Arch Rpt 3903.

EXCAVATIONS OF SEVENTEENTH CENTURY DEPOSITS AT BLACK GATE, NEWCASTLE.

A report on the animal remains found.

The contexts and date of the faunal material

The material analysed for this report derives from three features of seventeenth century date. The largest of the three consists of a defensive ditch in front of the stone revetment wall of a civil war bastion. This feature was excavated in four different areas (see above p.00) Railway Arch 1 (RA1), Railway Arch 2 (RA2), Railway Arch 3 (RA3) and two adjacent excavation areas A2 and C3 north of the railway viaduct. After the Bastion ditch had been filled the revetment wall was partly destroyed and the second group of bones considered in this analysis was excavated from the filling of the robber trench of this wall, and comes from RA1 and RA3 only. The material from RA2 which was a mixture of the ditch fill and filling of the robber trench, although catalogued, has not been included in this analysis. The final feature, and possibly the earliest, included in this report are the finds from the excavation of the robber trench of a mediaeval building north of the castle keep.

Previously excavations at the Black Gate have yielded a large collection of late mediaeval bones from the castle ditch (Rackham, 1981) and a small group of seventeenth century material from a pit (Rackham, 1979) and the results from this analysis will be compared with these.

Bastion Ditch

The layers filling the ditch have been divided into three phases on the basis of the pottery found in them. The primary phase consists of layers of ash interspersed with clay lumps and lenses of soil, silt and organic matter. It has a relatively high proportion of derived pottery (approx. 36%- see pot report) most of which are sixteenth century wares and it is apparent that a proportion of the finds in these layers derive from the weathering of the ditch banks that cut an early mediaeval cemetery (see account above and analysis below) and the sixteenth century levels of the castle ditch. The seventeenth century pottery in these layers indicate their formation before the middle of the century.

Phase 2 of the ditch deposits contain much larger quantities of finds which suggest a more rapid filling of the ditch with rubbish. The layers are composed of clay, ash, mortar, stones and clayey soil

and contain considerably less (19.4%) derived pottery than phase 1. The pottery indicates the presence of material up to the last quarter of the seventeenth century (see pot report).

Phase 3 contains a mixture of ash, clay, stone and mortar layers. 16% of the pottery is derived from earlier periods and the remainder indicates a date similar to phase 2 but with a higher proportion of pottery types from the second half of the seventeenth century.

The quantity of derived pottery in each phase varies between the excavated areas of the ditch. In phase 3 particularly the deposits from RA2 contain a lot of residual pottery whereas those from RA3 contain very little. The presence of preserved textile and leather in phase 2 and 3 of RA3 is possibly also an indication of little disturbance and suggests primary deposition of the material in these layers.

In the areas A2 and C3 the small collection of bone was catalogued as one unit and not separated into phases and in RA2 the sample was catalogued in two groups- one containing most of the phase 1 deposits and a second containing largely phases 2 and 3. This failure to separate into phases resulted from some of the material from these areas being catalogued when the mediaeval collection was being studied.

Bastion Robber Trench

The bastion robber trench although stratigraphically and chronologically later than the layers within the ditch contains a suite of pottery suggesting that the material filling it predates phases 2 and 3 of the ditch. The layers were composed largely of ash and mortar and the dating of the latest pottery within them to the first half of the seventeenth century suggests that the contents of the trench are out of context and redeposited. The high level of residual pottery (35%) may support this conclusion.

Robbing of Mediaeval Building A

The layers from this feature conatin a very high proportion of residual pottery (51%) of which fourteenth century material formed the largest component. The contemporary pottery dates no later than the first half of the seventeenth century and forms perhaps the earliest suite of seventeenth century pottery on the site.

From the above discussion of the features it is apparent that some are more useful than others as samples of the periods involved. Apart from phases 2 and 3 in the ditch it is probable that none of the

excavated material was in a primary context, it can therefore have little use for the economic interpretation of the site. It may still in the less contaminated layers be of interest in the context of a sample from the town. The archaeological nature of the features themselves precludes the possibility that the bone sample can be interpreted in terms of local - site activities since the features must be to some extent remote from the source of the material that fills them, and for which we have no archaeological information.

Method of study

The identification of the bones has been effected by comparison with reference material of known species. Ribs and vertebrae have not generally been identified to species in the case of the artiodactyls but catalogued as large ungulate (cattle,red and fallow deer) or small ungulate (sheep, goat, roe deer and pig). Bone fragments of unknown species were catalogued as large mammal (ox-sized animals) or indeterminate mammal(mainly sheep sized animals). The material was catalogued within its smallest archaeological units except for that group processed with the mediaeval collection (see above). Measurements were taken whenever possible as long as it was ascertainable that the bone was either adult or juvenile; if this was not determinable, for instance the proximal half of a radius, no measurements were taken. Specific identification of sheep were only made on the appropriate skull fragments and horn cores. A metrical and descriptive archive of the collection is available from the Biological Laboratory, Department of Archaeology, Durham University.

Recovery

All the animal bones and shells identified were recovered during the manual excavation of the site. No sieving was carried out. This does not however invalidate the sample or its analysis. There is some suggestion in the absence of small sheep bones (carpals, tarsals and phalanges- Table 8) that small items had a lower recovery level. This is unlikely to affect the analysis of the major species but will certainly have influenced to some degree the abundance of the smaller mammal, bird and fish bones. Since little of the material is in a context which can be associated with contemporary activities on or adjacent to the site its interpretation is limited to its analysis as a sample of unknown origin from post-mediaeval Newcastle. Quantitative data for the smaller species is not ~~therefore particularly important~~ readily interpretable.

