The Faunal Remains

from

153 Macquarie Street,

3 Parramatta Square (3PS)

A dugong tooth recovered from the excavations at 3PS.

James Roberts

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Contents

153 Macquarie Street, 3 Parramatta Square (3PS) Faunal Assemblage Report

James Roberts

1. Introduction

This report considers the faunal remains recovered from excavations undertaken at 3 Parramatta Square (3PS) 153 Macquarie Street, Paramatta, by both Casey & Lowe on behalf of City of Parramatta Council, and Comber Consultants. These remains were recovered from five separate site areas (Areas A, B, C, D, and Area A South, **Fig. 1**, **Table 1**). The remains are considered by each of these areas separately, however comparisons are made between each of these areas where relevant. The faunal remains excavated by Comber Consultants, who conducted archaeological testing in order to identify Aboriginal archaeology at the site, from five of these wider sites are described separately (**Section 8**). This report is written for Casey & Lowe and only covers faunal material relating to historic occupation of the study area.

The report is set out in the following structure:

- Section 2 details the methods by which the material was recorded and what information was collected.
- Sections 3-7 detail the characteristics of the faunal material recovered by the Casey & Lowe excavations in each area of the site in turn. These sections also include general summaries of the remains from each area and comparisons, where appropriate, between different areas.
- Section 8 details the characteristics of the faunal remains recovered by the Comber Consultants' excavations across the entire site.
- Section 9 provides synthesised observations regarding the remains from the entire site and the wider implications of these observations.

Table 1. Archaeological phases from 3PS as referred to throughout the report. Casey & Lowe, November 2019.

Phase	Date	Phase Title	Lot 28 & Lot 1 (181)	Lot 30	Lot 32
1		Natural Landscape			
2		Aboriginal Occupation			
PHASE 3: BEGINNINGS OF BRITISH SETTLEMENT					
3.1	1788-1790	Government Farming: clearing and agriculture	Government Farming: clearing and agriculture	Government Farming: clearing and agriculture	Government Farming: clearing and agriculture
3.2	1790-c.1819	Land modification and early uses	Timber drain in creekline	Used for Fairs from 1814	
PHASE 4: EARLY BRITISH OCCUPATION					
4.1	c.1819-1850s	Agriculture construction, and early cottage occupation.	Plough Lines Lot 1(181)/28 Town Drain, timber-lined drain, storage pit	House 4 construction by 1822 (levelling fills) – first sump, early occupation	Maughan's garden fenced in by 1819 White Horse Inn (from 1830) drains and outbuildings.
4.2	1850s-1870s	Later phase cottage occupation	Reconfiguration and extension of house - fences and outbuildings – levelling above the Town Drain	Extension to House 4 – construction of outbuildings on eastern part of Lot 30 - continued occupation	Hilt's Coach Service (from 1851) outbuildings occupation and rebuilding.
4.3	1870s-1880s	Demolition (Lot 30)	Occupation of Wyverne	Demolition of House 4 (by 1884).	Demolition of former White Horse Inn and outbuilding
PHASE 5: REBUILDING AND OCCUPATION (1870S TO 1960s)					
5.1	1870s-1960s	Construction and occupation	Construction of plaster works (Lot 28). Continued occupation of Wyverne (Lot 27/8).	Levelling fills, construction & occupation of Cranbrook, Northiam and Harleyville (1880s).	Construction & occupation of 1870s houses Later 19th century outbuilding Single storey shop (1950s)
5.2	Late 1950s-1960s	Demolition	Demolition of Plasterworks and Wyvern to make way for Civic Place (Lot 28)	Demolition of Cranbrook, Northiam and Harleyville to make way for the Post Office	Demolition of Macquarie flats in 1978
PHASE 6: MID TO LATE 20TH-CENTURY USES					
6	1960s-2015	Post Office & Civic Place	Civic Place construction and use	Post office construction occupation and demolition	Post office construction occupation and demolition

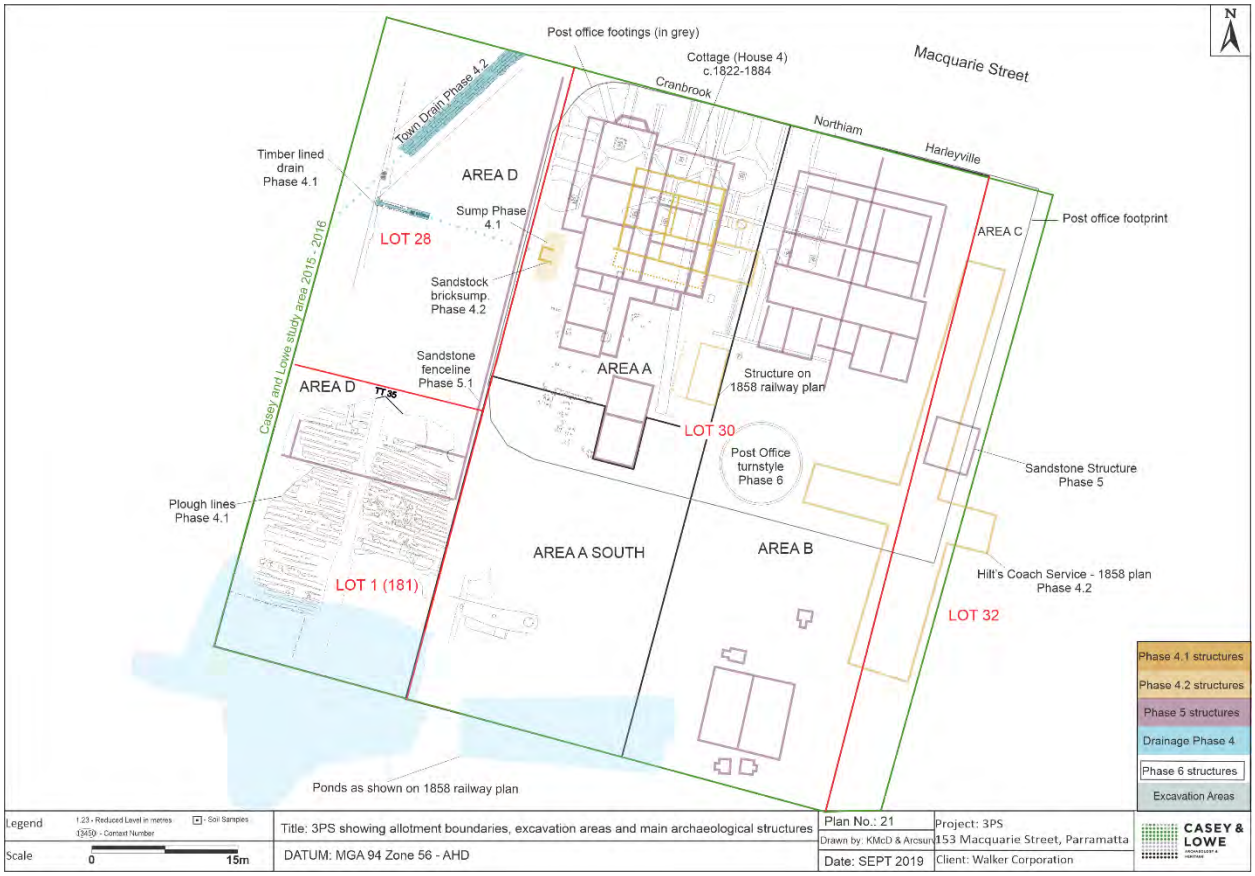

Figure 1. Plan of the archaeological remains and Areas A, B, C and D. Casey & Lowe, November 2019.

2. Method

All bone fragments were subject to visual examination during which, where possible, each fragment was assigned to a taxa and skeletal element. All bone surface modifications (i.e. butchery,[1] burning patterns and colours,[2] pathology, animal gnawing etc.) were recorded. Taxonomic identification of remains was undertaken with reference to the reference collection kept by the University of New England, Australia, as well as identification manuals for faunal material.[3]

Bone that was not identifiable to species or genus was assigned to a size class and more general taxonomic class (e.g. Large Mammal, Small Reptile etc.). These are only discussed. The Number of Identified Specimens (NISP) was quantified for each taxonomic class during identification. It is important to note that this quantification method, while providing an accurate depiction of the relative amounts of taxa in the assemblage, likely underestimates the actual number of animals deposited at the site in the past.[4] The fusion state of all long bone epiphyses was recorded to gain an insight into the demographic profiles of the animals in the assemblage. Similarly, the wear stage of all teeth, including loose,

[1] Lauwerier 1988
[2] Lyman 1994
[3] Schmidt 1972; Hillson 1992; Cohen & Serjeantson 1996; Fillios & Blake 2015
[4] Lyman 2018

individual teeth was recorded.[5] Anatomical measurements were taken, where possible, according to von den Driesch.[6] Additional measurements were taken on fragments identified as sheep/goat to distinguish between the remains of sheep and goat.[7] These measurements suggest that sheep were predominant in the assemblage, if any goat were present at all.

A total of 8681 fragments were analysed from the entire assemblage recovered from 3PS. Three of these fragments were determined to be coral and sea urchin and therefore not discussed further in this report (see **Table 2**). It is also important to note that 180 of these fragments were recovered by Comber Consultants; these are discussed separately in **Section 8**.

3. Area A, Lot 30

A total of 4679 fragments of animal bone from Area A (**Fig**. **2**) were analysed, representing 121 contexts and a number of different occupation phases and sub-phases (**Table 2**). Fragments were also analysed from contexts that were not incorporated into the phasing system, to determine whether any of these fragments were of interest (**Table 2** & **3**). Artefacts collected from the modified topsoils or disturbed subsoil cannot be tied to just one phase and have been grouped from Phase 1 to 4 as these deposits were continually modified throughout the 19th century but in Area A are predominantly associated with the construction and occupation of House 4 (Phase 4). In Area A the site was sealed with levelling fills before the 1880s house was built (Phase 5). The 'not phased' contexts are generally unstratified fills from the general site clean-up.

3.1. Phases 1 to 4: Modified Historic Topsoil

The remains from these five contexts cannot be associated with a specific phase of occupation in Area A, and are therefore of limited archaeological utility. However, a number of aspects of these remains are significant and warrant highlighting here. A single fragment identified as pheasant (**Context 16120**), a species introduced into Australia soon after the arrival of the First Fleet (see **Section 9**) and three fragments of a snipe (wading bird) were present (**Context 16120**). This species was likely local the region, as they occur abundantly in riverine environments. These finds are significant and are discussed in further detail below. Remains from rabbit were also present (**Table 3**), with remains from different areas of the body present. None of these remains were butchered or burnt, so it was impossible to determine whether they had been deposited at the site via natural or anthropogenic process.

Four rat and indeterminate rodent bones were identified in the material demonstrative of their presence at the site. Further evidence of the presence of rodents at the site was provided by a single fragment of bone, which displayed rodent gnawing. In addition to these domesticates that were likely being utilised as a food source remains of domestic dog and cat were also frequently identified in the remains from this phase, however it is highly likely that these are not food remains. The fragments of dog bone represented the full carcasses of two individuals (**Context 16120**). None of these remains were butchered and several could be rearticulated. The remains from a cat were also identified in a single

[5] Grant 1982
[6] Von den Driesch 1976
[7] Salvagno & Albarella 2017

deposit, interpreted as a burial (**Contexts 16120**). As with the dog remains, skeletal elements from across the body were present. None of the cat remains had been butchered or burnt.

Table 2. A list of all contexts associated with each phase and sub-phase from Area A, alongside the amount of bone fragments recovered from that context.

Phase	Context	Number of Fragments	Phase	Context	Number of Fragments
Phase 1 – 4 (Modified Historic topsoil)	16120	2017*	**Sub-Phase 4.2 (Cont.)**	16248	140***
	16224	71		16282	386
	16318	54**		16304	24
	17219	5		16328	178****
Sub-Phase 4.1	16193	95		16330	8
	16206	7		16340	39
	16214	3		16345	88
	16222	2		16348	11
	16223	5		16369	2
	16336	6		16377	15
	17224	1		16385	13
	17226	1		17221	20
	17229	56		17245	1
	17235	2		17277	2
	17257	1		17299	2
	17317	1		17307	1
	17479	7		17320	4
	17512	2		17331	3
	17514	1		17353	6
	17525	1		17359	16
	17531	16		17361	91
	17541	7		17367	7
	17548	13		17371	1
	17568	5		17380	35
	17570	2		17428	4
	17594	1		17443	47
Sub-Phase 4.2	16189	27		17447	1
	16207	22		17451	1
	16240	7		17457	2
	16245	311		17469	9
	16247	13		17471	1
Sub-Phase 4.2 (Cont.)	17517	2	**Sub-Phase 5.1 (Cont.)**	16140	4
	17521	1		16143	24
	17542	5		16156	9
	17545	21		16162	1
	17547	42		16177	70
	17564	8		16180	9
	17572	5		16182	7
Sub-Phase 4.3	16159	10		16186	12

Phase	Context	Number of Fragments	Phase	Context	Number of Fragments
	16164	9		16191	8
	16188	6		16192	9
	16198	17		16194	14
	16200	1		16195	4
	16217	8		16205	11
	16218	9		16350	56
	16238	2		17218	11
	16258	4		17313	2
	16272	1		17357	8
	16275	3		17382	2
	16280	2		17588	4
	17233	10	**Sub-Phase 5.2**	16102	3
	17297	2		16103	2
	17323	5		16130	1
	17405	9		16133	8
	17432	2		16134	2
	17441	2	**Not Phased (unstratified fills)**	16101	76
	17505	1		16106	1
	17582	1		16123	2
Sub-Phase 5.1	16125	7		16197	1
	16127	75		16684	1
	16136	127	**AREA A TOTAL**		**4769*****

Context 16120 has an additional 61 fragments of bone, recovered by Comber Consultants, that are displayed in **Table 29; **Context 16318 has an additional 20 fragment of bone, recovered by Comber Consultants, that are displayed in **Table 29**; ***Context 16248 has an additional three fragments of bone, recovered by Comber Consultants, that are displayed in **Table 29**; ****This includes a fragment of coral and two fragments of sea urchin that were included in the original fragment count for the context but are not discussed further in this report; *****Area A has a total of 92 additional fragments of bone that were recovered by Comber Consultants and are displayed in **Table 29,** and the additional three fragments of coral and bone that are not discussed in this report.*

3.2. Phase 4: Early British Occupation

3.2.1. Sub-Phase 4.1: c.1822-1850, construction and occupation of House 4

235 fragments of animal bone were recovered from 22 contexts associated with this sub-phase (**Tables 2** & **3**). Domestic mammals were the most frequently identified taxa in the remains, with sheep being the most well represented of these, followed by cattle then pig. The sheep remains represented both the fore and hind quarters in equal abundance (**Fig. 2**). Mandibles were also well represented, as were the first two vertebrae, suggesting that entire sheep carcasses were present in the material from this sub-phase (**Fig. 2**). The butchery marks were indicative of carcass portioning and disarticulation of elements (**Fig. 3**).[8] The age profile indicated by observations made on the epiphyseal fusion of these remains suggests that the vast majority of these animals were over the age of three at death. Only a single fragment was present from an animal younger than three.

