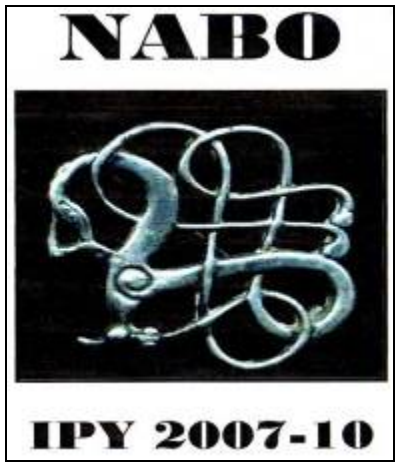
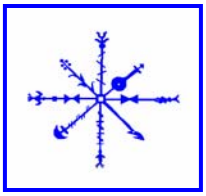


Faunal Analysis from the 2005 Excavation at Aðalstræti Nr. 10 in Reykjavík, Iceland

Ramona Harrison
Elise Alexander
Frank Feeley
Meg Gorsline
Megan Hicks
Slobodan Mitrovic

CUNY Northern Science and Education Center



NORSEC

CUNY Doctoral Program in Anthropology
Hunter College Bioarchaeology Laboratory
Brooklyn College Zooarchaeology Laboratory

NORSEC ZOOARCHAEOLOGY LABORATORY REPORT No. 40

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Contact: ramonaharrison@gmail.com

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Introduction

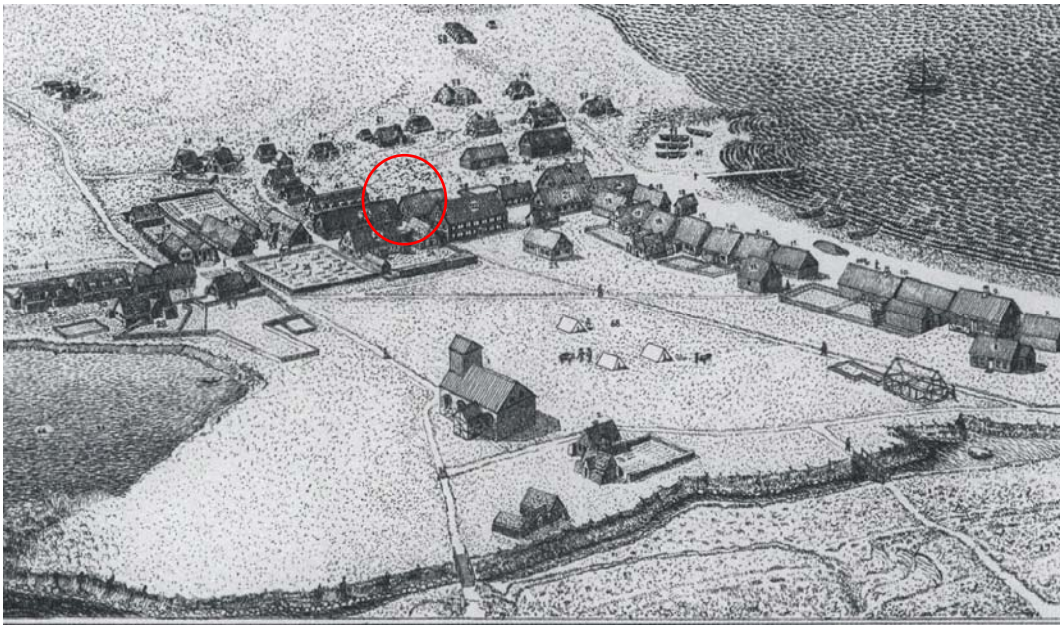

Figure 1 –Cropped version of the picture ´Reykjavík in 1801', by Artist Aage Nielsen-Edwin, based on a survey map by Ohlsen and Aanum. The circled area to the right of the old Settlement farm indicates the Aðalstræti 2005 excavation area. (Vésteinsson 2004: 97) Snæsdóttir, personal communication, February 20, 2008).

In 2005, Archaeological excavations at the site of Aðalstræti in downtown Reykjavík were carried out under direction of Mjöll Snæsdóttir and Howell M. Roberts from the Archaeological Institute of Iceland (FSÍ). Reason for these archaeological activities was a planned rebuilding and reparation of the house at Aðalstræti 10, whose building date falls into the latter half of the 18th Century (Snæsdóttir, 2005 – English translation). Phase one of the investigations involved a series of test trenches, dug on the western part of the plot in January and February of 2005, revealing neither archaeological remains from the Viking age nor from the 18th Century. According to Snæsdóttir (Snæsdóttir 2007), the early modern remains from Aðalstræti 10 lie to the north of the old Reykjavík farm (Fig 2) which dates back to Settlement period (Markússon in Vésteinsson 2004). Figure one displays a drawing by Nielsen-Edwin that is based on a map drawn in 1801 by Ohlsen and Aanum, who were employed to do coastal surveys in Iceland in 1801-1818 (Snæsdóttir, personal conversation January 20, 2008).

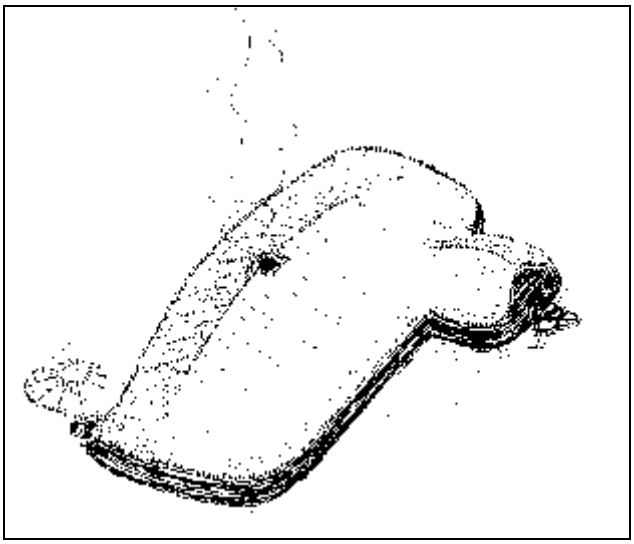

Figure 2 - Possible reconstruction of the Settlement farm at Aðalstræti (Grétar Markússon, Argos ehf, in Vésteinsson, 2004).

The inside foundation of the house at Aðalstræti 10 was excavated in August to September of 2005, yielding bone material which weighed about 30 kg. The excavators found rows of stones associated with the original wooden floor of the present building as well as several thick cultural layers underneath which were dated to the 18th century AD, mainly based on pottery and clay-pipe fragments. The archaeofauna is associated with these pre 1760s AD cultural layers which predominantly consisted of peat ash from fire-places. The 2005 Aðalstræti archaeofauna is thus roughly datable to the early 18th to late 17th centuries AD (at the beginning of the process of urbanization at Reykjavik), and appears to be closely associated with the Early Modern farm buildings. The Aðalstræti 05 collection is thus closely contemporary with the larger Tjarnargata 3c bone collection excavated in 1999 from beneath the parking lot of the modern Icelandic Parliament building, which appears to have been an outdoor dump/processing area used by multiple households and the growing fish processing trade (Snaesdottir 2000, Perdikaris et al 2002, Palsdottir 2008).