Species and Fragment counts for the seventeenth century levels at the Black Gate: Mammals

Bastion Ditch Fill	Phase 1				Phase 2				Phase 3				Phases 1-3	
Phase 1	RA1	RA2	RA3	Total	Phase 2	RA1	RA3	Total	Phase 3	RA1	RA3	Total	A2 & C3	RA2
Man	31	5	22	58			5	5		3	4	7	1	3
Horse						1	2	3			1	1		1
Cattle	24	14	97	135		94	95	189		75	42	117	24	80
Pig	2	4	15	21		18	23	41		14	20	34	3	7
Sheep	1	3	13	17		9	22	31		6	8	14	7	10
Sheep or goat	38	11	88	137		136	275	411		157	178	335	6	119
Dog			2	2		6	10	16		4	1	5	1	
Cat						19	6	25			4	4	1	6
Fallow deer						1		1		2	2	4		1
Seal, cf grey			1	1										
Hare, Brown			1	1			3	3		2	1	3	1	
Rabbit		1	5	6			4	4		6	16	22	1	2
Rat, sp.											3	3		
Large mammal	21	10	35	66		37	58	95		45	21	66	10	21
Large ungulate	20	6	53	79		47	84	131		48	52	100	26	52
Small ungulate	7	6	54	67		78	162	240		84	118	202	16	34
Indet. mammal	16	9	22	47		46	89	135		77	54	131	2	17
	160	69	408	637		492	838	1330		523	525	1048	101	353

Species and Fragment counts for the seventeenth century levels at the Black Gate. Fish and Bird bones.

Bastion Ditch Fill	Phase 1				Phase 2			Phase 3		
	RA1	RA2	RA3	Total	RA1	RA3	Total	RA1	RA3	Total
Chicken	2	2	12"	16	8	12	20	13	4	17
Goose, domestic	2	2	8	12	2	13	15	3	7	10
Turkey			1	1	1		1	1		1
Duck sp. indet		1	2	3					1	1
Grouse, Red					1		1	2		2
Woodcock						1	1	1		1
Curlew cf.								1		1
Blackcock, cf.						1	1			
Large bird			1	1	1	2	3	1	1	2
Bird indet.			4	4	1	3	4	2	3	5
				37			46			40

Cod, Gadus morhua L.			2			1
Ling, Molva cf. molva			1		1	
Cod family, Gadidae.		50+		2		
Turbot, Scophthalmus maximus (L.)				1(2)		
Indeterminate fish				2		

+ circa 50 fin rays from a large gadid fish.

Species and fragment counts for the seventeenth century levels at the Black Gate.

	Bastion Robber Trench			C17th Robbing of Building A
	RA1	RA3	Total	
Man	6	6	12	7
Cattle	48	14	62	41
Pig	7	2	9	13
Sheep	4		4	3
Sheep or goat	102	22	124	162
Dog	3	2	5	5
Cat	1	2	3	
Fallow deer	1		1	
Roe deer	1		1	
Red or Fallow deer	1		1	
Hare, Brown				2
Rat, sp.				1
Rodent, sp.				1
Large mammal	27	5	32	42
Large ungulate	25	12	37	57
Small ungulate	79	17	96	121
Indet. mammal	63	10	73	88
	368	92	460	543
Chicken	9		9	8
Goose, domestic	10	1	11	6
Turkey	1		1	
Duck sp. indet.				1
Jackdaw				3
Pigeon family				4
Large bird, indet	1		1	1
Bird indet.				2
			22	25
Cod, Gadus morhua L.				3
Haddock, Melanogrammus aeglefinus (L.)				2
Gadidae				2
Fish, indeterminate				2
				9

Tab 4

Shell fish from the Seventeenth century deposits at Black Gate, Newcastle

	Phase 1			Phase 2		Phase 3		Ph1-3	Bastion R.T.		Building A
	RA1	RA2	RA3	RA1	RA3	RA1	RA3	RA2	RA1	RA3	R.T.
Oyster	3	3	67	15	18	13	14	1		1	15
Mussel, common		1	1		1						
Cockle, common		1	18	3	13	4	14			1	1
Periwinkle		3	3	4		3			3		3
Limpet			1		1	1	1				
Edible crab			1								
Crustacean frag			4								

Analysis

An analysis of the composition of the samples in each area and phase illustrates that this is variable. If the species alone are considered the material from the Bastion ditch fill falls into two groups. Phases 2 and 3 have an abundance of sheep (or goat) remains that is not reflected in the material from Phase 1 and areas A2 and C3. Even within phases there is some variation between the areas. RA3 in phase 1 has a ~~much~~ greater species diversity (Tables 00,00) than the other trenches in this phase and ~~although the sample is larger~~ it [RA3] in general has a relatively greater abundance of shellfish, bird and wild mammal remains ~~is greater relatively~~ than any other group of deposits on the site.