Table 3. The Number of Identified Specimens for taxa identified across all phases and sub-phases in Area A.

Taxa	Phases 1-4 (Modified Historic Topsoil)	Phase 4			Phase 5		Not Phased	Taxa Totals
		4.1	4.2	4.3	5.1	5.2		
Cattle	108	14	67	10	14	2	4	219
Sheep/Goat	476	50	178	27	132	5	12	880
Pig	46	2	17		8			73
Dog	77		2		1		1	81
Cat	13		1					14
Rabbit	3			1	1			5
Rat	1				4			5
Mouse	3				1			4
Rodent, indet.			18	1	11			30
Large Mammal, indet.	307	33	236	25	63	3	12	679
Medium Mammal, indet.	1042	64	507	35	159	6	29	1842
Goose	2		2					4
Chicken	25	5	19	1	5			55
Pheasant	1							1
Partridge							1	1
Duck					1			1
Mallard			1					1
Gull							1	1
Snipe	3		1					4
Medium Bird, indet.	12	5	15	1			1	34
Small Bird, indet.							2	2
Bird		12	32		41			85
Dugong			1					1
Sea Bream			1					1
Large Fish, indet.					1			1
Fish	30	50	521	3	32		16	652
Total	**2149**	**235**	**1619**	**104**	**474**	**16**	**79**	**4676**

[8] The term 'Carcass Portioning' refers to the halving, quartering and division of carcasses into sellable cuts.

Table 4. The epiphyseal fusion status of sheep remains associated with Sub-Phase 4.1, Area A. Values are given as the MNE.

	Number of Fragments			
	F	UF	%F	FS
Scapula	2	-		
Pelvis				
D. Humerus				
P. Radius	2	-		
P. Metapodia				
<10 mths.	**4**	**-**	***100***	**-**
D. Tibia				
D. Metapodia	5	-		
Phalanx I				
Phalanx II				
1-2 years	**5**	**-**	***100***	**-**
Ulna				
P. Femur				
Calcaneum	1	-		
D. Radius				
2.5-3 years	**1**	**-**	***100***	**-**
P. Humerus	1			
D. Femur		1		
P. Tibia				
3-3.5 years	**1**	**1**	***50***	**-**

The majority of fragments identified as cattle represented skeletal elements from the upper hindlimb, with elements from the lower forelimb also present. The butchery marks evidenced on these fragments were largely indicative of carcass portioning and carcass disarticulation. These remains were from animals of a variety of ages, including a fragment from an individual younger than 12 months old. Pig remains were present in this subphase, however only two fragments were identified. These were both from the head, however little else could be said about them.

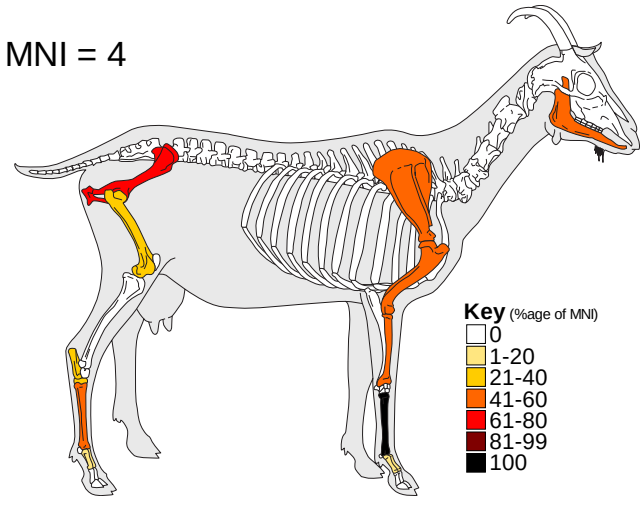

Figure 3. The skeletal element representation of sheep remains, displayed as a percentage of MNI, for the assemblage associated with Sub-Phase 4.1, Area A.

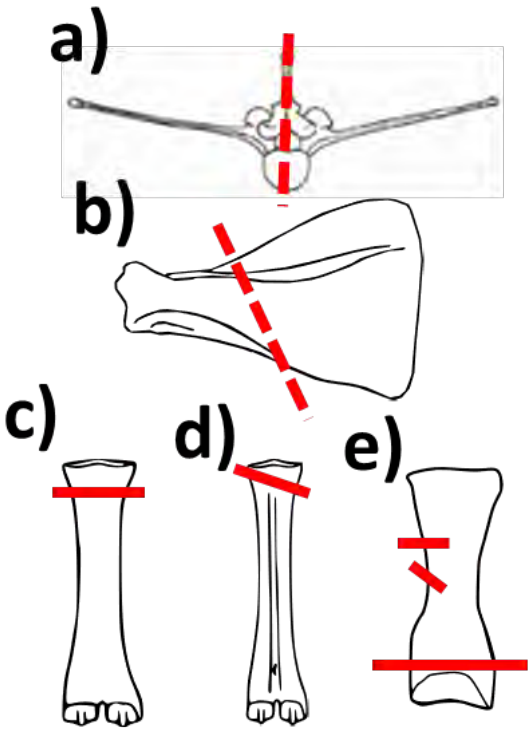

Figure 2. The butchery marks, in red, identified on the sheep remains associated with Sub-Phase 4.1, Area A. Dashed lines indicate saw marks, thick lines indicate chop marks and thin lines indicate knife cuts. a) lumbar vertebra; b) scapula; c) metacarpal; d) metatarsal; e) 1st phalanx.

Five fragments of chicken were identified in the remains from this sub-phase representing elements from the entire body (**Contexts 16193; 17229**). It is likely that the fragments classified as 'bird' and 'medium-sized bird' were also from chicken. Additionally, 50 fragments of fish were also identified in the remains from this sub-phase (**Contexts 16193; 16206; 16214; 17229; 17479**). These were largely branchiostegal rays found in the crania of the fish, however a dentary fragment, four fragments of vertebrae, elements from the fins and two scales were also recovered. None of these remains could be further taxonomically identified, however they are clearly indicative of whole fish being processed at the site during this phase.

A number of contexts associated with this sub-phase have been highlighted for further discussion. The first of these is **Context 17568**, is which animal bones were found in association with early ceramics within a shallow pit. The remains from this context consisted of fragments from one left and one right sided cattle femur, one of which had an unfused proximal surface indicating it was from an animal younger than 3.5 years old. A fragment of sheep or goat metatarsal was also present. All of these remains were butchered, with marks indicative of carcass portioning. **Contexts 17514** & **17541** also represented early occupation pits, excavated from below the veranda of House 4. These contexts contained 8 fragments of bone, five of which were from a single maxilla from a sheep or goat. Two fragments of a large mammal's vertebrae were also present. In a similar vein the animal remains from an early sump (**Context 16336**), found to be full of shell remains, are also important to detail. The remains from this sump consisted of a large mammal's rib sawn through the shaft, the distal wing phalanx from a medium-sized bird and a maxillary premolar from a cow.

Remains from **Context 17235** are also important to discuss. This context represents an early water channel in the form of a seasonal creek line, which was reflected in the appearance of surface damage to the animal bone from the context.

3.2.2. Sub-Phase 4.2: 1850s-1870s, later occupation of House 4

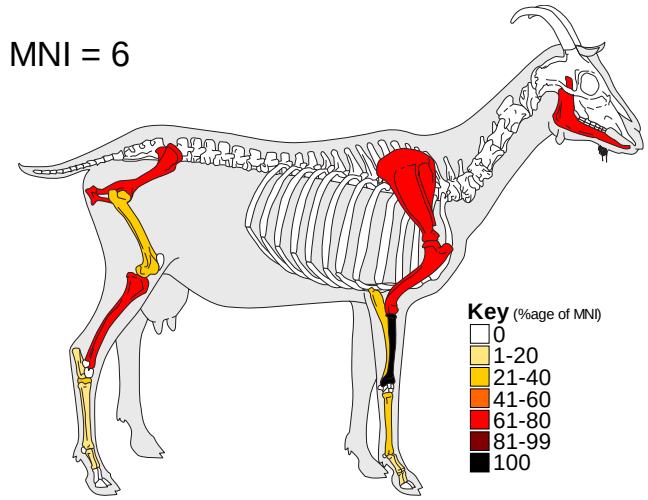

Figure 4. The skeletal element representation of sheep remains, displayed as a percentage of MNI, for the assemblage associated with Sub-Phase 4.2, Area A.

A total of 34.7% of the fragments from Area A were associated with this sub-phase. Sheep were well represented in this phase (**Table 3**). Elements from the upper hindlimb, forelimb and head were predominant, demonstrating that the entire carcass was present (**Fig. 4**). The butchery marks identified are indicative of carcass portioning, with a number of repetitive butchery patterns present including division of vertebrae longitudinally reflecting carcass halving (**Fig. 5**). Some lighter cut marks were also indicative of meat extraction. These remains were largely from adult animals, with only two fragments being from individuals definitely younger that 2.5 years (**Table 5**).

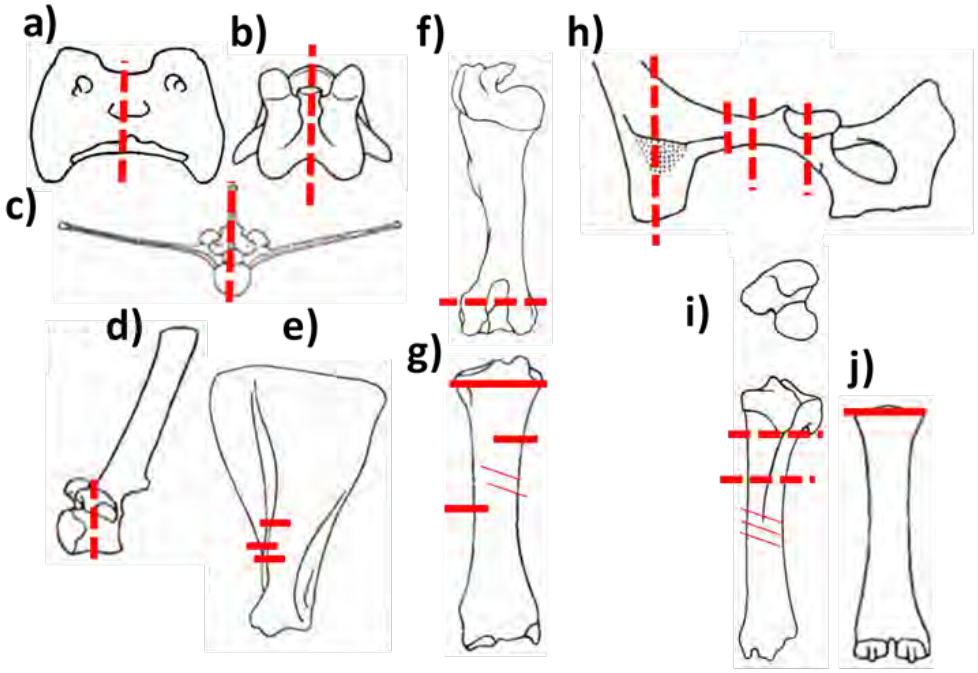

Figure 5. The butchery marks, in red, identified on the sheep remains associated with Sub-Phase 4.2, Area A. Dashed lines indicate saw marks, thick lines indicate chop marks and thin lines indicate knife cuts. a) atlas vertebra; b) cervical vertebrae; c) lumbar vertebrae; d) thoracic vertebrae; e) scapula; f) humerus; g) radius; h) pelvis; i) tibia; j) metacarpal.

The cattle remains in this sub-phase were largely from the upper hindlimb, however fragments from a number of elements around the body were also present. These remains were largely from older animals (**Table 6**) and were butchered in a manner that suggested carcass portioning undertaken on a commercial basis. Teeth were the both abundant remains from pig in this phase, from both the mandible and maxilla. The tooth wear and epiphyseal fusion data from these remains suggested that all the pig remains from this phase were younger than 6 months old. These remains displayed butchery marks indicative of carcass disarticulation.

A number of species of bird were present in the remains from this sub-phase (**Table 3**). It can be assumed that the geese (**Contexts 16345; 17547**), chicken (**Contexts 16189; 16245; 16248; 16282; 16328; 17380**) and duck (**Context 16245**) were from domestic flocks, however the fragment identified as a snipe was likely from a wild animal (**Context 16282**). None of these bird remains displayed any butchery or burning marks. A number of aspects of the chicken bone assemblage are worth discussing further here. Remains from entire carcasses were present, suggesting that chickens were processed for consumption at the site during this phase. Additionally, one of these bones was from a juvenile individual (**Fig. 6**), aged younger than three weeks, and one of the fragments contained medullary bone (**Fig. 7**), a deposit on the inside of the bone shaft that is demonstrative of a chicken being 'in lay'. These two fragments are strongly indicative of chickens being bred at the site, as discussed further in **Section 9**.

Table 5 (left). The epiphyseal fusion status of sheep remains associated with Sub-Phase 4.2, Area A. Values are given as the MNE.

Table 6 (Right). The epiphyseal fusion status of cattle remains associated with Sub-Phase 4.2, Area A. Values are given as the MNE.