Summary

This NORSEC Bone report uses zooarchaeological data from the analyzed faunal remains gathered during the 2005 rescue excavation of the 18th century house in Aðalstræti. A total of 30 kg of faunal materials were analyzed for this report. Bone rich contexts were sampled for bulk and additional flotation samples were wet-sieved through 1 mm mesh.

Laboratory Methods: The faunal analysis was carried out primarily at the Hunter College Bioarchaeology Laboratory, and to some extent at the Brooklyn College Zooarchaeology laboratory which is better equipped for fish bone analysis. A series of visits with the American Museum of Natural History departments of Mammology and Ornithology were helpful for analyzing rather unique specimens. Analysis was undertaken predominantly by CUNY PhD student Ramona Harrison, under the direction of Dr. Thomas McGovern (director of Hunter Bioarchaeology Lab) and Dr. Sophia

Perdikaris (director of Brooklyn College Zooarchaeology Lab). Help in analyzing and recording was provided by several CUNY graduate students (PhD. and Masters Program), under constant supervision of R. Harrison who was also responsible for the digital record.
All measurements are based on von Den Driesch (1976) unless noted otherwise, measurements taken with digital calipers to the mm. As is usual for the analysis of Icelandic bone materials, the NABONE recording package (version 8) was template for data recording and manipulation (for more detailed information on NABONE, please contact nabo@voicenet.com).

Overview of Species Present

A Total Number of Fragments, or **TNF**, of **13,471** were counted, yielding a Number of Identified Species, or **NISP,** of **6,923**. The overall preservation was variable; some contexts contained many flaked bone and heavily deteriorated fragments, whereas other elements were in surprisingly good condition. Contexts (062) and (088) yielded the best preserved bone material, while remains from contexts (076), (082), (084), (086), frequently could only be placed in UNIM (Unidentified Mammal species) and Fish (Unidentified Fish species) categories. Context (067) contains the largest amount of unidentified fish remains with 1137 elements counted These unidentifiable bone fragments were the ones most affected by Taphonomy (Lyman, 1996), the series of post-depositional deterioration factors leading to the break down of faunal materials. The high number of fragments placed into the UNI or Unidentifiable Faunal Fragments category further indicates the rather poor preservation state of at least part of the faunal remains.

The species present include domestic cattle, sheep, goat, horse, pig, dog, seal, rat, bird, and fish as well as mollusk remains. AST05 is a proto-urban collection and as at Tjarnargata 3c a substantial number of the bones showed clear evidence of rodent gnawing, probably by both rats and mice (Perdikaris et al, 2002). The collection also contains 15 rat bone elements identifiable as the Norway rat (*Rattus norvegicus*-indentification on tooth rows). At least four individuals lived or died in the (051) context underneath a wooden floor. This deposit is probably best understood as intrusive and the result of bioturbation factors and burrowing by later 18th-19th c rat colonies, but the many tooth marks indicate substantial rodent activity back to the early 18th century.

At 87 %, the **Fish** category is the most abundant, with ca. 1/3 of the fish elements analyzed to family, in this case almost 100% gadid (cod family). The identified gadidae were predominantly Cod or Haddock, with occasional Saithe remains mixed in. From the skeletal element distribution data, a pattern of fish management emerges strongly suggesting the consumption of substantial amounts of prepared (headless) haddock and fresh (whole) cod. This "consumer" fish element distribution pattern contrasts strongly with the "producer" patterns noted at the Tjarnargata 3c midden nearby. No fresh water fishes were found in the collection, a pattern duplicated at Tjarnargata 3c.

Domestic mammal remains fall into the second largest identified category with a NISP of 586. **Cattle** elements only make up about 1 percent, the majority of bones that fall into the domesticate category was assigned to Caprines (Sheep/Goat). Most identifiable

caprines were in fact sheep (NISP 48) compared to only a few goat (NISP 2) remains. Aðalstræti pigs seem to have been acquired rather than part of a domestically farmed stock. The percentage of pig skeletal element distribution pattern resembles the one at Tjarnargata 3c, indicating the consumption of imported ham, but the low number of actual elements recovered does not allow for such a statement. The horse remains are all from teeth and thus do not indicate horse slaughter. In 18th century Iceland it was not at all fashion to eat horse meat, unless for lack of any other food (Sveinsson, 1962). The two **dog** elements listed in the table are from individuals that are smaller than the Icelandic herding dog and may have had a lap dog function, maybe also catching mice or simply reflecting the increasingly cosmopolitan character of the growing port town (for comparison, see Harrison 2007).

Birds were relatively diverse in the identified species categories, while Mollusk fragments could be assigned predominantly to mussel (*Mytilus edulis)*.

Butchery patterns are dominated by chop marks (figure 11), but a few elements show sawing of bone elements (figure 12). This butchery fashion is well known from 18th Century Colonial American excavation sites (Deetz, 1996). Similar to the Tjarnargata 3 c archaeofauna, there is little burning of bone and many of the elements show rodent gnawing.

Overview of Species Present

Table 1 presents the Aðalstræti 05 archaeofauna as a Total Count and also the Percentage of the NISP. **NISP** (number of identified specimens) refers to all fragments that could be identified to a useful level. **TNF** is a count of all bone fragments (identifiable or not), **MTM** is "medium terrestrial mammal" (sheep-dog-pig sized), **LTM** is "large terrestrial mammal" (cattle-horse sized), **UNIM** or unidentified mammal are small fragments that cannot be identified beyond this broad category. **UNI** or unidentifiable bone fragments simply indicate the existing degree of erosion.

Aðalstræti 2005	NISP	% of NISP
Taxon		
Domestic Mammals		
Cow (*Bos Taurus L.*)	64	0,92
Horse (*Equus cab. dom L.*)	4	0,06
Pig (*Sus scrofa dom L.*)	5	0,07
Dog (*Canis fam. L*)	2	0,03
Goat (*Capra hircus dom* L)	2	0,03
Sheep (*Ovis aries dom* L)	48	0,69
Caprine	461	6,66
total Caprine	511	7,38
total Domestic	586	8,46
Seal species	1	0,01
total Seal	1	0,01
Brown rat *(Rattus norvegicus)*	15	0,22
Birds		
Auk family *(Alcid sp)*	2	0,03
Chicken family (*Phasianidae*)	4	0,06
Common Scoter (*Melanitta nigra*)	2	0,03
Cormorant (*Phalacrocorax carbo*)	2	0,03
Duck family (*Anatidae sp*.)	5	0,07
Goosander (*Mergus merganser*)	1	0,01
Goose family *(Anseridae sp.)*	3	0,04
Guillemot family (*Uria* sp.)	1	0,01
Gull species (*Larus* sp.)	1	0,01
Kittiwake (*Rissa Tridactyla*)	1	0,01
Mallard (*Anas platyr*.)	2	0,03
Passerine family (*Passeri* sp.)	1	0,01
Plover family (*Pluvialis sp.*)	7	0,10
Ptarmigan (*Lagopus mutus*)	3	0,04
Razorbill *(Alca torda*)	1	0,01
Swan (*Cygnus cygnus*)	1	0,01
Bird species indeterminate	102	1,47
total Bird species	139	2,01
Fish		
Cod (*Gadus morhua*)	298	4,30
Haddock (*Melanogr. aeglef*.)	402	5,81
Saithe *(Pollachius virens*)	10	0,14
Gadid sp	822	11,87
Pleuronectiformes	1	0,01
total Fish species identified	1533	22,14
Fish species indeterminate	4463	64,47
Total Fish species	5996	86,61
Mollusca		

