated a trench external to the mound with osteological material (c7000-6700 cal BC) that postdates the initial midden deposits on the mound, but predates the first built structures and provides the only evidence for off site burial (Boyer *et al.* 2007). The remains of several disarticulated adult human individuals were commingled with fragmented animal remains (Molleson *et al.* 2007). Initial assessment of the human remains indicated good preservation and a lack of complete individuals with many, but not all, parts of the body present. Some of the bones were noted to have 'dry fractures' indicative of a secondary deposit, these combined with the body part representation contrast with the generally complete primary burials encountered within structures on the mound. For animals initial analysis revealed an unusual predominance of wild species (cattle, deer & wild boar) with entire carcasses present (Russell and Martin 2005).

Commingled human & animal remains are not uncommon occurrences on archaeological sites, but their interpretation can be flawed. In most cases they are analysed separately by different researchers working independently leading to interpretations that reflect impressions upon discovery rather than deriving from detailed assessment & comparison of the mixed assemblages. Often such deposits are interpreted to have resulted from disturbance, to represent cannibalism (with animals & humans subject to butchery) or considered to be result of funerary rites. To distinguish among these possibilities researchers must define the processes that led to what appear to be superficially similar contexts. Interpretation depends on part representation, fragmentation analysis, bone breakage patterns & assessment of taphonomic effects (weathering, animal gnawing, burning, & root activity).

This project aims to gain an in depth understanding of the formation of this deposit by supplementing and enhancing the standard osteoarchaeological analyses by drawing on recent