	Number of Fragments		
	F	UF	%F
Scapula	7		
Pelvis			
D. Humerus	6		
P. Radius	4		
P. Metapodia			
<10 mths.	**17**	**-**	***100***
D. Tibia	4		
D. Metapodia	3	1	
Phalanx I	3		
Phalanx II			
1-2 years	**10**	**1**	***91***
Ulna	2		
P. Femur	1	1	
Calcaneum	1		
D. Radius	4		
2.5-3 years	**8**	**1**	***89***
P. Humerus	1		
D. Femur	1	2	
P. Tibia			
3-3.5 years	**2**	**2**	***50***

	Number of Fragments			
	F	UF	%F	FS
Scapula				
Pelvis				
P. Metapodia				
7-10 mths.	**-**	**-**	**-**	**-**
D. Humerus	2	-		
P. Radius	1	-		
Phalanx I				
Phalanx II				
13-18 mths.	**3**	**-**	***100***	**-**
D. Tibia	2	-		
D. Metapodia	2	-		
2-3 years	**4**	**-**	***100***	**-**
Ulna	1	-		
D. Radius	-	2		
P. Humerus	-	2		
Calcaneum	1	-		***1***
P. Femur	1	-		
D. Femur	4	2		
P. Tibia	2	-		
3-4 years	**9**	**6**	***60***	**1**

A number of species of bird were present in the remains from this sub-phase (**Table 3**). It can be assumed that the geese (**Contexts 16345; 17547**), chicken (**Contexts 16189; 16245; 16248; 16282; 16328; 17380**) and duck (**Context 16245**) were from domestic flocks, however the fragment identified as a snipe was likely from a wild animal (**Context 16282**). None of these bird remains displayed any butchery or burning marks. A number of aspects of the chicken bone assemblage are worth discussing further here. Remains from entire carcasses were present, suggesting that chickens were processed for consumption at the site during this phase. Additionally, one of these bones was from a juvenile individual (**Fig. 6**), aged younger than three weeks, and one of the fragments contained medullary bone (**Fig. 7**), a deposit on the inside of the bone shaft that is demonstrative of a chicken being 'in lay'. These two fragments are strongly indicative of chickens being bred at the site, as discussed further in **Section 9**.

Lastly, the remains from this phase contained a number of aquatic species. This sub-phase contained the highest amount of fish remains of any area and phase across the site (**Table 3**). Remains from entire fish were present in the remains, indicative of whole fish being processed at the site. Only one taxonomic family, Sparidae, was definitely identified in these remains (**Contexts 16245; 16248;**

16282; 16328; 16345). The species from this family occur in marine or brackish water. It is possible that the other fish bones in the assemblage are from fresh water species. A singular fragment of dugong identified in the remains from this assemblage is also indicative of interaction with the marine environment (**Fig. 8** –**Context 16282**).[9] This fragment is particularly significant as dugong are rarely identified in archaeological assemblages from Sydney, as discussed in further detail below (**Section 3.4**). It is also important to note that two fragments were identified that might be indicative of bone working being undertaken at the site during this period (**Contexts 16245; 16248**). This observation was based upon the way in which the bone had fractured. These bones could not be identified to skeletal elements however they appear to be from long bones.

Figure 6 (Top Left). Juvenile chicken bones from Sub-Phase 4.2, Area A.

Figure 7 (Top Right). An example of a chicken ulna containing medullary bone, from Sub-Phase 4.2, Area A.

Figure 8 (Left). The dugong tooth (left) identified in the assemblage (Context 16282), in comparison with a modern example from the University of New England's faunal reference collection (right).

[9] This is an occupation deposit near the fireplace in Room 3, House 4.

3.1.3. Sub-Phase 4.3: 1870s-1880s, Demolition of early house (Lot 30) and construction of new buildings (Lot 32)

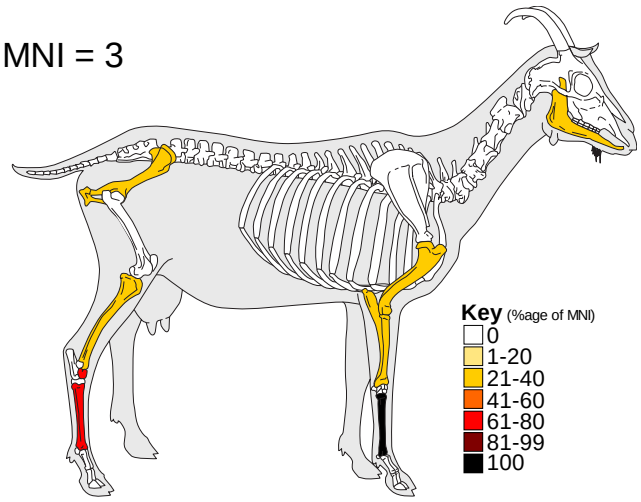

Figure 9. The skeletal element representation of sheep remains, displayed as a percentage of MNI, for the assemblage associated with Sub-Phase 4.3, Area A.

Domestic mammals were the most frequently identified species in the assemblage from this sub-phase (**Table 3**). A variety of skeletal elements from around the body were represented in the cattle remains, including teeth, the upper forelimb, and upper hindlimb. A fragment of pelvis displayed saw marks indicative of carcass portioning. Remains from across the whole carcasses were represented in the sheep remains from this sub-phase, however there was a predominance of lower limbs (**Fig. 9**). The epiphyseal fusion data demonstrated that all the sheep in the assemblage were adults, with no unfused epiphyses present. Furthermore, one of the sheep fragments displayed an age-related pathology, indicative of this animal being kept to old age before being killed (**Fig. 10**). It is unclear as to whether this specific animal was killed for consumption, however given the older age profile of the wider sheep assemblage it seems that older sheep were being consumed at the site. Three fragments displayed butchery marks, indicative of carcass portioning (**Fig. 11**).

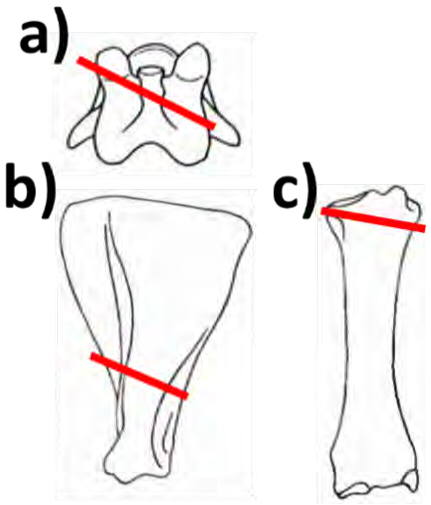

Figure 10 (Left). A sheep metacarpal associated with Sub-Phase 4.3, Area A, displaying pathology, likely age related, on its proximal tip. Figure 11 (Right). The butchery marks, in red, identified on the sheep remains associated with Sub-Phase 4.3, Area A. Dashed lines indicate saw marks, thick lines indicate chop marks and thin lines indicate knife cuts. a) cervical vertebrae; b) scapula, c) radius.

The single fragment of rodent recovered from contexts associated with this sub-phase corroborates with four fragments of bone that displayed rodent gnawing marks. Little can be said about the single fragments of rabbit (**Context 16188**) and chicken (**Context 16159**) identified in this phase, apart from noting their presence. Three fragments of branchiostegal rays from fish from this sub-phase were analysed, however they could not be further taxonomically identified (**Context 16280; 17405**).

3.3. Phase 5: Rebuilding and Occupation of later houses

3.3.1. Sub- Phase 5.1: 1870s-1960s, construction and occupation of later houses

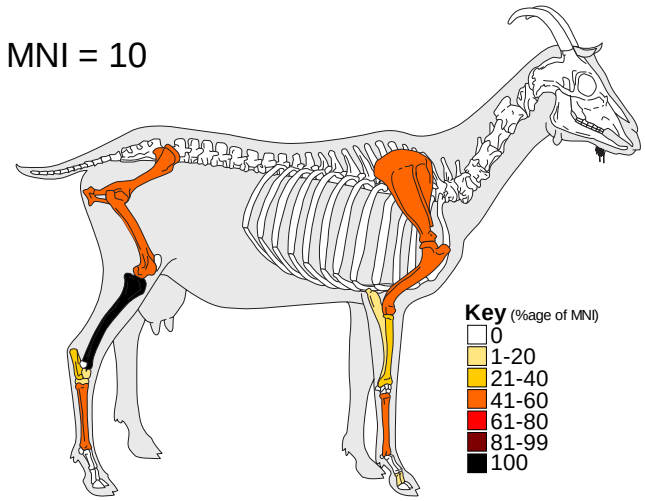

Figure 12. The skeletal element representation of sheep remains, displayed as a percentage of MNI, for the assemblage associated with Sub-Phase 5.1, Area A.

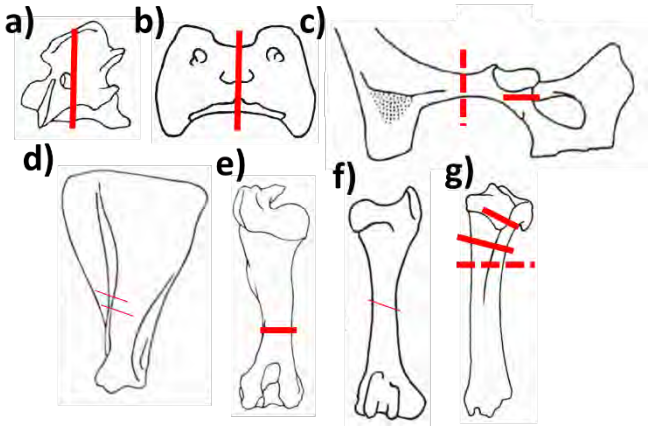

Figure 13. The butchery marks, in red, identified on the sheep remains associated with Sub-Phase 5.1, Area A. Dashed lines indicate saw marks, thick lines indicate chop marks and thin lines indicate knife cuts. a) axis vertebra; b) atlas vertebra; c) scapula; d) pelvis; e) humerus; f) femur; g) tibia.

Sheep and cattle were the most abundantly identified species in the remains from this phase (**Table 3**). The sheep remains from this phase were largely from the fore limb and upper hindlimb, however elements were present from the entire body (**Fig. 12**). The majority of the butchery marks identified on the sheep remains were largely indicative of carcass portioning, from halving and quartering to commercial meat preparation, however some marks do indicate meat extraction (**Fig. 13**). A single fragment displayed a pathology that was likely age-related (**Fig. 14**). The epiphyses present on these sheep remains were fused, suggesting that only adults were present in the remains (**Table 7**)

Of the fourteen cattle fragments from this phase, seven had been heavily butchered (**Fig. 15**), including two pelvis indicative of carcass portioning pelvis had been portioned in a manner evidenced throughout this assemblage (**Fig. 15**). Furthermore, an unerupted premolar demonstrates that the remains of an individual younger than 2.5 years was utilised at the site. The pig remains originated largely from the upper forelimb and demonstrated the presence of individuals from a range of ages. A fragment of humerus had been sawn through its shaft, and two of the pig fragments had been gnawed by a rodent.

The remains of rats, mice and indeterminate rodents were also present in the assemblage from this phase. This corresponded with seven fragments of bone that had been gnawed by rodents. There was also a single instance of bone being gnawed by canid in

the assemblage from this phase. This corresponds with the single fragments of dog forelimb that was identified, however little could be said about it aside from noting its presence (**Context 16127**).

The fragments of chicken identified in these remains were from the wing, one of them had been gnawed extensively by a rodent (**Contexts 16125; 16140; 16159**). 40 fragments of bird eggshell, likely from chicken, we also recovered from contexts associated with this sub-phase. Medullary bone was also identified in one of these fragments (**Fig. 7**).

Figure 14. A sheep metacarpal, associated with Sub-Phase 5.1, Area A, displaying pathology, likely age related, on the proximal end of its shaft.

Table 7. The epiphyseal fusion status of sheep remains associated with Sub-Phase 5.1, Area A. Values are given as the MNE.

	Number of Fragments			
	F	**UF**	**%F**	**FS**
Scapula	6			
Pelvis				
D. Humerus	5	1		
P. Radius	1			
P. Metapodia	1			
<10 mths.	**13**	**1**	***93***	**-**
D. Tibia	10			
D. Metapodia	12			
Phalanx I				
Phalanx II	1			
1-2 years	**23**	**-**	***100***	**-**
Ulna	1			
P. Femur	3			***1***
Calcaneum	4			
D. Radius	1			
2.5-3 years	**9**	**-**	***100***	***1***
P. Humerus		2		*1*
D. Femur	3			*1*
P. Tibia	3	2		*1*
3-3.5 years	**6**	**4**	***60***	***3***

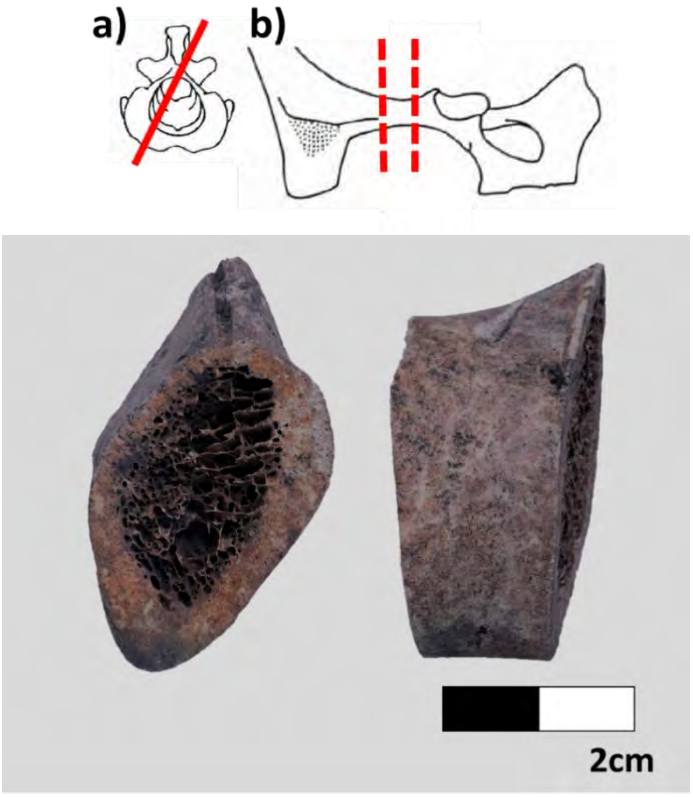

Figure 15. The butchery marks, in red, identified on the cattle remains associated with Sub-Phase 5.1, Area A. Dashed lines indicate saw marks and thick lines indicate chop marks. a) axis vertebra; b) pelvis. A butchered portion of cattle pelvis, sawn on either end, associated with Sub-Phase 5.1, Area A. This particular cut was identified numerous times throughout the assemblages from various areas and phases/sub-phases.