Mussel (*Mytilus edulis*)	47	0,68
Clam (*Mya* sp.)	1	0,01
Moll. Species	138	1,99
total Moll. Species	186	2,69
total NISP	6923	100,00
Large Terrestr. Mammal	67	
Medium Terrestr. Mammal	711	
Small Terrestr. Mammal	4	
Unidentified Mammal Frag.	1188	
Unidentified Faunal Fragments	4848	
total TNF	13741	

Table 1 – The total Aðalstræti 05 archaeofauna

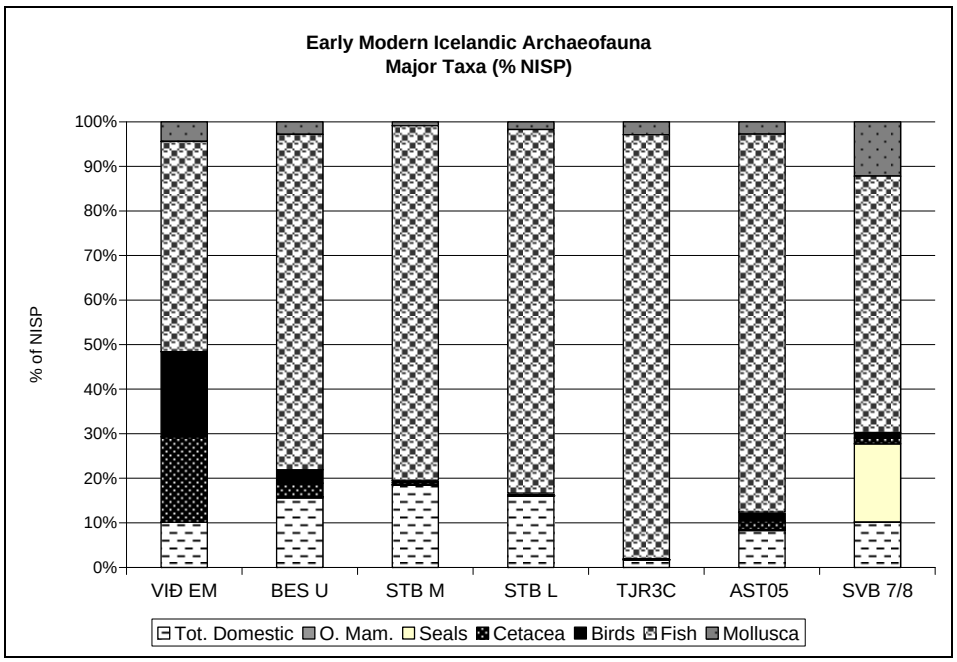

Figure 3 - Comparison of Early Modern Icelandic faunal collections.

Figure 1 demonstrates the abundance of fish remains found in all of the early modern archaeofaunal collections used for the graph: the monastery Víðey (VIÐ EM) in Reykjavík, Bessastaðir, seat of the Icelandic president and before that the home of the Danish Governor until the late 18th century, (BES U) just outside Reykjavík is the coastal farm at Stóraborg (STB M and L), the church farm at Svalbarð (SVB 7/8) in the NE of Iceland, as well as more or less neighboring midden deposits from neighboring Tjarnargata (TJR 3c) are all compared to the 18th century Reykjavík collection from Aðalstræti (AST 05). The Tjarnargata midden may contain deposits from several households and local shops and factories (Perdikaris, 2000), thus differing from the other comparative collections that are all associated with single farmsteads or households.

The Bessastaðir archaeofauna seems to be most similar to the AST05 collection. Other than potentially similar environmental factors, such a semblance could also result from the Danish influence in the AST household from ca. 1700 to 1750. The Bessastaðir domestic mammal proportion is double the one at Aðalstræti, but the rest of the faunal collection bears a lot of resemblance with the latter.
The latest phase of the Stóraborg archaeofauna is also quite similar to that at AST05, although AST05 has more bird remains.

Domestic Mammals

Table 2 presents the relative percentage of the AST domestic mammals for all contexts (no chronological divider has been found to split the collection into different phases). The total ratio of cattle vs. caprine bone at Aðalstræti is 1:8. It is not known how typical this ratio is for 18th century Reykjavik, as the farm was not taxed (King's property), but Jarðabók claims that old people believe it used to be worth 50 hundreds before it was sold to the king (Snæsdóttir translation of Jardabók Árna Magnússonar og Páls Vídalíns, 1923-1924: 261).

AST05 Major Domesticates	NISP	% of NISP
Bos taurus - Cattle	64	10,92
Equus caballus dom - Horse	4	0,68
Canis familiaris - Dog	2	0,34
Sus scrofa dom - Pig	5	0,85
Capra hircus dom - Goat	2	0,34
Ovis aries dom - Sheep	48	8,19
Caprine	461	78,67
Total	586	100

Table 2 – Major Domesticate Mammal Categories

Figure 4 shows the various collections from the same Early Medieval sites described earlier. As with the overall species distribution, the Bessastaðir early modern faunal data is similar in domesticate proportions ad does the data from Aðalstræti 05. Svalbarð´s domestic data from a very remote coastal place in the NE of Iceland matches well with that from AST05, although it is slightly less diverse and only really contains relevant amounts of cattle and caprine specimens.