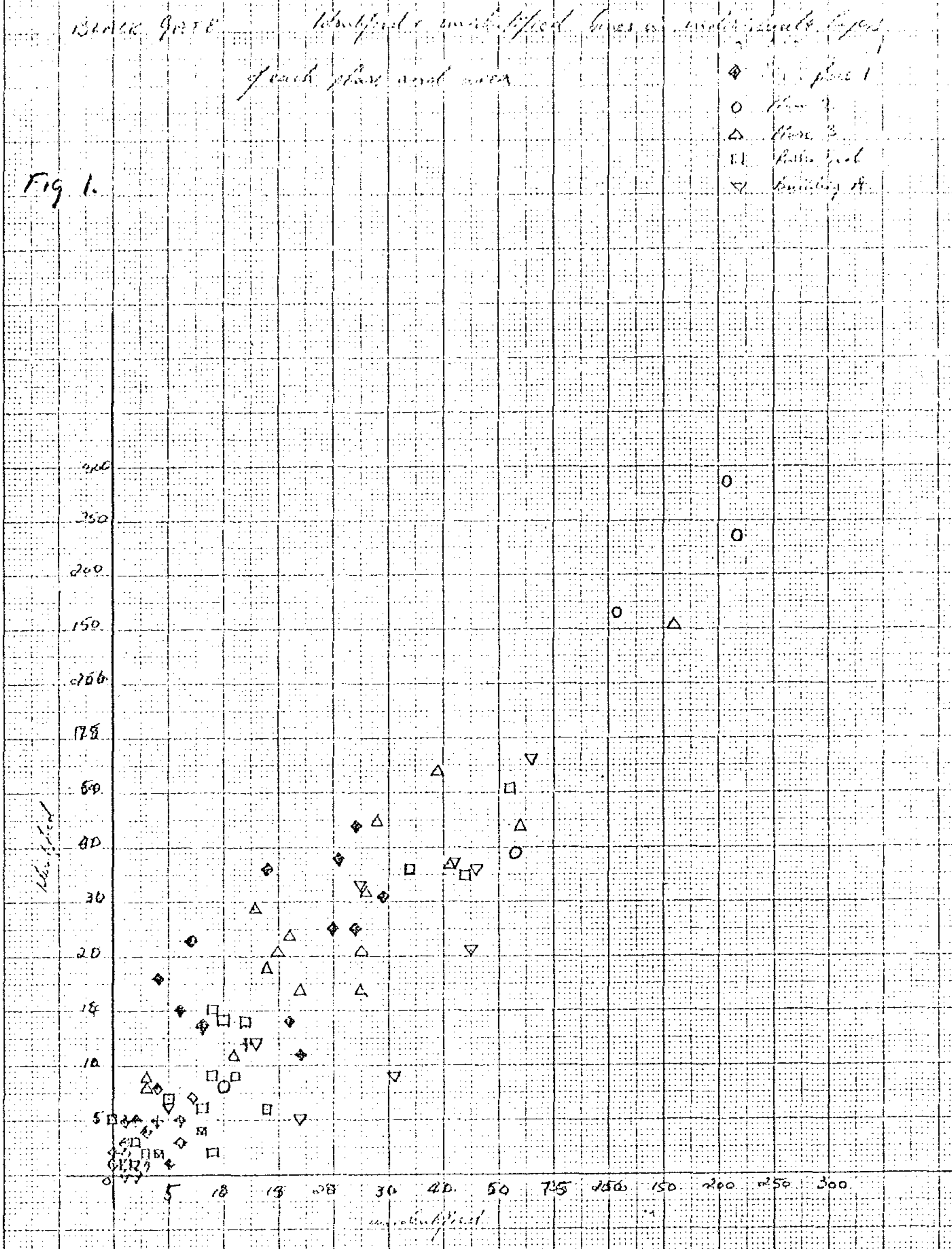
Does S.R do these?

Over 15% of the identified mammal bones from phase 1 are human and since the ditch is cut through a saxon cemetery it is probable that these bones derive from earlier deposits on the site. This evidence combined with the high propottion of residual pottery suggests that the phase 1 deposits are not a 'good' seventeenth century group.

The relative incidence of ~~identifiable~~ domestic mammal fragments from each of the Railway Arches and within phase have been compared using Chi^2 tests. Small sample size necessitated the almalgamation of the RA1 and RA2 figures in phase 1. The phase 1 deposits, RA1 & 2 and RA3 show a similar pattern with no significant deviation at $p>0.5$. The phase 2 deposits on the other hand show more variation, RA1 has a less than 5% probability($p>0.01$ & <0.05) and RA3 a less than 10% probability($P>0.05$ & <0.01) that they derive from a homogenous sample of their combined figures. However in phase 3 the incidence of the major domestic animals suggests similarity at $p>0.1$ (<0.5). Both phase 2 and 3 are different from the phase 16 deposits of the Castle ditch (Rackham, 1981) and the seventeenth century pit (Rackham, 1979).

The nature of the deposits appears to change from phase to phase and Fig 10 indicates that the majority of the phase 1 layers are layers containing only small groups of bone but with a tendency towards a higher proportion of identifiable pieces than other phases. In contrast phase 2 consists of a small number of layers containing large collections of bones. Phase 3 is somewhat in between with a wide range of group sizes but generally the groups are larger than in this phase than in phase 1 and the majority are substantially smaller than those in phase 2. This perhaps suggests that during the deposition of phase 2 and part of phase 3 the ditch is actively being used

Fig 1.


400
350
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40
50
75
100
150
200
250
300

Table 5

Percentages of the major domestic species in the phases of the Bastion ditch Fill..

	Phase 1	2	3	Total	A2&C3+RA2phl-3	Total(all areas)
Cattle	43	28	23.4	29.7	40.6	31.3
Sheep	5.5	4.6	2.8	4.2	6.6	4.5
Sheep or goat	44	61	67	59.5	48.8	58
Pig	6.7	6	6.8	6.4	3.9	6.1
	99.2	99.6	100	99.8	99.9	99.9
N=	310	672	500	1482	256	1738

Percentages of the major domestic species in the deposits of the Bastion wall robber trench and the robber trench of building A.

	Bastion Robber Trench	Robber Trench of Building A
Cattle	31	18.7
Sheep	2	1.3
Sheep or goat	62	73.9
Pig	4.5	5.9
	99.5	99.8
N =	199	219

Percentages of the major domestic species in the late mediaeval deposits from the castle ditch (Rackham, 1981) and a seventeenth century ditch/pit (Rackham, 1979)

	Phase 17 Castle Ditch	Seventeenth century pit
Cattle	33.8	37.8
Sheep	12.9	6.2
Sheep or goat	47.0	48.0
Pig	6.3	7.9
	100	99.9
N =	1042	177

as a dumping area with rapid or single event filling. The Building A robber trench deposits exhibit a similarity in group size to phase 3 but a lower proportion of identifiable remains, while the Bastion robber trench also shows a wide variation in group size.

In order to test for contamination of the bone sample by earlier derived material measurements of the sheep bones from the more heavily contaminated (on pottery evidence) layers have been compared with those from other areas and phases (Figs 2-6). Unfortuneately the wide variation of the specimens from all phases and areas has prohibited the identification of any bones as possibly residual although within phase variation does suggest some dimorphism which may be due to sex or residual material. The data however is not readily interpretable in the absence of well dated comparable material from Newcastle.