Fish were also present in the remains from this sub-phase, one of which was particularly large (**Context 16136**). The fragmentation of these remains, as was common throughout the entire assemblage from 3PS, prevent these fish remains from being identified further taxonomically.

3.3.2. Sub-Phase 5.2: Late 1950s-1960s, demolition of later houses and buildings

Of the 16 fragments analysed from contexts associated with the demolition of Cranbrook five were from sheep and one was from cattle. The sheep remains were predominantly from the upper fore and hindlimbs, however two fragments of lower limb were also present. All fragments of sheep had fused epiphyses, suggesting that adults were predominant in this phase. A single fragment of sheep pelvis had been sawn through and another fragment had been extensively gnawed by rodents. The single fragment of cattle, a tibia, had been sawn twice through its shaft.

3.4. Occupation Deposits Relating to Individual Rooms

3.4.1. Phase 4.2 - House 4 - Room 2 – Context 16328

A single occupation deposit (**Context 16328**) was associated with House 4 – Room 2. This deposit contained 177 fragments of animal bone, 54% of which were fragment of fish which were recovered during wet sieving of this deposit (**Table 8**). Elements from fish crania and fish bodies were present and one of these fragments was identifiable to family (Sparidae – Sea Bream). Three of the fragments identified as sheep/goat had been butchered, with two vertebrae sawn through their longitudinal axis and a metacarpal with a chop mark across its shaft. A single fragment of sheep/goat metapodia had also been heavily burnt. A single fragment of cattle had also been butchered – a fragment of lumbar vertebra that had been sawn through its longitudinal axis.

Four fragments of chicken bones, representing the wing and leg were identified and a single fragment of pig tooth was present.

Table 8. The taxonomic identifications made in the remains from the occupation deposit associated with House 4 - Room 2. Values are in NISP.

Taxa	Context 16328
Cattle	3
Sheep/Goat	25
Pig	1
Rodent, indet.	4
Large Mammal, indet.	2
Medium Mammal, indet.	30
Chicken	6
Medium Bird	1
Bird	7
Sea Bream	1
Fish	95
Total	**177**

3.4.2. Phase 4.2 - House 4 - Room 3 – Context 16282

As in the occupation deposit from House 4 - Room 2, fish were the most abundant taxa identified in this deposit with entire carcasses of fish present (**Table 9**). The dugong tooth discussed above was also recovered from this context. Its presence in the occupation deposit associated with this room is particularly interesting and is discussed in further detail below. Fragments of a chicken's leg were present in this deposit, as were fragments of egg shell which appeared to be chicken's egg.

Sheep/goat, pig and cattle were also present in small amounts (**Table 9**). Two fragments of sheep were butchered. Lastly, ten fragments of indeterminate rodent were also present in these remains as was a single fragment of a snipe.

3.4.3. Phase 4.2 - House 4 - Room 4 – Context 16245

As identified throughout all of these occupation deposits considered in this section of the report, fish bones were abundant (**Table 10**). No cranial fragments were present however. Additionally, a number of eggshell fragments, similar to those described in **Section 3.3.2,** along with five fragments of chicken bone**.** A single fragment of duck scapula was also present. Remains from cattle, sheep/goat and pig were also present, with six fragments of sheep/goat displaying butchery marks representative of carcass portioning (**Fig. 16**).

A large amount of long bone fragments from medium-sized mammals were present in this deposit, eleven of which had been charred or burnt white. Rib and vertebrae fragments from medium-sized mammals were also present. A worked bone disk was also present in this deposit, which may be linked to the high amount of long bone fragments; these fragments may be the remains of bone working which could have been undertaken in this space. However, there were no obvious 'green' fractures in the bone, which suggests the fragmentation may have occurred post-deposition.

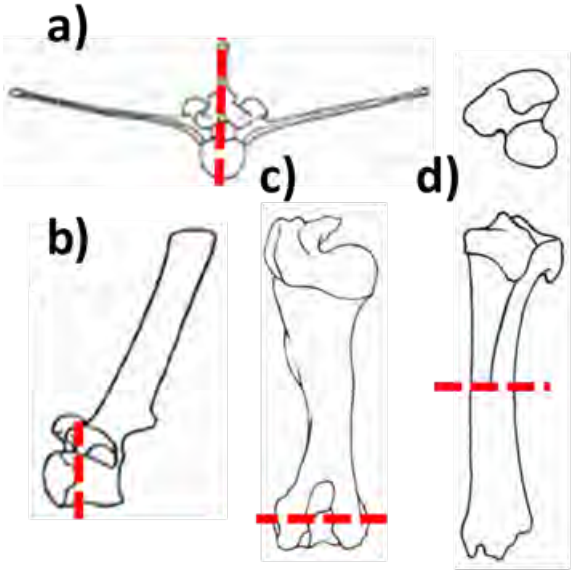

Figure 16. The butchery marks, in red, identified on the cattle remains associated with Context 16245. Dashed lines indicate saw marks, thick lines indicate chop marks and thin lines indicate knife cuts. a) lumbar vertebrae; b) thoracic vertebrae; c) humerus; d) tibia.

Table 9. The taxonomic identifications made in the remains from the occupation deposit associated with House 4 - Room 3. Values are in NISP.

Taxa	Context 16282
Cattle	1
Sheep/Goat	15
Pig	2
Rodent, indet.	10
Large Mammal, indet.	12
Medium Mammal, indet.	108
Chicken	3
Snipe	1
Medium Bird	1
Bird	16
Dugong	1
Fish	216
Total	**386**

Table 10. The taxonomic identifications made in the remains from the occupation deposit associated with House 4 - Room 4. Values are in NISP.

Taxa	Context 16245
Cattle	1
Sheep/Goat	28
Pig	3
Rodent, indet.	2
Large Mammal, indet.	14
Medium Mammal, indet.	151
Chicken	5
Mallard	1
Medium Bird	6
Bird	9
Fish	91
Total	**311**

3.4.4. Phase 4.2 - House 4 - Room 5 – Context 16248

While this occupation deposit also contained a predominance of fish remains (**Table 11**), these were largely scales as opposed to skeletal remains. Five fragments of sheep/goat were identified, three of which had been sawn through. Two pig teeth were also present, as were two vertebrae from a dog and six fragment of bird bone, three of which could be identified as chicken.

Table 11. The taxonomic identifications made in the remains from the occupation deposit associated with House 4 - Room 5. Values are in NISP.

Taxa	Context 16248
Sheep/Goat	5
Pig	2
Dog	2
Rodent, indet.	1
Large Mammal, indet.	4
Medium Mammal, indet.	45
Chicken	3
Medium Bird	3
Fish	75
Total	**140**

3.4.5. Phase 5.1 - Cranbrook - Room 5 – Contexts 16136 & 16140

Two contexts represented the occupation deposit associated with Cranbrook - Room 5 (**Table 12**). Only three fragments of bone were recovered from **Context 16140**; a single fragment of chicken wing and three fragments from a medium-sized mammal.

Context 16136, part of an underfloor deposit in Room 5, a later kitchen, contained significantly more fragments of animal remains, including 40 fragments of eggshell (likely from chicken). 32 fragments of fish were also present, representing elements from the body of the fish with no cranial remains identified. Remains of rats and a mouse were identified, along with eleven fragments of indeterminant rodent. Lastly four fragments of sheep/goat were present from the hindlimb and tail of an animal.

Table 12. The taxonomic identifications made in the remains from the occupation deposit associated with Cranbrook - Room 5. Values are in NISP.

Taxa	Context 16136	Context 16140	Total
Sheep/Goat	4		4
Rat	4		4
Mouse	1		1
Rodent, indet.	11		11
Large Mammal, indet.	1		1
Medium Mammal, indet.	33	3	36
Chicken		1	1
Bird	40		40
Fish	32		32
Total	**126**	**4**	**130**

3.5. General Comments

Throughout the occupation of Area A, domestic mammals are the most consistently well represented taxa in the faunal assemblage. Of these, sheep remains are the most common, followed by cattle and pig. This ratio between the three main domesticates remained the same through all phases (**Table 13**, **Fig. 17**), and is commonly seen in faunal assemblages from residential sites from this period and region.[10] The meat cuts represented by these remains were largely from body parts

[10] E.g. Steele 2005; Fillios 2012; Wilby 2019.

with high nutritional value. While some of the butchery marks were indicative of residential meat extraction, the majority were representative of carcass disarticulation and portioning at a commercial scale. This was particularly evidenced by the presence of identical cuts of meat in the assemblage (**Fig. 15**). This suggests that meat from domestic mammals was largely brought to the site pre-butchered, even from the earliest occupation phases of the site as shown by the remains from the early pits and other contained deposits discussed in **Section 3.1.1**.

Table 13. The NISP and relative proportion (in parenthesis) of each of the three domesticates in each phase, as visually represented by Figure 17.

Phase	Cattle	Sheep	Pig	Total
4.1	14 (*21.2*)	50 (*75.8*)	2 (*3*)	66
4.2	67 (*25.6*)	178 (*67.9*)	17 (*6.5*)	262
4.3	10 (*27*)	27 (*73*)	-	37
5.1	14 (9.1)	132 (*85.7*)	8 (*5.2*)	154
5.2	2 (*28.6*)	5 (*71.4*)	-	7
Area A Total	**107**	**392**	**27**	**526**

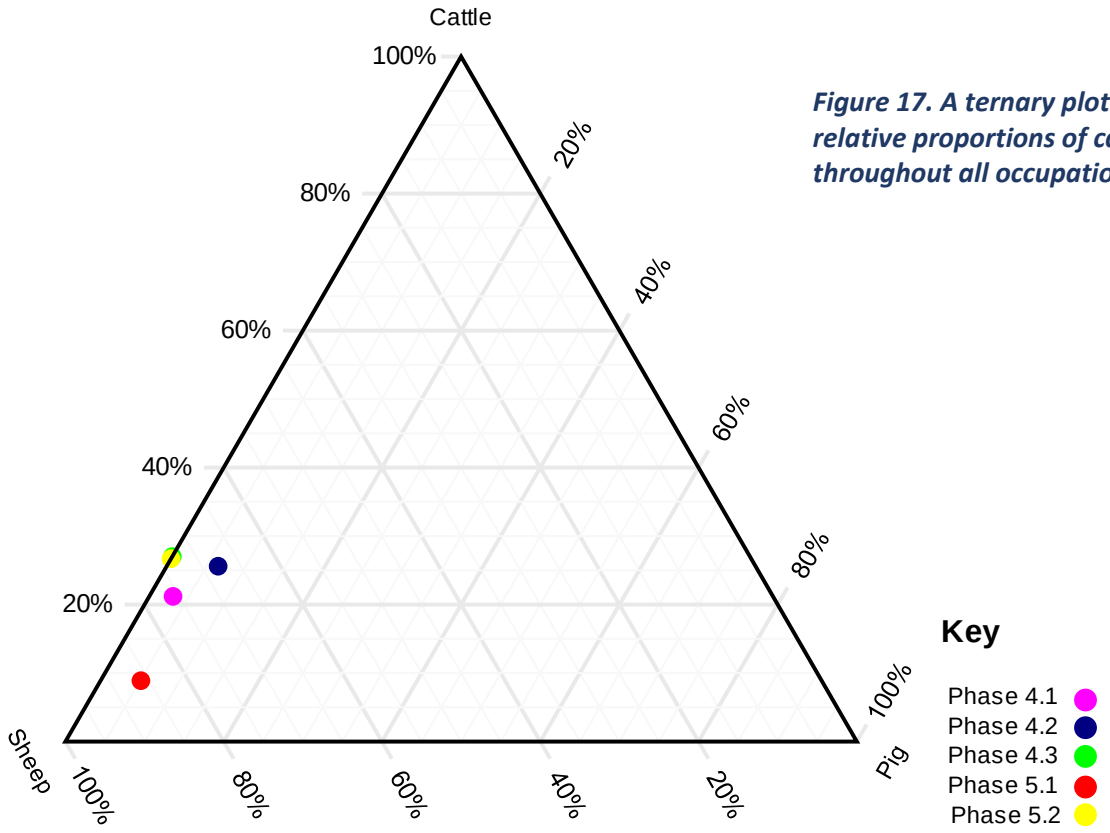

Figure 17. A ternary plot displaying the relative proportions of cattle, sheep and pig throughout all occupation phases of Area A.

There appears to be little change in the nature of the meat cuts present in this area of the site over time. It is worth noting the sheep remains were largely from adult animals across all phases in this area, whereas some younger cattle and pig also were present. This is also evidenced by the presence of two pathological fragments of sheep/goat (**Fig. 10, Fig. 14**) and likely reflects the importance of secondary products from sheep (i.e. wool) throughout the occupation at this site, particularly during

sub-phases 4.3 and 5.1. The butchery marks from all of these domesticates are largely indicative of carcass portioning for commercial resale. Given the lack of complete skeletons (i.e. skulls and hooves) from these animals this portioning likely took place away from the site. It can therefore be concluded that the occupants of Area A were provisioned with domesticate meat from other sources. It is highly likely that the 2,520 fragments classified as large-sized and medium-sized mammals came from cattle and sheep or pig respectively (**Table 13**).

Dog and cat were also identified in the remains, largely in material associated with sub-phase 4.1, however infrequently present in the remains associated with the early cottage on the site. The remains from sub-phase 4.1 suggest that entire carcasses had been deposited at the site. These animals were likely kept as pets or working animals (or both) at the site and these deposits likely represent intentional burials. The presence of dogs at the site in the later phases of occupation is also demonstrated by infrequent gnawing marks that appear to have been left by dogs. Rodent gnawing was also frequently identified on the remains from Area A, however there was a notable absence of gnawing on any remains recovered from the occupation deposits discussed in **Section 3.3.** This suggests that while the rodents and other scavengers were present in these areas (their bones being frequently identified in these deposits), their activity may have been limited.