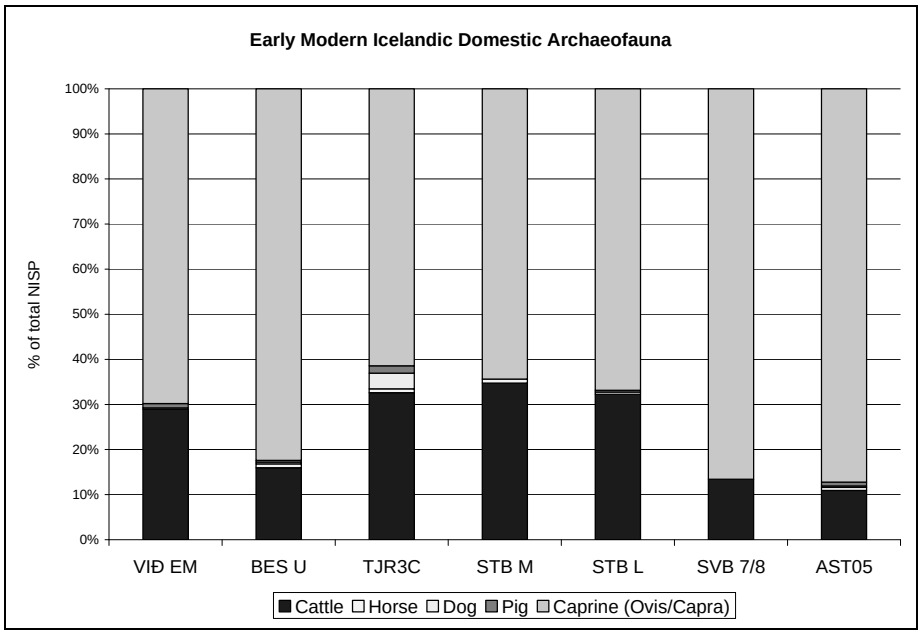

Figure 4 – Comparison of Early Modern Icelandic Archaeofauna

Cattle

The small number of bovid remains does not really allow for reconstructive analysis of the animals' age at time of death, often indicative of the domesticate husbandry in place. A very helpful tool to discuss a least the pattern of cattle management at the Aðalstræti site is the Bovid Element Distribution graph in Figure 5. The Vert (Vertebrae) and Rib category cannot be indicative, since NORSEC Laboratory methods do not include speciation of these skeletal elements (for more information see Perdikaris et al, 2002) as the error level is too high. Rather, these elements are placed in LTM or Large Terrestrial Mammal category (MTM or Medium Terrestrial Mammal category for animals the size of Caprines, pigs, large dogs) (Nabone Recording Package, Version 8).

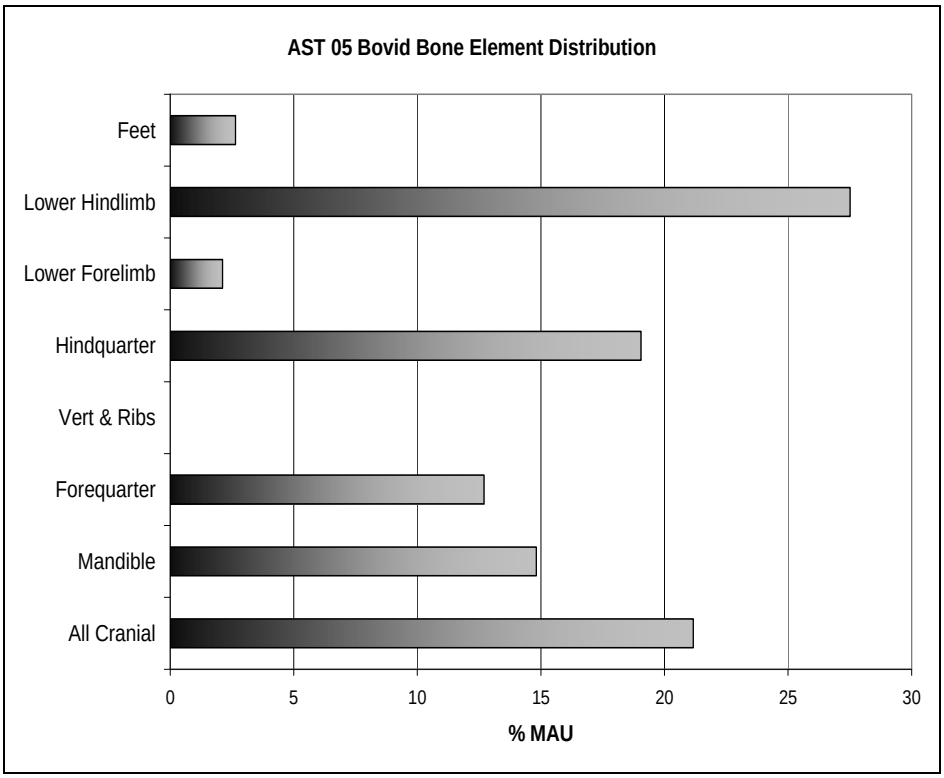

Figure 5 – Bovid Bone Element Distribution

The cattle elements that were found in the AST 05 archaeofauna can be placed in the long bone sections, i. e. lower hind limbs, which indicates a supply of beef cuts rather than on site slaughter of life animals. The high amount of cranial fragments is due to the relatively numerous loose teeth which account for about 31 % of the total cattle bone assemblage.

Caprines

Numbers of analyzed Sheep/Goat elements were high enough to allow for a tooth eruption analysis (fig. 5) as well as a long bone fusion assessment (6) (Reitz and Wing, 1999). Both graphs indicate that the caprine bones from the Aðalstræti 05 excavation consisted predominantly of animals that were killed after their second year of life: the tooth row eruption pattern (mandibles and maxillae) demonstrates a more than 90% kill-off age of more than 24 months.