Therefore despite the prior knowledge of some degree of contamination it is not possible to recognise the observable differences between areas and phases as due to residual material rather than contemporary variation, although in the light of the pottery evidence it would be possible though not necessarily correct to interpret this variation in terms of differential contamination from different periods within each phase. A glance at the section drawings on Fig 00 illustrates immediately that the individual phases of the ditch fill would be unevenly contaminated by the deposits forming its bank and that phase 1 contamination may be from all periods whereas in phase 3 contamination is likely to be from the sixteenth century only.

The taphonomic problems associated with this analysis negates the interpretation of this material within any chronological framework (site chronology) and further discussion will be restricted to those phase 2 deposits of moderately large size that suggest rapid dumping and perhaps therefore a low level of contamination and the groups from phase 3. The remaining deposits of phase 3 while exhibiting similarities to phase 2 (see below) and showing insufficient variation between RA1 and RA3 to suggest that the differences in abundance between the domestic species are significant the wide variety of group sizes (from layers) and large number of groups suggests a variety of origins and increases the likelihood of contamination whose cumulative effect from a number of layers may become significant.

Skeletal selection

The possible loss of small bones has already been referred to above. In order to test for any differential selectivity of bone

Table of the incidence of cattle bones in each area and phase:

	RA1 ph1	RA2 ph1	RA3 ph1	Phase 1 Total	RA1 ph2	RA3 ph2	Phase 2 Total	RA1 ph3	RA3 ph3	Phase 3 Total	RA2 ph1-3	A2 & 63 ph1-3	All phases
Skull	2		18	20	6	10	16	2	3	5	6	1	48
Horn core	1	3	4	8		2	2		2	2	1		13
Mandible	2	1	5	8	6	13	19	5	3	8	4	1	40
Teeth		1	5	6	2	4	6	12	2	14	2	2	30
Atlas		1	5	6	1	1	2	4		4	2		14
Axis						2	2				1	2	5
Lumbar vertebra					3		3						3
Sacrum			1	1	2	1	3						4
Scapula	3	2	10	15	6	9	15	4	3	7	7		44
Humerus			6	6	3	3	6	2	2	4	4		20
Radius	2		7	9	5	6	11	6	1	7	5		32
Ulna	1		3	4	2	4	6	1		1	1	2	14
Carpals		1	1	2		3	3	2		2			7
Metacarpals	1		3	4	8	2	10	5	7	12	1	4	31
1st phalanx	1		5	6	6	7	13	2	2	4	7	2	32
2nd phalanx		1	2	3	6	5	11	2	3	5	1	1	21
3rd phalanx			2	2		1	1	3		3		1	7
Innominate	4	1	5	10	14	2	16	7	2	9	6		41
Femur	3	1	5	9	5	3	8	1		1	6	2	26
Tibia	2		2	4	4	6	10	6	3	9	13	2	38
Tarsals	1	1	5	7	3	7	10	4	4	8	10		35
Metatarsals	1	1		2	8	2	10	4	3	7	3	4	26
Patella			1	1	1		1		1	1			3
Hyoid			1	1	1		1		1	1			3
	24	14	97	135	92	95	187	72	42	114	80	24	976

Table of the incidence of sheep(and or goat) bones in each area and phase:

	RA1 ph1	RA2 ph1	RA3 ph1	Phase 1 Total	RA1 ph2	RA3 ph2	Phase 2 Total	RA1 ph3	RA3 ph3	Phase 3 Total	RA2 1-3	A2 & C3 ph1-3	All Phases
Skull		2	11	13	9	14	23	7	9	16	3		55
Horn core	1	3	8	12	9	14	23	8	4	12	8	7	62
Mandible	1		7	8	11	23	34	10	8	18	6		66
Teeth	3	1	1	5	6	8	14	15	6	21	4		44
Atlas	1		2	3	1	2	3	2		2	3		11
Axis			1	1	2	6	8	3	1	4	1	1	15
Cervical Vertebra						1	1	1		1			2
Lumbar vertebra									1	1			1
Sacrum						2	2		2	2			4
Scapula	5	2	9	16	13	35	48	17	16	33	12		109
Humerus	2		9	11	12	18	30	8	11	19	17		77
Radius	4		8	12	17	30	47	14	17	31	9	1	100
Ulna	1		4	5	1	8	9	2	4	6	2		22
Metacarpals	5		8	13	12	21	33	18	11	29	14	1	90
1st phalanx		1	2	3		2	2	4	2	6	3		14
2nd phalanx								2	1	3			3
Ilium	2		2	4	6	10	16	10	5	15	7		42
Ischium			2	2	2	7	9	1	5	6			17
Pubis			2	2	2	1	3	3	2	5			10
Innominate	1		3	4	2	8	10	4	6	10	5		29
Acetabulum					1	2	3		1	1			4
Femur	2	2	3	7	12	13	25	7	24	31	6		69
Patella									1	1			1
Tibia	4		7	11	18	42	60	13	29	42	20	3	136
Calcaneum			3	3	1	3	4	5	6	11			18
Astragalus			1	1		4	4	2	6	8			13
Tarsals		1		1									1
Metatarsals	7	2	7	16	8	22	30	7	6	13	8		67
Hyoid			1	1					2	2			3
	39	14	101	154	145	296	441	163	186	349	128	13	2029

element in each phase a Chi^2 test was conducted on sheep bones from phases 2 and 3 by comparison with the total from all the phases. These two phases were selected since they were the only ones that offered sufficient numbers for the test to be useful. Phase 2 showed no significant ~~difference~~ deviation from the total for all phases ($p > 0.9$) whereas phase 3 showed greater variation ($p < 0.5, > 0.1$) but still acceptable. The bulk of this variation in phase 3 is caused by deviation from the expected frequency of the bones of the hind limb particularly the tarsals and metatarsals. The latter being under-represented and the former over represented, a reverse of the pattern in phase 2. The evidence is however suggestive of a similar source for the material in these two phases.