Chicken were another domesticate that were utilised in Area A throughout the different phases of its occupation. The identified juvenile chickens and medullary bone, along with the presence of eggshell fragments, are indicative that a chicken population was being bred at the site. Geese and duck were also identified in the material that were likely from domestic flocks. The remains from wild bird families were also present, namely gull, snipe and partridge. These species likely occurred in the immediate environment of the site and it is therefore possible their bones were deposited via natural process, as opposed to anthropogenic interaction. This hypothesis is strengthened by the fact that the fragment of snipe was recovered from the topsoil.

The frequent identification of fish bones throughout the different temporal phases in the area is worth highlighting here. While the majority of these fish could not be identified to family, genus or species, Sea Bream were present. Three species of bream are known to occur in the waters of eastern Australia, one of which in only found in marine waters and two of which prefer to inhabit brackish water.[11] This fragment could therefore represent the exploitation of the estuarine or marine resource. Whichever the case may be, the high frequency of fish remains in this area suggests that fish were a common feature in the diet of the site. It is also notable that fish remains were incredibly common in the occupation deposits associated with House 4 – Rooms 2,3, 4 & 5. This could be a reflection of the deposits from these contexts being wet-sieved, however the frequent presence of fish bone and scales undoubtedly reflects a high consumption of fish during this phase of occupation of Area A.

A single fragment from dugong is also highly significant, and further demonstrates interaction with marine resource. There is only one published instance of dugong bones being recovered near Sydney, which were likely found in a non-anthropogenic context.[12] That said, the species has been observed off the coast of Sydney,[13] and it is possible it was opportunistically caught by colonial fishermen. Alternatively, this tooth fragment may have been brought to the site for purposes outside of consumption, its presence in a deposit associated with House 4 - Room 3, believed to have been the sitting room of the house, suggests it may have been an object, or part of a larger

[11] Allen *et al.* 2002; Stevenson 2004
[12] Etheridge *et al.* 1896
[13] Online source: https://australianmuseum.net.au/learn/animals/mammals/dugong/

object (i.e. an intact skull/jaw) that held particular reverence in the household and was displayed as such.

It was hard to relate the faunal remains from each of the occupational deposits to the use of the rooms they were recovered from, as they were generally similar in taxonomic content and other characteristics. One notable exception is the large amount of long bone fragments recovered from House 4 - Room 4, the original kitchen which became a dining room in the 1840s. These remains likely relate to the use of this room as a kitchen. As mentioned above however, no 'green' fracturing was identified on any of these fragments, and the fragmentation could have therefore been post-depositional.

4. Area A (South), Lot 30

750 fragments were analysis from Area A (South) (**Fig. 1**), associated from 22 individual contexts (**Table 14**). This area was the rear-yard of Area A and therefore is part of the same property discussed in **Section 4** above.

4.1. Phase 4: Early British Occupation

4.1.1. Sub-Phase 4.2: 1850s-1870s, later occupation of House 4

Only six fragments of bones were analysed from this sub-phase (**Table 15**). These could only be classified by size; the large-sized mammal fragments are most likely from cattle and the medium-sized mammal is most likely sheep/goat, based upon the presence of a sheep/goat metatarsal fragment and the predominance of sheep/goat in the rest of the assemblage from these phases.

Table 14. A list of all contexts associated with each phase and sub-phase from Area A (South), alongside the amount of bone fragments recovered from that context.

Phase	Context	Number of Fragments	Phase	Context	Number of Fragments
Sub-Phase 4.2	16211	1	**Sub-Phase 5.1 (Cont.)**	16350	52
	16374	3		16352	8
	17204	2		16353	156
Sub-Phase 5.1	16194	5		16354	74
	16252	273		16357	9
	16254	2		16364	11
	16261	1		16381	1
	16286	1		17139	85
	16288	45	**Phase 6**	16250	4
	16308	1	**Not Phased (unstratified fills)**	16349	7
	16344	5		16456	4
			AREA A (SOUTH) TOTAL		**750**

Table 15. The Number of Identified Specimens for taxa identified across all phases and sub-phases in Area A (South).

Taxa	Phase 4.2	Phase 5.1	Phase 6	Not Phased	Taxa Totals
Cattle		27			27
Sheep/Goat	1	179	1	7	188
Pig		26			26
Rabbit		4			4
Rodent		1			1
Large Mammal, indet.	2	144	2	2	150
Medium Mammal, indet.	3	280	1	2	286
Chicken		66			66
Medium Sized Wader, indet		1			1
Medium Bird, indet.		1			1
Total	**6**	**729**	**4**	**11**	**750**

4.2.Phase 5: Rebuilding and Occupation of later houses

4.2.1. Sub-Phase 5.1: 1880s-1960s, construction and occupation of later houses

Sheep were the most abundantly identified taxa in this sub-phase in Area A (South) (**Table 15**). The butchery marks present on these remains are solely indicative of carcass disarticulation and portioning, with similar portions of bone present to those from other phases and sub-phases (**Fig. 19**). Few epiphyses were present; they demonstrated animals of a range of ages were present in the remains from this sub-phase, however the majority of animals present were older (**Table 16**). The upper hindlimb and forelimb were by far the most abundant body parts represented, however lower hindlimbs and forelimbs were also present. A heavily pathological fragment of sheep bone was present in the remains from this phase (**Fig. 18**).

An entirely unfused cattle pelvis was present in these remains, indicative of an individual younger than ten months. Another fragment of cattle lumbar vertebra had been sawn through longitudinally, indicative of carcass halving. The pig remains were largely from the forelimb. All of the epiphyses on these remains were unfused, indicative that all these pigs were juvenile individuals. One of these fragments was also sawn through its shaft.

Table 16. The epiphyseal fusion status of sheep remains associated with Sub-Phase 5.1, Area A (South). Values are given as the MNE.

	Number of Fragments			
	F	**UF**	**%F**	**FS**
Scapula	7	-		
Pelvis				
D. Humerus	5	1		
P. Radius	7	-		
P. Metapodia				
<10 mths.	**19**	**1**	***95***	**-**
D. Tibia	4	2		
D. Metapodia	11	1		
Phalanx I	2	-		
Phalanx II	-	1		
1-2 years	**17**	**4**	***81***	**-**
Ulna	2	-		
P. Femur	1	2		
Calcaneum	5	2		
D. Radius	4	1		
2.5-3 years	**12**	**5**	***71***	**-**
P. Humerus	1	2		*1*
D. Femur	1	1		*2*
P. Tibia	3	3		
3-3.5 years	**5**	**6**	***46***	***3***

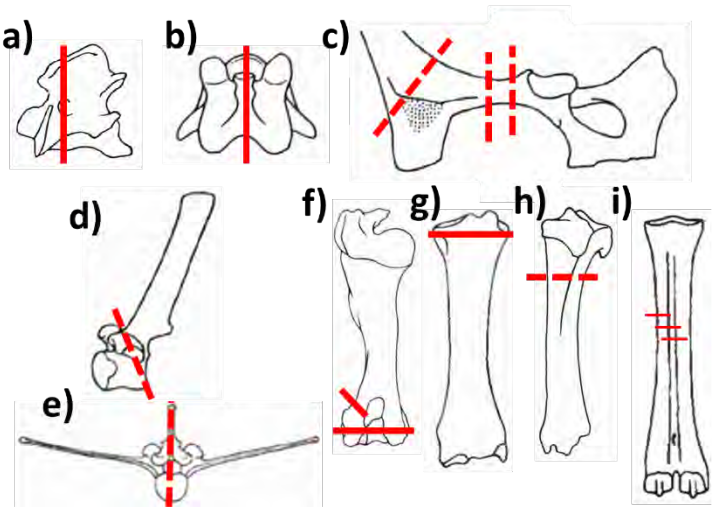

Figure 18 (Left). A sheep femur, associated with Sub-Phase 45.1, Area A (South) displaying a pathology towards its distal tip. Figure 19 (Right). The butchery marks, in red, identified on the cattle remains associated with Sub-Phase 5.1, Area A (South). Dashed lines indicate saw marks, thick lines indicate chop marks and thin lines indicate knife cuts. a) axis; b) cervical vertebrae; c) pelvis; d) thoracic vertebrae; e) lumbar vertebrae; f) humerus; g) radius; h) tibia; i) metatarsal.

Four fragments of rabbit bone were present, two from the forelimb and two from the hindlimb. These fragments represented the remains of two individuals, however little else could be said about these fragments. A number of fragments were identified as chicken (**Table 15**), representing remains from the skull and the leg. Medullary bone was identified inside one of the chicken long-bone fragments. A single fragment of wading bird was also present in the remains from this sub-phase.

4.2.2 Rubbish Pits

Of the eight rubbish pits excavated from Area A (South), six contained animal bone fragments (**Table 17**). Three of these pits contained a very small number of fragments, about which little could be said. A large number of remains were recovered from **Context 16252**, the fill of an early 20th-century rubbish pit. The majority of these were fragments of indeterminate large and medium-sized mammals. Sheep/goat bones were the most frequently identified taxa, which the remains of entire carcasses present in the deposit. Fragments from the pelvis were most abundant and a number of these fragments had been portioned in the manner identified elsewhere (**Fig. 15**). Remains from the vertebral column and upper limbs from both cattle and pig were present in this deposit as well. Complete carcasses from chickens were also present, along with leg bones from rabbits. These characteristics make it clear the remains from this deposit are solely processed food waste.

The remains from **Context 16288** (20thcentury) were similar in nature to those from **Context 16252**. Only limb bones were present from sheep/goat, one of which had been butchered. Three fragments of cattle were also present, as was a single butchered fragment of pig. No chicken remains were present in this context. **Context 17139** (20th century) contained complete carcasses of chicken, representing at least six individuals, with a particular abundance of leg elements. There was no evidence of butchery or cooking (i.e. burning) observed on these remains, however this does not necessarily indicate these bones were from carcasses that had not been cooked.[14] Five fragments of sheep/goat were also present, with an abundance of the upper forelimb and lower hindlimb.

Table 17. The taxonomic content of each rubbish pit excavated in Area A (South). Values in NISP.

Taxa	16252	16254	16261	16286	16288	17139	Total
Cattle	10				4		14
S/G	53		1		16		77
Pig	11				1		12
Rabbit	3					1	4
Rodent, indet.	1						1
Large Mammal, indet.	72	1			6	3	82
Medium Mammal, indet.	113			1	18	17	149
Chicken	8					58	66
Medium Wader	1						1
Medium Bird	1						1
Total	**273**	**2**	**1**	**1**	**45**	**85**	**407**

[14] Lyman 1994

4.3. Phase 6: Post-1960, Post Office and Civic Place

Only three fragments of bone were associated with Phase 6, recovered from **Context 16250.** This included a single fragment of sheep/goat humerus and indeterminate large and medium -sized mammal. Little else could be said about these remains.

4.4. General Comments

The nature of the main domesticates (i.e. cattle, sheep and pig) mirror the characteristics of the remains from Area A in terms of butchery marks identified, skeletal elements present and the age of the animals represented. Pig is slightly better represented Rabbit remains were infrequently identified and as such it was uncertain as to whether they originated from human activity or natural deposition.

Chicken were also present during the Cranbrook phase (post-1884) of occupation in Area A (South), with apparent evidence of laying chickens being present at the site at this time. The single fragment of wading bird (**Context 16252**) might be indicative of their consumption at the site during this occupation phase, however, as with the rabbit bones, it must be acknowledged that this fragment might come from an individual that died naturally on the site without human interaction.

The remains from the rubbish pits associated with Sub-Phase 5.1 were the remains of food waste. Of particular interest is the abundance of chicken bones in **Context 17139** and the repeat occurrence of portioned sheep pelvis in **Context 16252**.

5. Area B, Lot 30

Area B is the eastern part of Harriet Holland's property which was subdivided for building two, two-storey terrace houses for lease (**Fig. 1**).

A total of 1179 fragments were recovered from the entirety of Area B from 43 separate contexts (**Table 18**).

Table 18. A list of all contexts associated with each phase and sub-phase from Area B, alongside the amount of bone fragments recovered from that context.

Phase	Context	Number of Fragments	Phase	Context	Number of Fragments
Phases 1 to 4 (Modified topsoil)	16416	94*	**Sub-Phase 5.1 (Cont.)**	16418	27
	16465	2**		16442	1
	16484	3		16594	20
	16584	4		16625	1
Sub-Phase 4.1	17069	5		16627	1
Sub-Phase 4.2	16848	2		16630	1
Sub-Phase 4.3	16408	22***		16639	1
	16426	55		16677	4
	16458	95		16750	9
	16459	5		16757	1
	16469	2		16778	5
	16628	3		16838	1
Sub-Phase 5.1	16410	1		16916	26
	16411	4		16918	9

Phase Area B	Context	Number of Fragments	Phase	Context	Number of Fragments
Sub-Phase 5.1 (Cont.)	16920	4	**Sub-Phase 5.1 (Cont.)**	16967	30
	16924	2		17109	1
	16925	21		17135	11
	16929	250	**Sub-Phase 5.2**	16405	4
	16932	7		16431	5
	16933	3		16470	1****
	16939	116	**Phase 6**	16401	100
	16952	220	**AREA B TOTAL**		**1179*****

Context 16416 has an additional 15 fragments of bone, recovered by Comber Consultants, that are displayed in **Table 29; **Context 16465 has an additional eight fragment of bone, recovered by Comber Consultants, that are displayed in **Table 29**; ***Context 16408 has an additional seven fragments of bone, recovered by Comber Consultants, that are displayed in **Table 29**; **** Context 16470 has an additional two fragments of bone, recovered by Comber Consultants, that are displayed in **Table 29**; *****Area B has a total of 32 additional fragments of bone that were recovered by Comber Consultants and are displayed in **Table 29.***

Table 19. The Number of Identified Specimens for taxa identified across all phases and sub-phases in Area B.