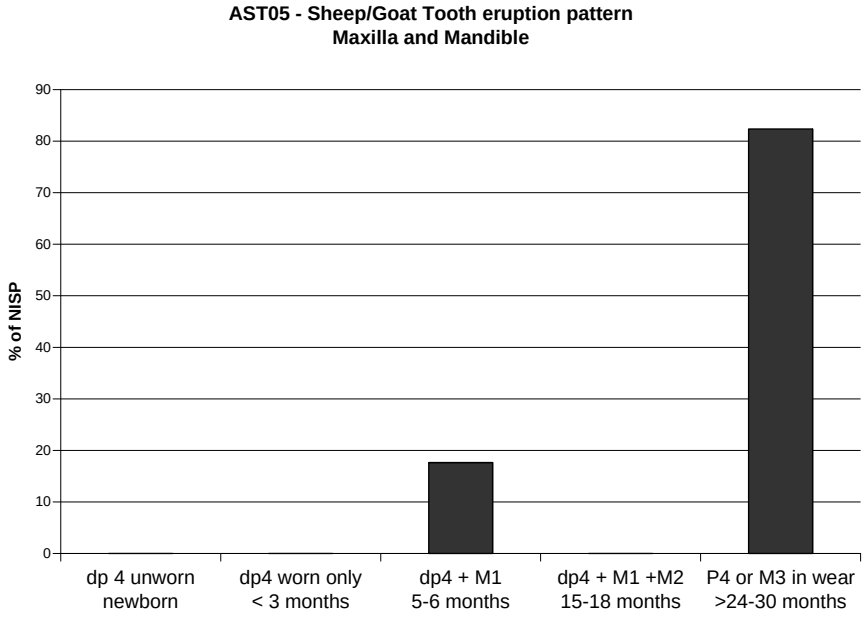

Figure 6 – Caprine Tooth eruption, mandible and maxilla

Figure 7 displays a comparison of caprine long bone fusion patterns from three Icelandic sites. Gásir (GAS). At Aðalstræti, most caprines seem to survive past their 2nd year, with some sheep/goats reaching a relatively old age of 5 years. It seems that AST gets provisioned with relatively older mature animals, maybe some very old and no longer of use in dairy or wool production and thus sold for meat value. This differs from the animal husbandry at Gásir where a quite distinct point of caprine culling at around 2 -3.5 years of age seems to exist, and also from the butchery pattern at HST where animals after their 2nd year of life are far less abundant and then again get killed off in older age (McGovern et al, 2007 (Monograph project), Harrison, 2006).
Aðalstræti further seems be supplied with cuts of mutton rather than raising its own sheep or goats.
Downtown Reykjavík was transformed from rural to urban settlement in the 18th and 19th centuries (Karlsson, 2000, Perdikaris et al, 2002) and it is very likely that these older animals arrived at the Aðalstræti household much in the same way as the beef cuts mentioned earlier.
This statement is supported by the Caprine Bone Element distribution graph in Figure 6 which indicates again that meat bearing skeletal elements outnumber the rest of the body parts quite substantially.

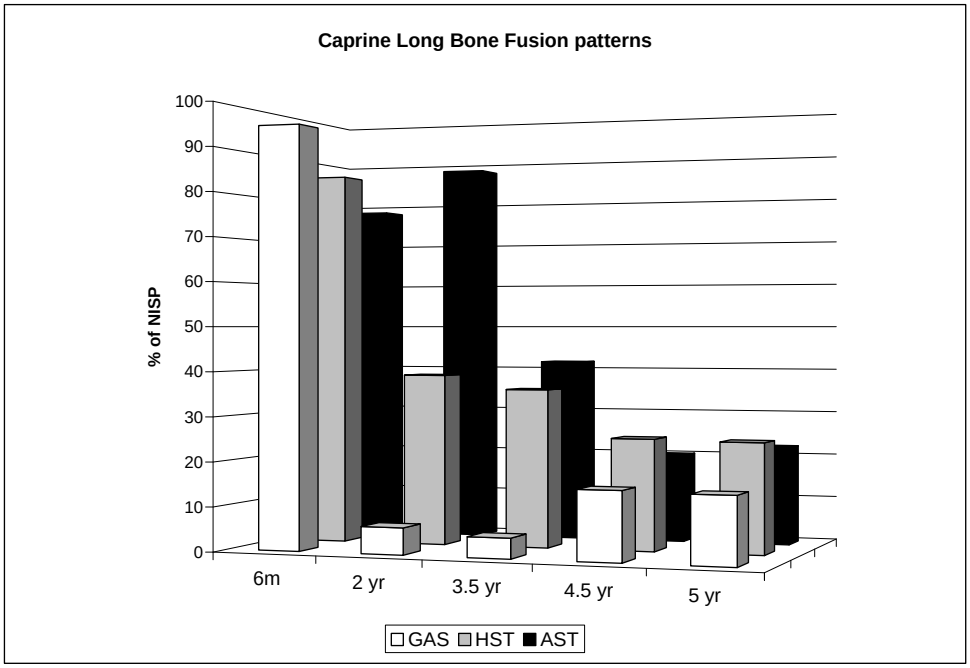

Figure 7 –Sheep/Goat long bone fusion comparisons

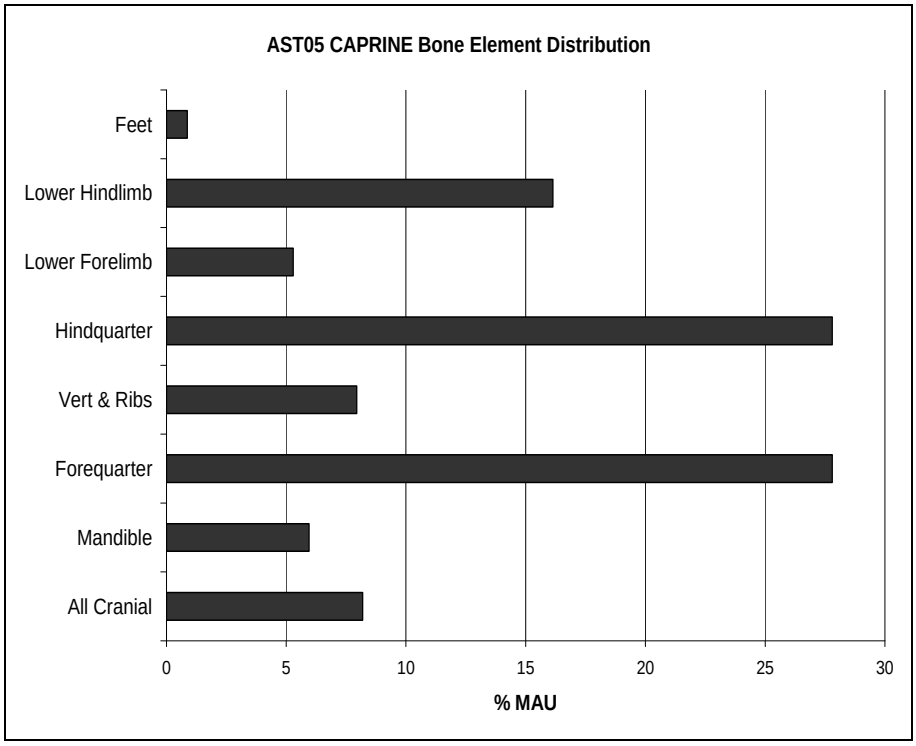

Figure 8 – Caprine Bone Element Distribution pattern

Horse

All the Aðalstræti 05 horse bones were tooth fragments and thus do not qualify for butchery discussion.

Pigs

There are only 5 pig elements; 1 pig molar, 2 humerus fragments, 1 ulna, and 1 fibula were found in various contexts. Clearly, these few pig bones cannot give enough information on a consumption pattern; however, it is pretty safe to assume that there was no pig husbandry in place at the site. The pig fibula in figure 9 displays very clear traces of rat tooth marks.