The sample can also be tested against expected numbers of elements (ie if whole carcasses were being disposed of), to determine variation due to butchery, disposal etc. Using only those bones of the carcass that were unaffected by recovery proceedures and occurred in sufficient numbers for the statistic to be valid the following results were obtained. Phases 2 and 3 show a deviation ($p < 0.001$) from expected numbers that indicates that the carcass bones have been subjected to pre and possibly post-depositional bias. These are reflected in relatively high numbers of front limb bone fragments, tibiae and jaws in phase 2 with a similar pattern in phase 3 except for diminished numbers of jaw bones and increased numbers of femori. These are largely meat associated elements of the skeleton and this evidence ~~re-inforces the~~ suggestion ~~made earlier~~ that the sample is mainly domestic refuse rather than the industrial rubbish found in the sixteenth century deposits of the Castle ditch (Rackham, 1981).

Although the incidence of cattle bone fragments are presented in Table 7 these are not discussed in detail owing to smallness of sample, few bones in phase 3 occurring in more than single figures. However the meat bearing bones can be seen to be the most frequent remains in the total for all the phases.

With the conclusion that the material from the least contaminated layers (phase 2 and 3) is largely domestic the species in the collection can now be analysed in more detail.

Cattle

The different frequency of the skeletal elements has already been discussed above. The sample is too small for any analysis of sex but the information relating to the age at death of the animals is listed in Table 9 . The data on tooth eruption and attrition is minimal, however six jaws have the molar 1 unerupted (6-9 months) and

Tab 9

Epiphyseal fusion data for cattle and sheep from phases 2 and 3.

	Phase 2		Phase 3		Phase 2			Phase 3	
	U	F	Cattle U	F	U	F	Sheep	U	F
Acetabulum	1	4			3	24		6	19
Scapula, tuberosity	1	3		3	3	21			15
Humerus, dist.		2			1	18		3	10
Radius, prox.		6		1		26		1	14
Phalanges, prox.		24		4		2		2	7
Metacarpus, dist.	1	5		3	10	7		5	9
Tibia, dist.		2		1	5	25		3	23
Metatarsus, dist.		2		5	7	10		4	4
Calcaneum, prox.	3	3	1			4		4	7
Humerus, prox.		2	1	1	6	2		2	
Radius, dist.		3	1	2	12	10		6	7
Femur, prox.	1	3			4	4		5	1
Femur, dist	1	2			3	1		8	(1)5
Tibia, prox	2	1	1	1	8	(1)4		5	(1)4
Vertebral epiphyses	8			1	3	6		2	(1)4

( ) specimen in which the fusion has only just occurred.

fourteen have this tooth erupted, and eleven jaws have the molar 3 unerupted (< 4 years) with eight in which it is erupted. This contarsts somewhat with the epiphyseal fusion data (Table 9) which indicates, except for two calf bones that few of the bones definitely derive from cattle slaughtered before the end of their third year; only the later fusing epiphyses (3½-4 years) show the juvenile condition.

A number of the cattle bones are chopped, particularly the innominates and some of the vertebrae have been chopped axially and dorso-ventrally suggesting that the carcasses had been butchered into sides. Scarring and slight lipping of the proximal articulation occurs on some phalanges and this and the exostosis and scarring of the distal articulation of a metatarsal bone may have been stimulated by excessive load on the feet such as occurs when an animal is used for draught. No other pathological features were noted on the cattle bones.

Sheep

Very few goat bones were identified among the 20,000 bones from the Castle Ditch deposits (op cit) and there is a complete absence of identifiable goat bones from the seventeenth century levels. All the skull bones, metapodials and innominates indicate sheep and it may be presumed that virtually all if not all of the bones in this collection assigned to sheep or goat are sheep.

The data on the age at death of the sheep in this collection (phases 2 and 3) is summarised in Tables 9 and 10 . Since many of the sheep jaws are incomplete the ages represented by them have been assessed in terms of how many carry erupted or unerupted molars (Table 10).

Table 10

Eruption state of the Sheep jaws.

	Unerupted	Erupted	Age at eruption
Molar 1		37	approx. 6 months
Molar 2	5	34	12-18 months
Molar 3	10	24	2-3 years

(the ages are bracket ages for the period of eruption based on Silver, 1969)

The epiphyseal fusion and the tooth eruption data appear to be in agreement, and suggest that a few sheep are slaughtered in their first two years but an increase occurs at approximately 2-3 years of age. This is younger than the age that would be expected if sheep were being kept for wool production and indicates the probability of a mutton farming element in the sheep farming of the area. A proportion of the animals survive beyond three years and the wear patterns on the teeth indicate continued slaughter up to a fairly advanced age, but

the tooth attrition has not been quantified.

The butchery pattern of the sheep ~~ahs~~ has not been analysed in detail but as in the cattle many of the vertebrae have been split down the middle suggesting division of the carcass into 'sides'. ~~Sex~~ The sample has not been analysed for sex, however the graphs showing measurements of some of the more common bones of sheep (Figs 2-9) do suggest some dimorphism, with possibly three groups indicated by the distal tibiae in phase 2 (fig 3). A more detailed analysis of this aspect of the bones will be carried out during the study of each species from all the Black Gate excavations (see below).

There is very little pathological information available from the sample.

Other domestic animals

These are all in very low numbers (Tables 1&2). ~~Dig~~ Pig, the most common represents less than 6% of the identified mammal bones in phase 2 and 3. A few bones of dog and cat occur including a partial skeleton and other individuals represented by more than one bone. Domestic chicken, goose and turkey occur, but the duck bones are probably from a wild species.