Taxa	Phases 1-4 (Modified Historic Topsoil)	Phase 4			Phase 5		Phase 6	Not Phased	Taxa Totals
		4.1	4.2	4.3	5.1	5.2			
Cattle	2			4	25				31
Sheep/Goat	22			35	170	5	4		236
Pig					1				1
Dog				2	1				3
Rabbit					3	1	1		5
Rat							1		1
Rodent, indet.					6				6
Large Mammal, indet.	19	4	2	29	42				96
Medium Mammal, indet.	60	1		110	192	4	7		374
Goose					1		1		2
Chicken				1	217			86	304
Mallard					1				1
Gull					2				2
Golden Plover					1				1
Medium Sized Wader					1				1
Medium Bird, indet.					35				35
Bird					54				54
Sea Bream					2				2
Fish				1	23				24
Total	**103**	**5**	**2**	**182**	**777**	**10**	**14**	**86**	**1179**

5.1. Phase 4: Early British Occupation

5.1.1. Sub-Phase 4.1: c.1819-1850 – Phase 4: Early British Occupation, construction and occupation of House 4, Lot 30

Five fragments were associated with this sub-phase, four of which were identified as large-size mammals and one was identified as a medium-sized mammal. None of these fragments had been burnt, butchered or gnawed and little else could be said about them.

5.1.2. Sub-Phase 4.2: 1850s to 1870s later occupation of House 4

Only two fragments were associated with this sub-phase, both of which were identified as large-sized mammals. As is sub-phase 4.1, neither of these fragments were burnt, butchered or gnawed and little else could be said about them.

5.1.3. Sub-Phase 4.3: 1870s to 1880s demolition of former White Horse Inn and outbuilding

Cattle, sheep and pig were the most predominant species in this sub-phase. Elements from the upper hind limb were by far the most predominant in the sheep remains from this sub-phase (**Fig. 20**). The vast majority of these fragments had fused epiphyses, suggesting that all of these animals were adult at the age of death, however a single 2nd phalanx was unfused which came from an individual younger than 13 months. Only two of these fragments were butchered; a fragment of lumbar vertebra and pelvis. The cattle remains were largely from the lower limb and teeth. One of these teeth was from an individual between the age of 8 and 18 months. Pigs were only represented by teeth; one of these teeth was from a juvenile individual.

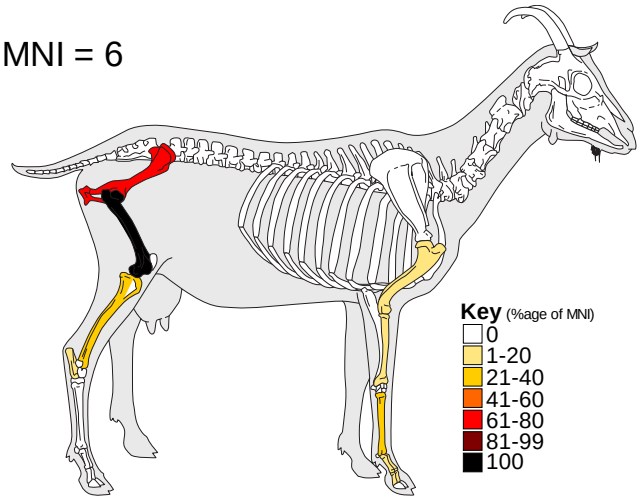

Figure 20. The skeletal element representation of sheep remains, displayed as a percentage of MNI, for the assemblage associated with Sub-Phase 4.3, Area B.

Two dog teeth were also present in the remains from this sub-phase, however given the lack of associated dog elements it is likely that these remains were out of context. A single fragment of fish was also present, however this fragment could not be identified to family level.

5.2. Phase 5: Rebuilding and Occupation of later houses

5.2.1. Sub-Phase 5.1: 1870s-1960s, construction and occupation of later houses

The vast majority of sheep remains in this sub-phase were from older individuals, however very few remains suggested animals older than 3.5 years were present. Remains from the lower hindlimb were vastly predominant here, however elements from elsewhere in the body, particularly the lower forelimb were present (**Fig. 20**). The butchery marks on the sheep remains in this sub-phase were indicative of carcass portioning, from halving and quartering to commercial portioning. One of the metatarsal fragments was pathological, with a lump protruding from the bone surface.

The cattle remains identified in this sub-phase were largely from the lower spine and pelvis, however elements were also present from the upper forelimb and lower hindlimb, as well as the upper vertebral column. The butchery marks observed on the cattle assemblage are largely indicative of carcass portioning. Notably, three of these butchered fragments were portioned sections of pelvises that had been sawn through in an identical fashion (**Fig. 15**). The epiphyseal

fusion state of these bones was indicative of relatively younger animals being present in the assemblage. The single fragment of pig was an unfused pelvis, determined to be from an individual younger than a year old.

Rabbit remains from this phase were largely from the upper forelimb, however a fragment was also present from the lower hindlimb. None of these fragments were butchered or burnt, making it impossible to determine whether or not their deposition at the site was anthropogenic. The rodent remains from this sub-phase corroborate with their presence elsewhere at the site.

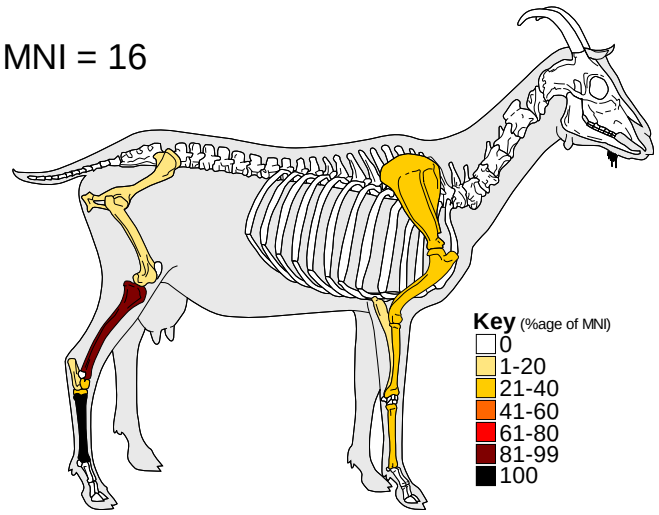

Figure 21. The skeletal element representation of sheep remains, displayed as a percentage of MNI, for the assemblage associated with Sub-Phase 5.1, Area B.

A large amount of chicken bones were present in the remains from this sub-phase in Area B (**Table 19 – Contexts 16920; 16929; 16932; 16933; 16939; 16952**). These remains represented entire carcasses and a number of fragments from juvenile chickens were also present (**Fig. 6**). This evidence is strongly indicative that chicken were being kept and bred at the site during this phase, as is the presence of large amount of eggshell. A single fragment of chicken bone was butchered, indicative of carcass disarticulation. Several other bird species were present in the remains including birds from the estuarine environment such as plovers, and gulls (**Table 19** - **Contexts 16750; 16929**). None of these remains were burnt or butchered, so it was impossible to determine whether the deposition of these remains was anthropogenic or natural.

A number of fish fragments were also present in the contexts associated with this sub-phase, within which seabream was identified (**Contexts 16750; 16918; 16925; 16929; 16952**). Whole fish were represented, suggesting that whole fish were being processed at the site.

5.2.2. Sub-Phase 5.2: Demolition of later houses, 1960s

Sheep, cattle and rabbit were the only species to be identified in the remains from this sub-phase (**Table 19**). The sheep fragments represented a number of different elements, including the upper and lower forelimb, the lower hindlimb and the pelvis. All of the epiphyseal surfaces identified in these remains had been fused, indicative that these remains were all from older animals. None of the fragments had been butchered or burnt. The two fragments of cattle were from a tooth and the lower forelimb. Little else could be said about either of them. The fragment of rabbit was from a humerus, however little else could be said about it. Four fragments were identified as a 'Medium-Sized Mammal' (likely to be sheep), one of which had been cut through.

5.3. Cesspits

The fill from a number of cesspits, associated with House 2 & 3, were excavated from Area B and contained notable faunal remains (**Table 20**). The central cesspits contained relatively little material, with more faunal remains recovered from the southern cesspits. The southern cesspit from House 2 contained a predominance of sheep remains that were not present in the other cesspits. These remains were representative of entire carcasses, however there was a clear predominance of lower limb bones. Notably both of the southern cesspits contained large amounts of chicken bones,

representing entire carcasses. Juvenile chicken bones were also present. Rabbit was present in the southern cesspit from House 2 and no others.

For further reference, these cesspit contexts are:

- Cesspit 16915 and fill 16916, cesspit for House 3, Phase 5.1
- Cesspit 16917 and fill 16925, cesspit for House 3, Phase 5.1
- Cesspit 16921 and fills 16922 (upper) and 16929 (lower) for House 2, Phase 5.1
- Cesspit 16919 and fill 16920 (upper) and 16952 (lower) of cesspit for House 3, Phase 5.1.

Table 20. The taxonomic content of each cesspit excavated in Area B. Values in NISP.

Taxa	16916 House 2 - Central	16925 House 3 - Central	16929 House 2 - South	16920 House 3- South	16952 House 3 - South	Total
Cattle	1		1	1	1	4
Sheep/Goat	21		81	1	2	105
Pig					1	1
Rabbit			3			3
Rodent, ident.					5	5
Large Mammal, indet.	3		16		1	20
Medium Mammal, indet.	1	14	76		2	93
Chicken			50	2	127	179
Gull			2			2
Golden Plover			1			1
Medium Sized Wader			1			1
Medium Bird			12		23	35
Bird					54	54
Sea Bream			2			2
Fish		7	5		4	16
Total	**26**	**21**	**250**	**4**	**220**	**521**

5.4. Phase 6: Post Office and Civic Place, 1960s-2015

A small amount of recovered remains were associated with this phase. Sheep were well represented and a number of remains were also identified as medium-sized mammal. Additionally a fragment of goose bone and single fragments of rabbit and rat were identified. Notably a single fragment of medium mammal long bone had been heavily burnt.

5.5. General Comments

As identified in Area A and Area A (South), the repeated butchery patterns identified on the cattle and sheep remains are indicative of commercial practices, suggesting that this meat was being brought to the site pre-butchered. Indeed, the characteristics of the assemblage from Area B broadly

match those from Area A prior to Phase 5, which corroborates with the ownerships and general use of these two sites. Only a single fragment of pig was present in the assemblage from this area, a notable difference between Area B and Areas A and C.

One of the components of the assemblage from this area that make it unique is that Sub-Phase 5.1 contained the highest concentration of chickens identified in the assemblage from the entirety of these excavations. This corresponds temporally with the terraced house occupation in the area, likely due to the fact that chickens can be kept in relatively small spaces. As well as their meat, the evidence from this assemblage suggests that chickens were also being exploited for their eggs. These chickens appear to have an association with the southern cesspits from Houses 2 & 3 with large numbers of them being recovered from there.

6. Area C, Lot 32

1692 fragments were recovered from 68 contexts across Area C (**Fig. 1** - **Table 21**).

Table 21. A list of all contexts associated with each phase and sub-phase from Area C, alongside the amount of bone fragments recovered from that context.

Phase	Context	Number of Fragments	Phase	Context	Number of Fragments
Sub-Phase 4.1	16517	1	**Sub-Phase 4.3 (Cont.)**	16706	35
	16593	21		16714	1
	16787	4		16737	154
	16927	1		16746	150
	17037	1		16755	4
Sub-Phase 4.2	16501	8		16825	224
	16519	19		16853	123
	16553	3		16881	8
	16571	1		16883	1
	16687	2		16895	3
	16767	1		16901	1
	16887	1		16909	2
	16902	2		16931	57
	17079	2	**Sub-Phase 5.1**	16424	2
	17131	1		16427	36
	17154	1		16433	10
Sub-Phase 4.3	16422	158		16434	10
	16432	23		16489	27
	16435	18		16497	5
	16485	6		16606	37
	16493	5		16615	14
	16510	10		16617	11
	16526	6		16642	2
	16565	31		16644	2
	16618	75		16646	4
	16623	70		16654	1
	16657	21		16689	4
	16658	8		16708	55
	16671	13		16739	3

	16683	2		16748	2
	16705	1		16754	2
Phase	**Context**	**Number of Fragments**	**Phase**	**Context**	**Number of Fragments**
Sub-Phase 5.1 (Cont.)	16794	27	**Phase 6**	16423	29
	16796	61		16460	11
	16836	57		16906	1
			AREA C TOTAL		**1692**

6.1. Sub-Phase 4.1: c.1819-1850s, Early British occupation, White Horse Inn drains and outbuildings (from 1830), Lot 32

Only cattle were identified in the remains from this sub-phase (**Table 22**), setting it apart from all other sub-phases and areas. All fragments were from the lower limb and two fragments of radius had been butchered. The majority of these fragments had fused epiphyses, however some remains from younger animals were present (**Table 23**). The fragments identified as large-sized mammal were all ribs, and likely also came from cattle.

Table 22. The Number of Identified Specimens for taxa identified across all phases and sub-phases in Area C.

Taxa	Phase 4			Phase 5.1	Phase 6	Taxa Totals
	4.1	4.2	4.3			
Cattle	20		70	11	3	**104**
Sheep/Goat		12	392	98	14	**516**
Pig			11	5	1	**17**
Dog			1	55		**56**
Rabbit			8	5		**13**
Large Mammal, indet.	5	8	206	53	6	**278**
Medium Mammal, indet.	3	21	479	121	14	**638**
Turkey			4			**4**
Chicken			22	19	2	**43**
Bantam			1			**1**
Pheasant			1		1	**2**
Partridge			1			**1**
Crane			2			**2**
Large Bird, Indet.			1			**1**
Medium Bird, indet.			8	5		**13**
Fish			3			**3**
Total	**28**	**41**	**1210**	**372**	**41**	**1692**

6.2. Sub-Phase 4.2: 1850s-1870s, Hilts Coach Service, Lot 32

Only sheep were definitively identified in the remains from this sub-phase, with elements from the upper hind limb, jaw, vertebral column and lower limb present. A single vertebra had been butchered and a single fragment had a fused epiphysis.

6.3. Sub-Phase 4.3: 1870s-1880s, Demolition of former White Horse Inn and outbuilding

Sheep were vastly predominant in the remains from this sub-phase, with large amounts of cattle and chicken also present. Remains from entire carcasses were present, however there was a clear predominance of upper hindlimb and upper forelimb (**Figure 22**). A relatively large amount of these remains had unfused epiphyses, suggesting these remains represent a higher consumption of younger sheep than seen elsewhere at this site (**Table 24**).