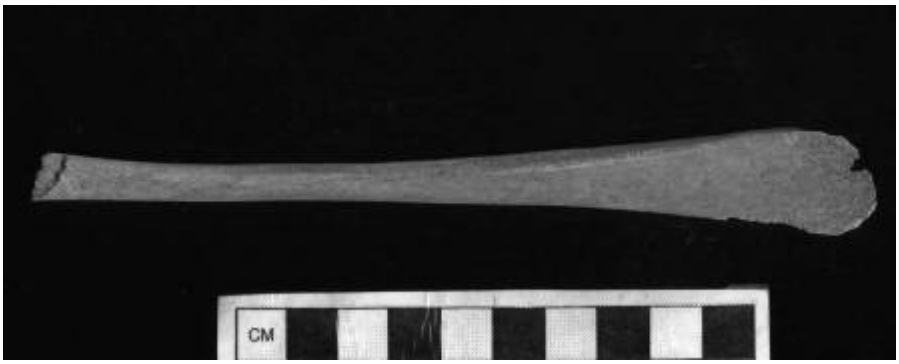

Figure 9 – Sus scrofa Fibula with rat gnawing, figure (053)

Dogs

While there are only two dog bones present in the whole Aðalstræti archaeofauna, dog chewing marks on about 20 % of all chewed or gnawed animals bones indicate a larger number of canines accessing the food remains during time of deposition. The two elements are most likely from the same individual as they were both found in context (080) and belong to a smaller sized dog. Sporadically, these small dogs of lap dog size have been found at Icelandic excavation sites, such as at the medieval trading site at Gásir (Harrison, 2005), the medieval monastery at Skriðuklaustur (Pálsdóttir, 2005), and at the Northern Bishop See at Hólar (Traustadóttir, personal communication, 2005). It is possible that these dogs were kept for companionship or as status indicators (i.e. Prilloff, 2000), but they might further have been quite helpful in the domestic sphere for chasing pests and relieving their owners from lice inflicted misery (Harrison, 2006).

Wild Mammals

At Aðalstræti, only one seal phalanx, an element not useful for speciation was recovered. The lack in all wild mammals typically found in many examples of Icelandic archaeofauna can be associated with the general household activities: If the occupants are

busy with production of maybe woolen wares for market purposes, they may not have time or need to hunt for wild mammals such as in earlier times. According to Snæsdóttir, seal meet was eaten, the seal flippers probably mainly pickled in whey (Snæsdóttir, personal communication February 2008). Seal meat may not have been too important in 18th century Reykjavík, but rather in the west and north of Iceland (Kristjánsson, 1981:315, figure no. 157).

Rats

There were 15 elements belonging to *Rattus norvegicus*, the common Norway Brown Rat, recovered from the faunal collection. The rat or rodent presence is further indicated by a rodent gnawing on about 80 % of the bone materials displaying animal chewing marks. This is a clear sign for an urban context also recognized at Tjarnargata 3c (see Perdikaris et al, 2002). Figure 10 shows mandibles of four Brown Rat individuals that died and/or lived in context (051). Other contexts also contained rodent bones of the same species. The rat remains were deposited later than the rest of the archaeofauna and they may represent bioturbation and later burrowing, but the widespread presence of rat gnawing on in-situ bone from the 18th c. contexts indicates rat infestation was a long-standing problem. (Lucas et al, 2003).

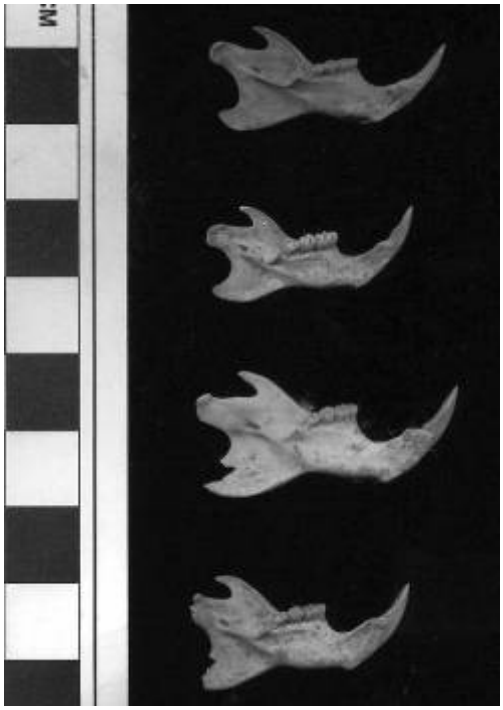

Figure 10 – Four left mandibles of Brown Rat from context (051)

Birds

Of the 139 bird bone elements found at Aðalstræti, 37 could be assigned either to family or species level. Table three lists the bird remains according to larger groups that indicate similar environments or behavior.

Table 3 - Aðalstræti 05 Bird NISP						
Groups	Scientific Names	English Common Names	NISP count	% All Birds	Group Total	% Group
Sea Birds						
	Gulls (Laridae)					
	Larus species		1	0,72		6,67
	Other Gull families					
	Risa tridactyla	Kittiwake	1	0,72		6,67
	Auks (Alcidae)					
	Uria species	Common Murre	1	0,72		6,67
	Alca torda	Razorbill	1	0,72		6,67
	Alcidae species	Auk family	2	1,44		13,33
	Other Sea Birds					
	Phalacrocorax carbo	Cormorant	2	1,44		13,33
	Waders					
	Pluvialis species	Plover family	7	5,04	15	46,67
Fresh Water Migrants						
	Mergans merganser	Goosander	1	0,72		7,14
	Anas platyrhynchos	Mallard Duck	2	1,44		14,29
	Somateria mollissima	Eider Duck				
	Cygnus cygnus	Whooper Swan	1	0,72		7,14
	Melanitta nigra	Common Scoter	2	1,44		14,29
	Anatidae sp.	Duck family	5	3,60		35,71
	Anseridae sp.	Goose family	3	2,16	14	21,43
Non Migratory Terrestrials						
	Lagopus mutus (LAM)	Ptarmigan (grouse)	3	2,16		42,86
	Gallus gallus	Dom. Chicken	4	2,88	7	57,14
Passerines						
	Troglodytidae	Wren-lıke	1	0,72	1	100,00

Table 3 – List of Birds species from Aðalstræti 05

The overall predominance in Goose and Duck remains should be expected at a site very close to the Tjörn, a very small lake in the old part of downtown. Reykjavík´s close proximity to the Atlantic Ocean explains the presence of the sea birds, such as Auks and Plovers. The Gull remains may be a result of these birds´ scavenging from the household midden. There was a substantial number of Gull remains found at Tjarnargata 3C, a site containing a large faunal collection deposited very close by. This archaeofauna most

likely had its deposition phase within decades of the Early Modern Aðalstræti archaeofaunal accumulation (Perdikaris et al, 2002).

Figure 11 – Cormorant elements. Note the rat gnawing marks on the radius.

Two Cormorant (*Phalacrocorax carbo*) elements could be identified and are most likely from one individual, as they are from the same context. Figure 11 displays part of the mandible and a rat-gnawed radius. The Chicken elements found among the bird bones are relatively rare in Icelandic archaeofauna (McGovern, personal communication). There is mention that some of the bigger and more important farms kept hens with a roster (Oddsson, Gisli, 1638; Snæsdóttir transl.). Apparently, the Jarðabók does not mention the keeping of tame birds in the 18th century, which could mean that the habit of keeping chickens declined at around that time (Snæsdóttir, personal communication, February 2008). It seems chickens were also uncommon in the 19th century, their numbers increasing only in the 1880s and 1890s, predominantly in the growing towns or villages Olgeirsson, 2004: 39-40, Snæsdóttir tranl.).