Non-domestic animals

The fallow deer, hare and rabbit are food animals whose remains were also found in the earlier deposits of the Castle Ditch. The wild bird species in these deposits ~~xrexaxixfxxx~~ (phase 2 and 3) are all food animals and these along with the fish species must have been fairly readily available in post-Mediaeval Newcastle, It is unlikely that fish are seriously underrepresented in these samples (due to recovery) unless the bulk of the fish eaten in Newcastle during this period were small varieties such as herring, mackerel and some flatfish whose bones may have been missed during excavation, but certainly those identified (Tables 2&3) are from large fish whose bones are unlikely to have been missed during excavation.

Shellfish

It must be presumed that all the shellfish remains (Table 4) are dietary in origin since it is umlikely that they would have found their way into these deposits if procure for fish bait.

Summary

In summary only the material from phase 2 and 3 can be considered sufficiently well stratified to justify analysis; the results of which suggest a collection of domestic dietary rubbish of middle seventeenth century date. Minor variations between phases

and trenches can be discerned but in the absence of associated archaeological occupation these cannot be interpreted.

This collection is being subjected to a more detailed morphometric study of the individual species along with the previous collections of mediaeval and post meadiaeval animal bones from the Black Gate excavations. These analyses will be published elsewhere as and when they are completed.

Acknowledgements

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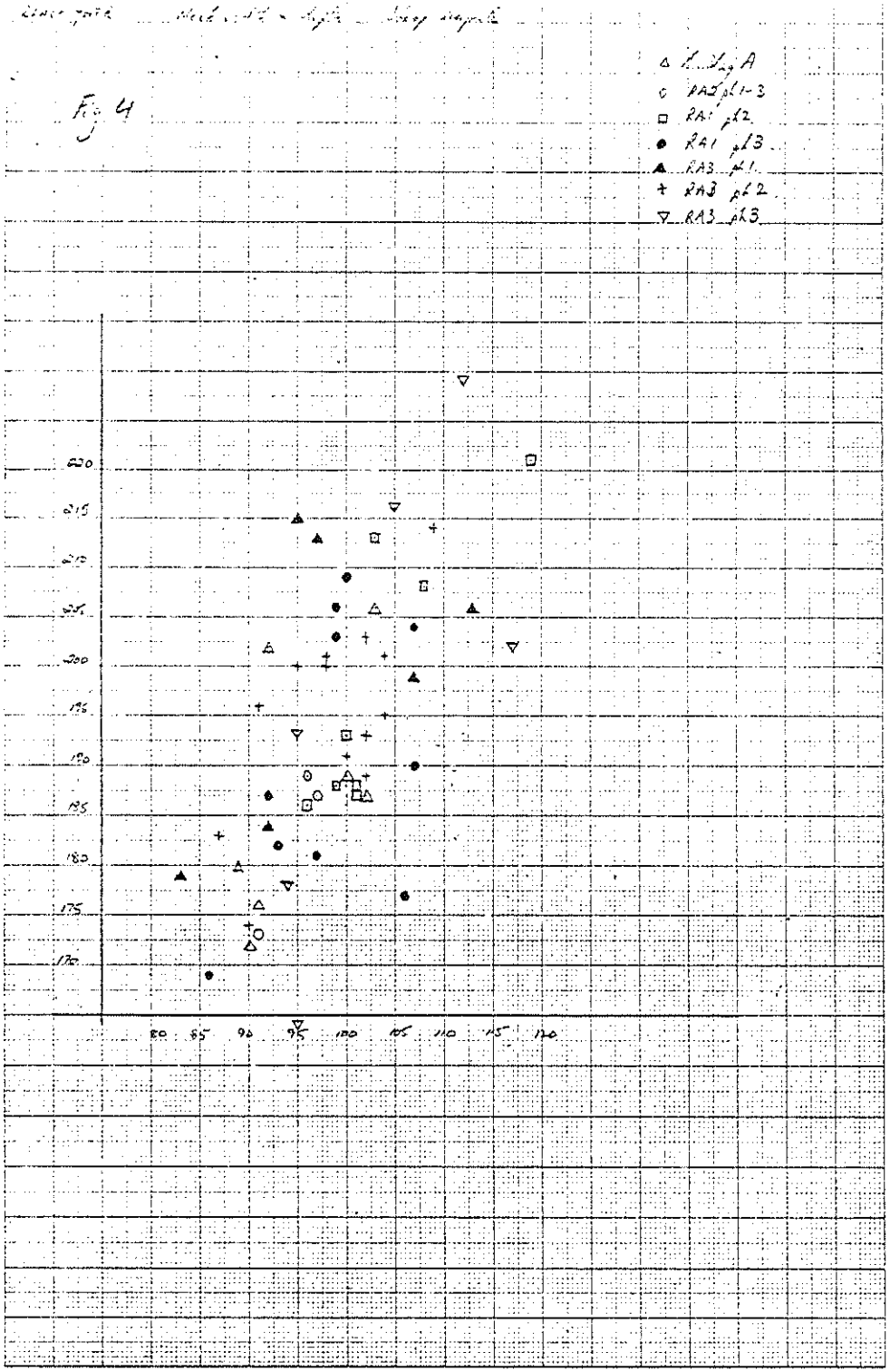
Fig 4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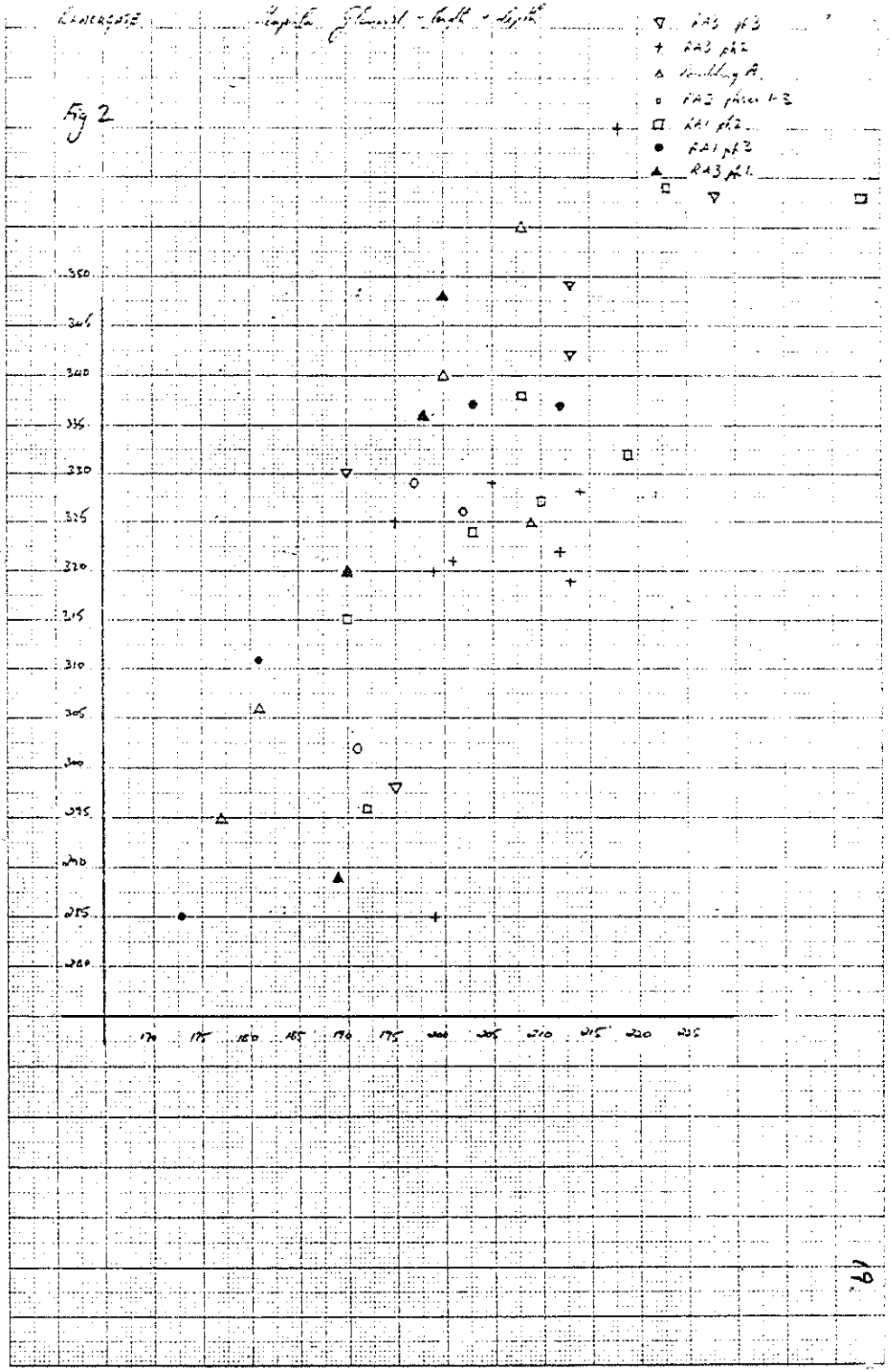
RA3 pR2
RA1 pR2
RA1 pR3
RA3 pR1
RA3 pR2
RA3 pR3
220
215
210
205
200
195
190
185
180
175
170
80
85
90
95
100
105
110
115
120