Large amount of cattle remains were also identified in the remains from this sub-phase. Only elements from the vertebral column and long bones were present, however there was a vast predominance of pelvis fragments (**Figure 23**)**.** The majority of these pelvis fragments had been butchered in the manner displayed in **Figure 15**. As observed in the sheep remains, a relatively high proportion of cattle remains were unfused (**Table 25**). Some fragments were identified as pig, all of which were from the head. Four fragments of rabbit were identified in this sub-phase, representing limb bones, however these fragments displayed no other notable characteristics. A single fragment of dog was also present in the remains from this sub-phase, however little could be said about it.

Skeletal elements from the wings and legs of chickens were identified in the remains from this sub-phase, two of which had medullary bone on the inside of the shaft (cf. **Fig. 7**) and two of which were remains from juvenile chickens aged less than 4 weeks. Notably, three fragments of turkey were also present in these remains. This sub-phase also contained a relatively large amount of wild bird species, including pheasant, partridge and crane. These four types of bird are highly significant species, as discussed in further detail below (**Section 9**).

Table 23. The epiphyseal fusion status of cattle remains associated with Sub-Phase 4.1, Area C. Values are given as the MNE.

	Number of Fragments			
	F	**UF**	**%F**	**FS**
Scapula				
Pelvis				
P. Metapodia				
7-10 mths.	**-**	**-**	**-**	**-**
D. Humerus				
P. Radius	4			
Phalanx I				
Phalanx II				
13-18 mths.	**4**	**-**	***100***	**-**
D. Tibia		1		1
D. Metapodia				
2-3 years	**-**	**1**	**-**	**1**
Ulna		2		
D. Radius		2		
P. Humerus				
Calcaneum	2			
P. Femur				
D. Femur				
P. Tibia	1			
3-4 years	**3**	**4**	***43***	**-**

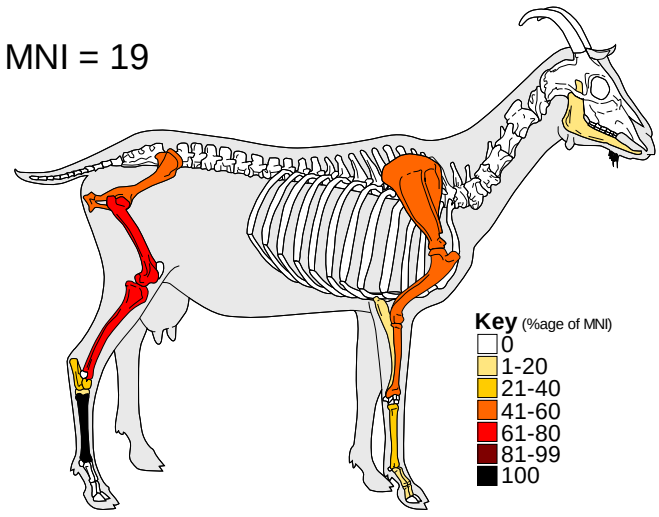

Figure 22. The skeletal element representation of sheep remains, displayed as a percentage of MNI, for the assemblage associated with Sub-Phase 4.3, Area C.

Table 24. The epiphyseal fusion status of sheep remains associated with Sub-Phase 4.3, Area C. Values are given as the MNE.

	Number of Fragments			
	F	UF	%F	FS
Scapula	15			
Pelvis		2		
D. Humerus	11	1		
P. Radius	5			
P. Metapodia				
<10 mths.	**31**	**3**	***91***	
D. Tibia	15	5		
D. Metapodia	30	2		
Phalanx I	4			
Phalanx II				
1-2 years	**49**	**7**	***88***	
Ulna	3	1		
P. Femur	10	5		***3***
Calcaneum	4	3		***1***
D. Radius	13	7		
2.5-3 years	**30**	**16**	***65***	***4***
P. Humerus	4	3		
D. Femur	10	7		*4*
P. Tibia	5	6		*4*
3-3.5 years	**19**	**16**	***54***	***8***

Table 25. The epiphyseal fusion status of cattle remains associated with Sub-Phase 4.3, Area C. Values are given as the MNE.

	Number of Fragments			
	F	UF	%F	FS
Scapula				
Pelvis		2		
P. Metapodia				
7-10 mths.	**-**	**2**	**-**	
D. Humerus				
P. Radius	2			
Phalanx I		1		
Phalanx II				
13-18 mths.	**2**	**1**		
D. Tibia	3			***1***
D. Metapodia				
2-3 years	**3**	**-**	***100***	**1**
Ulna				
D. Radius		1		
P. Humerus				
Calcaneum	1			***1***
P. Femur		1		
D. Femur		1		
P. Tibia		1		
3-4 years	**1**	**4**	***20***	**1**

6.4. Phase 5.1: Construction & occupation of 1870s houses; Later 19th century outbuilding; Single storey shop (1950s)

As seen throughout this site, sheep were the most common species in the remains from this sub-phase. Elements from the entire carcass are were identified, with a predominance of upper hindlimbs and some abundance of upper forelimbs (**Fig. 23**). As with the remains in sub-phase 4.3, there are a relatively high amount of younger animals in the remains from this sub-phase (**Table 26**). A large number of sheep fragments had been butchered, reflecting carcass halving, quartering and subsequent meat preparation (**Fig. 24**).

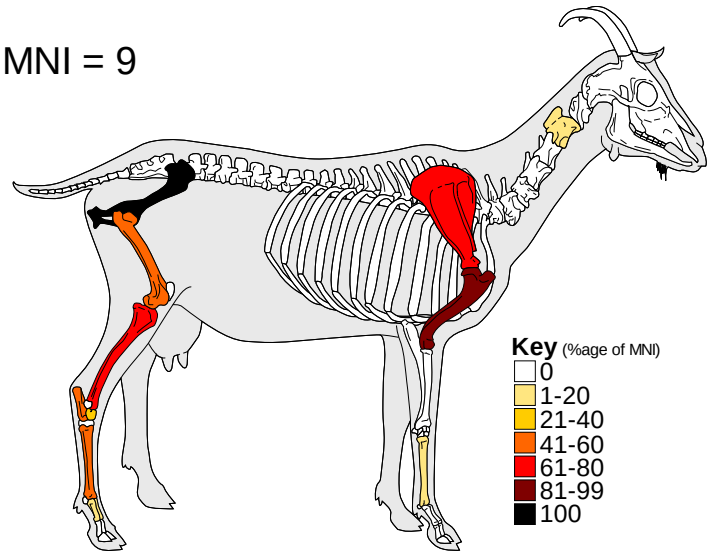

Figure 23. The skeletal element representation of sheep remains, displayed as a percentage of MNI, for the assemblage associated with Sub-Phase 5.1, Area C.

Fragments of cattle vertebrae, pelvis and tibia were present in these remains, along with a single humerus. These cattle fragments were heavily butchered, indicative of carcass portioning. The portion of pelvis, frequently identified through the wider assemblage from these excavations (**Fig. 15**), was also present. The humerus was entirely unfused, indicating that it was an individual younger than one year of age. Fragments of pig jaw and upper forelimb were present. These remains were both from an individual younger than 6 months of age.

Five fragments from rabbit upper hindlimbs were present, none of which had been butchered or burnt. Chicken wings and legs were also present in the remains from this phase. One of these fragments was heavily burnt and another had been gnawed by a rodent. This phase contained a relatively high amount of dog remains, with bones from an entire carcass represented (**Context 16796**). As with the dog remains identified in the assemblage from Area A, these are likely the remains of a pet. The context from which the bones are from has been interpreted as a rubbish pit, so it may be that the dog was disposed of in there, as opposed to being separately buried.

Table 26. The epiphyseal fusion status of sheep remains associated with Sub-Phase 5.1, Area C. Values are given as the MNE.

	Number of Fragments			
	F	**UF**	**%F**	**FS**
Scapula	5			
Pelvis				
D. Humerus	7			
P. Radius				
P. Metapodia				
<10 mths.	**12**	**-**	***100***	**-**
D. Tibia	3	1		
D. Metapodia	3			
Phalanx I	1			
Phalanx II				
1-2 years	**7**	**1**	***88***	**-**
Ulna				
P. Femur	2	1		
Calcaneum	2	2		
D. Radius	1	1		
2.5-3 years	**5**	**4**	***56***	**-**
P. Humerus	3	2		*1*
D. Femur				
P. Tibia		1		*2*
3-3.5 years	**3**	**3**	***50***	***3***

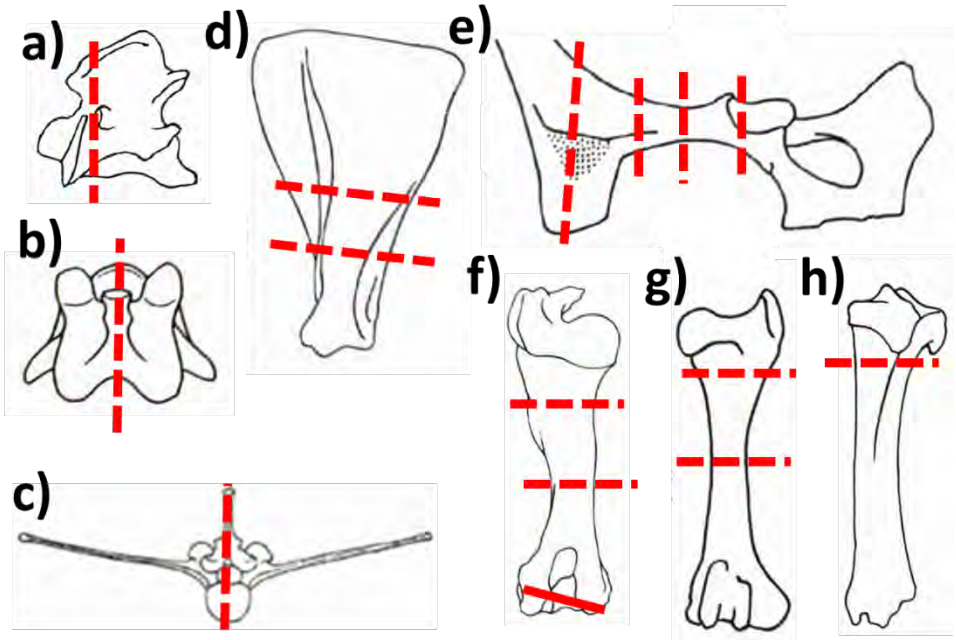

Figure 24. The butchery marks, in red, identified on the cattle remains associated with Sub-Phase 5.1, Area C (South). Dashed lines indicate saw marks, thick lines indicate chop marks and thin lines indicate knife cuts. a) axis; b) cervical vertebrae; c) lumbar vertebrae; d) scapula; e) pelvis; f) humerus; g) femur; h) tibia.

6.4. General Comments

The vast majority of remains from this area are associated with Sub-Phase 4.2. The remains from this contain the largest proportion of young sheep identified in any Area, phase or sub-phase. The most frequent cut of meat present is a section of pelvis, approximately one inch thick (**Fig. 15**). This cut is repeatedly identified throughout the wider the 3PS assemblage, however it is most common in Sub-Phase 4.3 – the demolition of the White Horse Inn. While these remains are likely secondary deposits, their location on the site suggests their association with the activity at the White Horse Inn. This reinforces the hypothesis, outlined in **Section 9**, that these cuts of meat represent commercial activity, wherever they are found in the assemblage. It is also worth restating here that meat from this portion (the rump/sirloin) is considered to be of high dietary value.[15] Adding to this, the younger age of the animals present in sub-phases 4.3 and 5.1. is indicative of higher quality meat being consumed.

The presence of a dog in one of the rubbish pits from this area (**Context 16796**) is notable, and is unique among the rubbish pit contexts from the wider site. It is also important to draw attention to the absence of horse in the remains, given the use of this area as, in part, a stable. As evidenced in Areas A, A (South) and B chickens were utilised throughout time in Area C, and were likely kept in this area of the site or nearby. The presence of turkey in the remains is significant, however is a species that is known to have been introduced into colonial Australia (**Section 9**). Notably, a species of crane was also present, that would have likely occurred in the riverine and estuarine environments (i.e. Parramatta River/Sydney Harbour) local to the site. It is unclear as to whether this species was deposited at the site as a result of human activity, or whether is died naturally the site. Given the evidence for the exploitation of wild birds in historical Sydney (discussed further in **Section 9**), it is possible that these fragments of crane represent animals that were hunted and brought to the site. The presence of pheasant and partridge is significant, despite the fact that these fragments could not be associated with a phase. These are discussed in further detail below (**Section 9**).

7. Area D, Lot 28

201 fragments of bone were analysed from Area D (**Fig. 1**), representing 9 contexts (**Table 27**).

Table 27. A list of all contexts associated with each phase and sub-phase from Area D, alongside the amount of bone fragments recovered from that context.

Phase	Context	Number of Fragments	Phase	Context	Number of Fragments
Phases 1 to 4 (Modified topsoil)	17819	9*	**Sub-Phase 4.1 (Cont.)**	17890	15
Sub-Phase 4.1	17852	2	**Sub-Phase 5.1**	17519	27
	17855	122**		17858	16
	17874	2	**Unstratified fills**	17818	5
	17880	3	**AREA D TOTAL**		**201*** **

*Context 17819 has an additional 55 fragments of bone, recovered by Comber Consultants, that are displayed in **Table 29**; **Context 17855 has an additional single fragment of bone, recovered by Comber Consultants, represented in **Table 29**; ***Area D has a total of 56 additional fragments of bone that were recovered by Comber Consultants and are displayed in **Table 29.**

[15] Wilby 2010: Tab. 5

7.1. Phase 4.1: c.1819-1850, early occupation, plough lines, town drain and storage pits

Only sheep and cattle were identified at the assemblage from this sub-phase (**Table 28**). The cattle remains were largely vertebral fragments, comprising predominantly lumber vertebrae, however fragments from the upper and lower fore limb were also present. One of the fragment from the upper forelimb and been sawn through.

The sheep remains were largely from all parts of the hindlimb, however some vertebrae were also present. The epiphyseal fusion data observed in this sheep bone assemblage demonstrated that animals of a variety of ages were represented. A cervical and thoracic vertebra had been sawn through longitudinally, indicative of carcass portioning. A number of fragments, identified as large-sized mammal (likely cattle), had been butchered. Six fragments, identified as medium-sized mammal ribs, were heavily burnt.

Table 28. The Number of Identified Specimens for taxa identified across all phases and sub-phases in Area D.