Mollusks

The speciable mollusks at Aðalstræti amount to 80 % common blue mussels (*Mytilus edulis*) and 20 % Clams (Mya species). The remaining 138 elements that were often fragmentary were placed into the general Mollusca species category. Common blue mussels were often used for food and also as bait in Iceland (Perdikaris et al, 2002).

Fish

Table 4 - Aðalstræti 05	Fish Species			
Scientific Names	*English Common Names*	NISP Count	% all ID Fish	% of Family
Gadus morhua	Atlantic cod	298	19,44	41,97
Pollachius virens	Saithe	10	0,65	1,41
Melanogrammus aeglefinus	Haddock	402	26,22	56,62
Gadidae, sp. Indet.	Gadid family	822	53,62	
Pleuronectidae sp.	Flat fishes	1	0,07	

Table 4 –Aðalstræti 05 Fish analyzed to family or species level

With a total number of 5,996, fish bone elements make up the largest animal group in the Aðalstræti 05 collection. This large number of fish elements beyond speciation could be partially caused by the use of fish hammers (Harrison, 2006) which then indicates consumption of a large amount of dried fish products (Perdikaris & McGovern, 2003). The total number of fish bone that could be identified to family or species level is 1,533. Except for one flat fish bone, all speciated fish remains belong to the gadid family. No salmonids or other fish family were present in the archaeofauna. The Aðalstræti 05 gadids are not very diverse, most elements belong to Atlantic Cod (*Gadus morhua*) or Haddock (*Melanogrammus aeglefinus*), plus a few Saithe (*Pollachius virens*) elements.

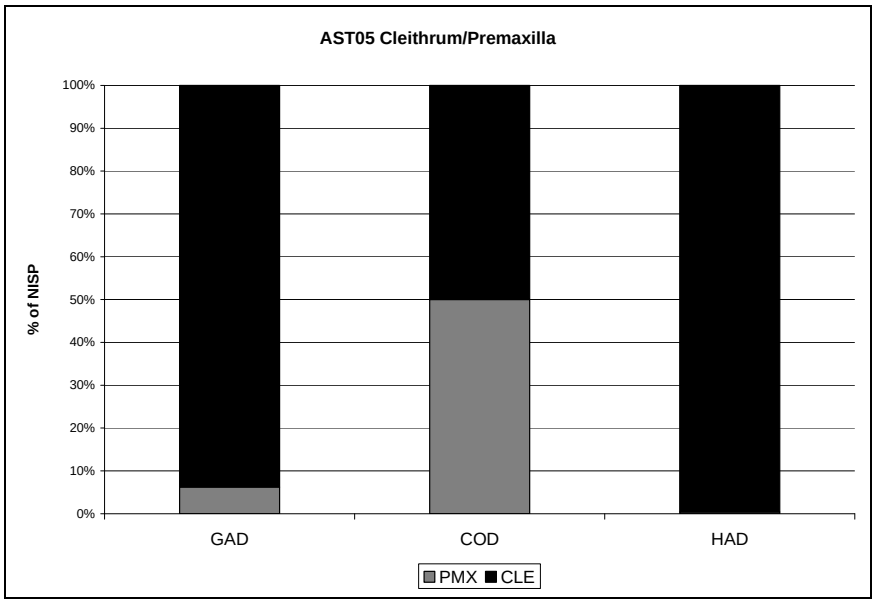

Figure 12 – Aðalstræti 05 Premaxilla vs. Cleithrum ratios.

Figure 12 displays the presence or absence of certain fish body parts that are quite dense and thus good proxies for the presence of skeletal regions rather than just elements (Krivogorskaya, 2005). The Premaxilla is an element found in the skull region and is often associated with discarded remains of fish processing. The Cleithrum is found in the pectoral region, the area in the fish skeleton that connects the head with the body (or tail). For these two elements to be successful as proxy indicators, they have to be found in numbers high enough to represent commercial production or consumption signatures (Perdikaris, 1999).

The Aðalstræti Premaxilla vs. Cleithrum ratios for the lumped total Gadid (GAD) and Haddock (HAD) categories differ from the COD category: only (or at least 95 % of) Cleithrum parts are present in GAD and HAD, which suggests presence of a headless body, while the COD ratio is 50:50, indicating the presence of the whole body which could be interpreted as a fresh fish (Perdikaris, 1999).

The graph below (figure 13) shows gadid skeletal element distributions grouped into various regions of the body.