Fig 2


RA3 pR3
RA3 pR2
RA1 pR2
RA1 pR3
RA3 pR1
350
345
340
335
330
325
320
315
310
305
300
295
290
285
280
170
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185
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215
220
225

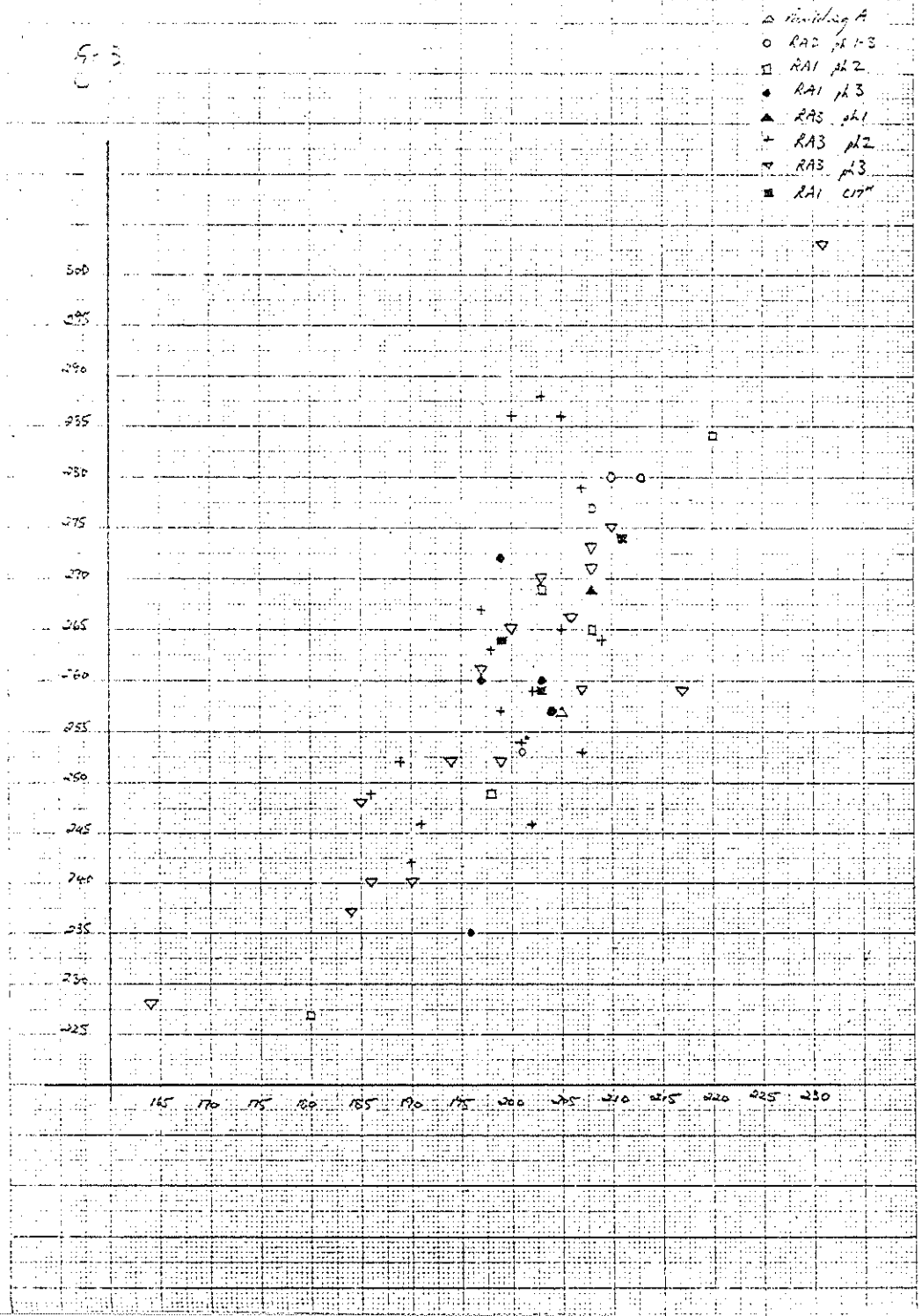
Fig 5
Hunting A
RA2 μ1-3
RA1 μ2
RA1 μ3
RA3 μ1
RA3 μ2
RA3 μ3
RA1 CIT
500
495
490
485
480
475
470
465
460
455
450
445
440
435
430
425
165 170 175 180 185 190 195 200 205 210 215 220 225 230