Taxa	Phases 1 to 4 (Modified topsoil)	Phase 4.1	Phase 5.1	Unphased	Taxa Totals
Cattle		11	3		**14**
Sheep/Goat	4	24	23	4	**55**
Pig			1		**1**
Large Mammal, indet.	2	24	10	1	**37**
Medium Mammal, indet.	3	85	5		**93**
Pheasant			1		**1**
Total	**9**	**144**	**43**	**5**	**201**

7.2. Phase 5.1: 1870s-1960s, construction and occupation of later houses

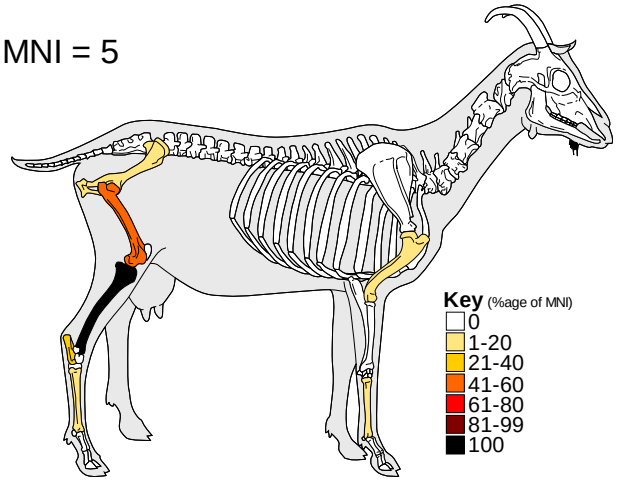

Figure 25. The skeletal element representation of sheep remains, displayed as a percentage of MNI, for the assemblage associated with Sub-Phase 5.1, Area D.

The sheep remains from Phase 5.1 represented elements from both the fore and hind limbs (**Fig. 25**). A number of remains displayed butchery marks that were indicative of carcass portioning and meat extraction (**Fig. 26**) and the epiphyseal fusion observed in these sheep bones demonstrated that these remains were from older animals (**Table 28**). A cervical and a sacral vertebra was present in the remains from this phase, both of which had been sawn through longitudinally. Furthermore, an entirely unfused cattle femur was present in this assemblage, which is demonstrative of an individual younger than 3 and a half years of age within the assemblage. The single fragment of pig identified in the remains from this sub-phase was from a radius. The fragment's epiphysis was in the process of fusing, signifying that it was from an individual around 1 year of age. Notably a single fragment of pheasant was identified in the remains. This fragment was from the wing and it displayed no sign of butchery or burning. A number of fragments identified as large-sized and medium sized mammals had been sawn through, indicative of carcass portioning.

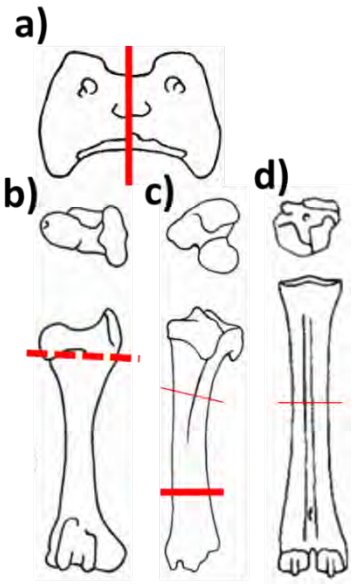

Figure 26. The butchery marks, in red, identified on the sheep remains associated with Sub-Phase 5.1, Area D. Dashed lines indicate saw marks, thick lines indicate chop marks and thin lines indicate knife cuts. a) atlas vertebra; b) femur; c) tibia; d) metatarsal.

7.4. General Comments

Little noticeable change was observed in the nature of the zooarchaeological assemblage through time in Area D. This is likely due to the limited representation of animal bone in all phases of the occupation as opposed to a genuine reflection of the relationships between humans and animals in this area.

While the majority of these remains were identified as large-size or medium-size mammals, it is likely that these remains were all from cattle and sheep. One of the fragments of sheep was from an individual younger than a year old, however as observed in the remains recovered from the other areas, the sheep remains were generally from older individuals. The butchery marks on these fragments were all saw marks, indicative of carcass portioning. Several of the fragments had also been burnt.

Aside from these fragments, the presence of pheasant, an introduced gamebird, is particularly significant and discussed further below (**Section 9**).

8. Material from Aboriginal Excavations

While the characteristics of the material from the Aboriginal archaeology excavations by Comber Consultants' excavations largely mirrors those excavated by Casey & Lowe, they have been considered separately in this report however, due to differences in excavation technique, namely 1m square trenches excavated in spits as opposed to stratified open area excavation with context numbers for the historic excavations. The phases from each area, presented in **Table 29**, correspond with the phases from the wider excavations.

There were no significant differences between the material excavated by Comber Consultants and Casey & Lowe and they add little to the understanding of human-animal interactions in each area and phase that hasn't already been discussed. These remains are therefore not discussed in further detail here.

Table 28. The epiphyseal fusion status of sheep remains associated with Sub-Phase 5.1, Area D. Values are given as the MNE.

	Number of Fragments			
	F	**UF**	**%F**	**FS**
Scapula				
Pelvis				
D. Humerus	2			
P. Radius				
P. Metapodia				
<10 mths.	**2**	**-**	***100***	
D. Tibia	6			
D. Metapodia				
Phalanx I				
Phalanx II				
1-2 years	**6**	**-**	***100***	
Ulna	1			
P. Femur	2			***1***
Calcaneum	2			
D. Radius	1			
2.5-3 years	**6**	**-**	***100***	***1***
P. Humerus	1			
D. Femur	3			*1*
P. Tibia				*1*
3-3.5 years	**4**	**-**	***100***	***2***

Table 29. The Number of Identified Specimens for taxa identified across all areas, phases and sub-phases in the material identified during the Comber excavations.

Taxa	**Area A**			**Area B**				**Area D**		**Taxa Total**
	1	**4.2**	**Not Phased**	**1**	**3**	**4.1**	**5.1**	**5**	**6**	
Cattle	4		1	4	3	3	2		2	19
Sheep/Goat	26		4	8	4	1		1	24	68
Pig				1		3			3	7
Dog									1	1
Rabbit	3									3
Large Mammal, indet.	6		2	1	1				8	18
Medium Mammal, indet.	35	3		1						39
Chicken	3								14	17
Medium Bird, indet.	1		1						2	4
Small Fish	1									1
Fish	2								1	3
Total	**81**	**3**	**8**	**15**	**8**	**7**	**2**	**1**	**55**	**180**

9. Concluding Remarks

The majority of remains recovered from the excavations at 3PS are from contexts associated with the occupation phases dated after to the original construction of buildings on the site (i.e. Phase 4 onwards). The characteristics of the assemblage from the main domesticates (i.e. cattle, sheep, pig) suggest that their meat was brought to the site from elsewhere, having been pre-processed. Notably, a number of these cuts are identical in anatomical position and size (as displayed in **Fig. 15 – Contexts 16120; 16192; 16200; 16252; 16416; 16423; 16427; 16489; 16565; 16606; 16618; 16657; 16671; 16706; 16737; 16746; 16825; 16836; 16853; 16929; 16939**), which is further indicative of the carcass processing evidenced by these remains being commercial in nature, that is it was done off site and only a portion of meat was purchased and used on the site. Across the entire site meat cuts of relatively high dietary value (the rump/upper hind limb) were predominant, represented by repeated portions of pelvic fragments (**Fig. 15**) from all of the domestic mammals. This contrasts with the general pattern seen in urban sites, where the lower limb bones are more abundant,[16] which may reflect the more suburban nature of this site. Remains associated with the demolition of White Horse Inn contained, by many measures, the most high-quality meat cuts from the entirety of 3PS. This may be a reflection of the general high status of the site's occupants at this time and their ability to provision themselves with the most valuable cuts of meat.

It is important to consider the wider socio-economic conditions and status of meat before drawing conclusions regarding the status of the sites' occupants. Meat became increasingly cheaper throughout the early 1800s, as cattle, sheep and pig herds grew in Australia.[17] In addition to this factor, the depression of the 1840s greatly decreased the price of meat.[18] This therefore means that the presence of high quality cuts of meat at these areas might be due to the ubiquity of meat during this period, as opposed to the high status of the sites' occupants. The absence of native mammals species is also notable and may reflect either dietary preference or class aspirations of the inhabitants of this site.

In addition to the domestic mammals, domestic fowl were also common with both chicken, geese and turkey present in these remains. Bones from juvenile chickens, along with the identification of medullary bone [19] are indicative that chicken were being kept at the site throughout all areas and throughout the phases of occupation represented by these remains. Chicken were particularly prominent during the occupation of terraced housing in Area B, likely reflecting the ability to keep chicken populations in relatively confined spaces. The geese remains were far more infrequent than the chicken remains, so little other conclusions could be drawn regarding their presence, however both of these domestic fowl species are well known to occur on other colonial sites in Parramatta and adjacent areas.[20] It's worth briefly mentioning that cats and dogs were present at the site in the past, however little insight was provided by these remains as to the nature of their presence at the site.

The infrequent identification of non-native game birds, such as pheasant and partridge, is highly notable (**Contexts 16101; 16120; 16737; 16906; 17519**). Their presence in 19th-20th century Sydney is likely due to the actions of the Acclimatisation Society of New South Wales, founded in 1861,[21] and

[16] Fillios 2010
[17] Wilby 2010
[18] Wilby 2010
[19] Dacke *et al.* 1993
[20] Guiry *et al.* 2014
[21] Stubbs 2001

latterly the Royal Zoological Society, founded in 1879.[22] The early activities of these societies included the importation and subsequent proliferation of species to aid the colonists. A particularly prescient reference to this importation notes that at their 1879 meeting the Royal Zoological Society recorded the importation of 'Pheasants, quails, skylarks, goldfinches, bulbuls, horned owls and 5000 brown trout ova'.[23] The species were clearly well utilised by the colonists as, in 1866, legislation was passed that prevented the killing of imported species, including pheasants, partridges and hares, for up to ten years to allow these species to propagate.[24] It is highly likely that such species were being imported before the founding of the societies mentioned above.

The infrequent identification of rabbits in the assemblage is worth further discussion (**Contexts 16120; 16188; 16252; 16401; 16422; 16427; 16470; 16489; 16617; 16708; 16746; 16755; 16825; 16929; 17139; 17218**). While the nature of these remains did not allow for the determination as to whether they derive from anthropogenic or natural causes, rabbits are incredibly common on other sites from this area and period. [25] It's possible that these rabbits were kept domestically or hunted/trapped in the wild, both of which practices are known to have taken place in colonial Sydney.[26] It must be acknowledged that these rabbit bones may have been deposited at the site naturally, as opposed to anthropogenically. The rodent bones within the assemblage were likely from such natural depositions. The identification of rodent bones in the assemblages corroborates with the frequent identification of rodent gnawing marks on the bones, which were particularly prevalent in Area A. In addition to rodent bones, canine and feline gnawing marks were identified on a number of fragments. This speaks to the nature of waste disposal at the site, which was apparently undertaken in a way that left these bone fragments exposed to these animals. This is a common finding on sites from this period in Parramatta. [27]

A large number of fish were identified in the remains from across the excavations at 3PS, throughout the different phases of occupation (**Contexts 16120; 16136;; 16193; 16206; 16214; 16245; 16248; 16280; 16282; 16318; 16328, 16345; 16422; 16458; 16493; 16594; 16750; 16853; 16918; 16925; 16929; 16952; 17229; 17405; 17479; 17819**). While these fish remains were broadly too fragmented to be taxonomically identified, fish species recovered from other sites in this area and period demonstrate the utilisation of marine, estuarine and freshwater species.[28] The only type of fish definitively identified in these remains was sea bream. These marine species are well recorded to have been exploited from the earliest phases of colonisation in the Sydney area and south western Australia more broadly. [29] The dugong tooth, found in association with the occupation of House 4 in Area A, may also be representative of fishing activity, however it is possible it arrived at the site from another area entirely. Only a single example of a dugong being found in proximity to Parramatta has been published [30] and their range does include the coast off Sydney,[31] so it is possible that this tooth fragment represents the activities of local colonial fishers.

[22] Augee 2010
[23] AgueeAugee 2010: 57
[24] Stubbs 2001: 27
[25] Steele 2008; Fillios 2012; Roberts 2017, 2019
[26] Guiry 2014; Eather 2015
[27] Davis & Garvey 2011; Roberts 2019, Fillios 2012
[28] Fillios 2012; Roberts 2017
[29] Pepperell No Date
[30] Etheridge *et al.* 1896; 1905
[31] Online source: https://australianmuseum.net.au/learn/animals/mammals/dugong/

It is important to note that number of bone objects were also recovered during the excavations at 3PS. These objects are covered in more detail elsewhere (Miscellaneous Report, Vol. 2, Sec. 8.2, **Contexts 16245; 16248**).

9.1. Summary of Key Findings

In summation, the animal bones recovered from the excavations at 3PS are largely the remains of consumption. As is common for zooarchaeological assemblages from this region and period, domesticates were the most common animals identified in all different areas covered by the excavations. The remains of these domesticates largely represented relatively high-quality cuts of meat, however a variety of body parts are represented in the remains. This likely reflects the ubiquity of this meat in colonial Parramatta and the wider area, as has been well discussed elsewhere.

Alongside the main domesticates (i.e. cattle, sheep and pig), chicken were clearly well utilised at the site throughout its occupation. A large number of chicken bones were present, some of which were indicative of chicken flocks being reared at the site throughout the different phases of occupation. In addition to the skeletal remains, eggshell was commonly found through the assemblage, providing further evidence of the presence of a chicken population at the site. As number of other bird species that may have been kept domestically were present, however in far fewer number than chicken. Gnaw marks from rodents, dogs and cats are demonstrative of waste disposal practices that left bone accessible on the surface of the site for extended periods of time.

Fish were relatively frequent components in the diet of the inhabitants of the site through time. Fish species from a variety of environments were exploited throughout time at the site, which may have also involved the fishponds at the site being utilised in aqua-culture. Wild game-birds were also present in the remains, indicative of their exploitation by the inhabitants of this area. This exploitation mirrors the wider interaction between the colonial inhabitants of New South Wales and their environment.

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