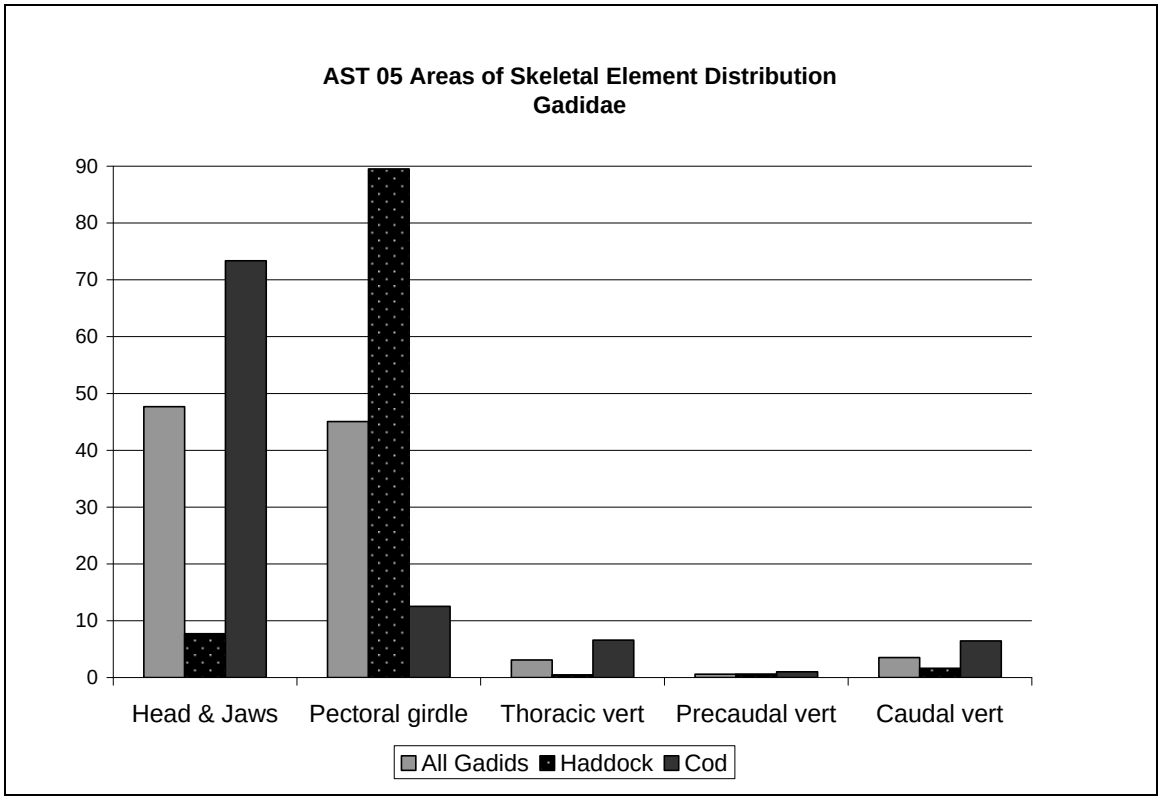

Figure 13 – Comparison of major fish skeletal regions

While the Haddock elements support the ratio suggested in Figure 10, the all gadid category distribution pattern is different from the one indicated by just Premaxilla vs. Cleithrum elements. The Cod skeletal element distribution pattern indicates presence of Heads and Tails, although a lot of the caudal vertebrae are missing. The latter is true for the whole gadid family. It should be noted again that preservation of this archaeofauna was variable and very bad at times, thus part of the skeletal element distribution profile is due to taphonomy. It may also indicate that parts of the fish could have ended up elsewhere on the premise, or, haddock was attained from a fish monger. Still another possible reason could be the use of fish hammers for tenderizing the product.
The haddock consumer profile is reflected in the NISP: 256 elements, or 64 %, out of the total 402 Haddock elements are Cleithra.

Butchery

Figure 14 indicates that ore than 80 % of the butchered animal bones were chopped. About 5 percent of the butchered elements showed chopping and knife marks, while about 6 percent of the elements that fall into this category showed knife marks only. These could be consumption witnesses rather than butchery indicators. The bones displaying bi-perforation are all caprine metapodials and were used for marrow

consumption. Making a small hole into the top and bottom of the long allows for further working of the still complete bone after marrow has been sucked out of it (Bigelow, 1995). Many of the split bones were also metapodials that were used for marrow consumption, but not in the traditional Icelandic way (see Harrison 2006 for discussion).

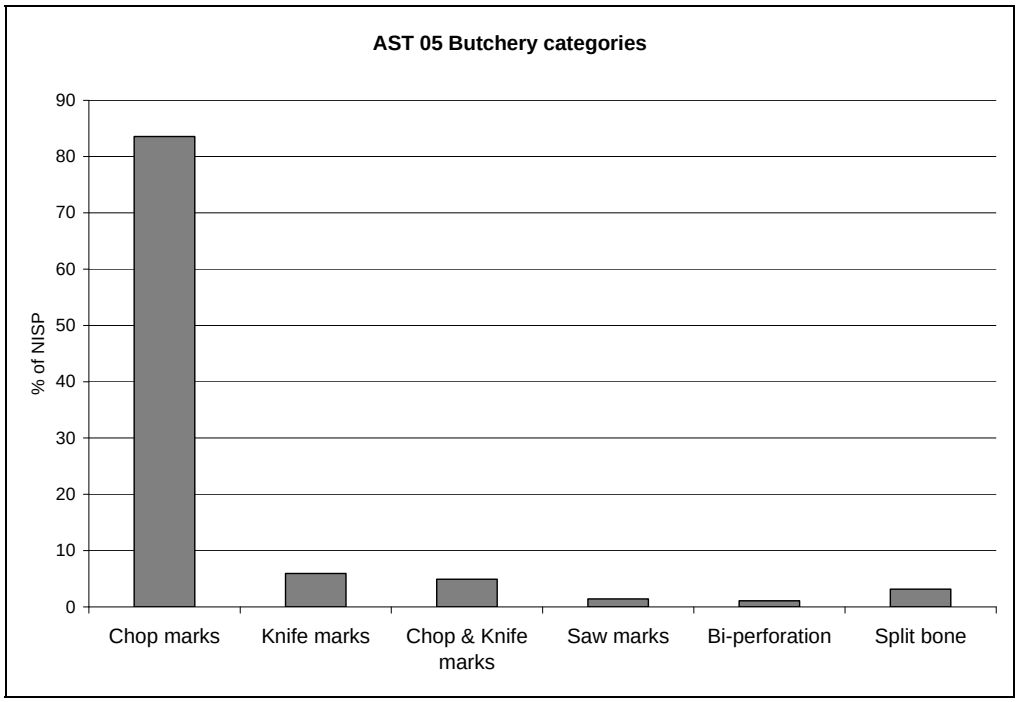

Figure 14 – Butchery marks

A few elements were sawn as is demonstrated in Figure 15. This sort of butchery ensured a very even or standardized meat cut (Deetz, 1996: 171).

Figure 15– Sawn elements, context (051)

It is possible that these saw marks found on the caprine (sheep/goat) elements in figure 15 demonstrate butchery practices in use Reykjavík right around the 1760s AD. While only two elements were found to be proportioned in this very distinct fashion, the overabundance in the meat-bearing caprine remains may indicate a readily available product from a professional producer/seller (McGovern, personal communication January 2008)..

Table 5 displays the burnt bone portion of the archaeofauna. Almost 96 % of the faunal remains were unburnt. The white burnt bones are the ones that are reduced to calcine only, white all the organic parts of the body gone. Often, a good portion of midden remains displays this calcination, as indicator of garbage disposal through fire (Edvardsson, 2005). Since the Aðalstræti collection is more or less unburnt, the methods of disposal of food rests were different from earlier sites.

Table 5		***AST 05 Burnt Bones***
Burning level	***Count***	***% burnt***
Not Burnt	***13175***	***95,77***
Burnt – black	***66***	***0,48***
Scorched	***72***	***0,52***
Burnt – white	***444***	***3,23***

Table 5 – Burnt Bones vs. non-burnt bones

Bone craft working

One cattle metatarsal or canon bone was found in context (076). It does not seem in its finished form, which might have intended to be a bone skate (MacGregor, 1985).

Figure 16 – Button blank [082] from caprine mandible

Figure 12 features a caprine mandible button blank, showing a broken button. This evidence of bone craft working was found in context [082], one of the last ones to be excavated. Could this be a hint towards the household's involvement with wool working?

Conclusions

Although rather ravaged by taphonomic factors that caused much of the bone material to be rendered without markers for speciation, the Aðalstræti 05 archaeofauna gives an interesting insight into a household in Reykjavík in the 18th Century:

The cattle elements most likely represent cut beef acquired from outside the household. Pig remains, as few as they are, may have come from chosen pork cuts just like many of the caprine meat bearing bones that outnumber other skeletal parts enough to suggest at least a partial acquisition of mutton, while maybe some animals were actually raised on site for dairy and then slaughtered at an older age.

The fish remains indicate that the household was at least partially involved in fishing, but more likely was supplied with processed haddock products. The fishing industry may have played the predominant role in 18th Century Reykjavík, as the fish remains from nearby Tjarnargata suggest (Perdikaris 2002, Pálsdóttir 2008). While it is not clear how the household at AST number 10 was able to afford the meat and fish cuts, an early cash economy might be not too far fetched (McGovern, personal communication), maybe supplemented by the sale of some pieces of cod? The button blank found in context [082] raises the issue of wool working at the house.

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