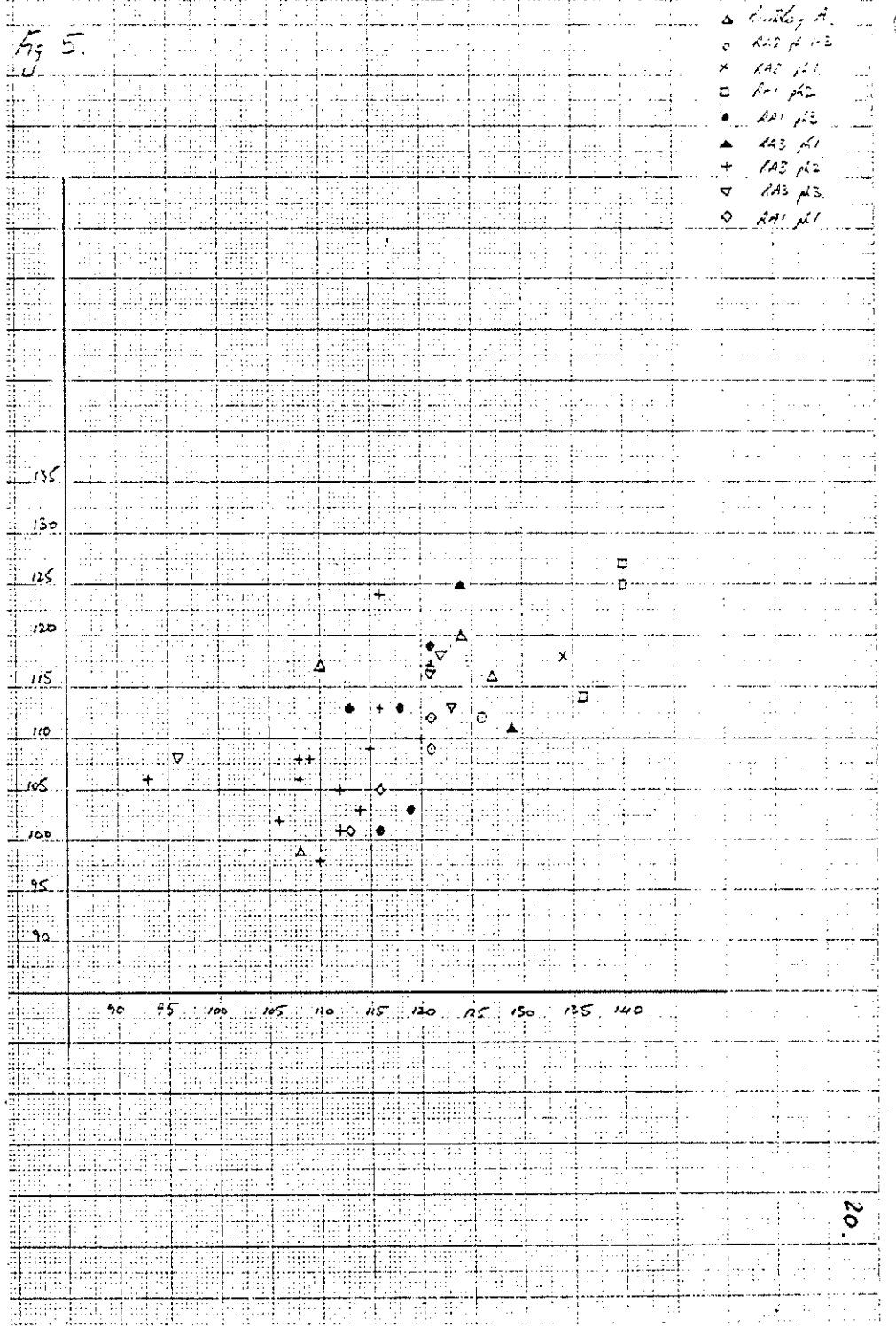
Fig 5.
Hunting A
RA2 μ1-3
RA1 μ2
RA1 μ3
RA3 μ1
RA3 μ2
RA3 μ3
RA1 μ1
135
130
125
120
115
110
105
100
95
90
90 95 100 105 110 115 120 125 130 135 140