

GUNS IN SCOTLAND

**The manufacture and use of guns
and their influence on warfare
from the fourteenth century to c.1625**



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VOLUME TWO

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(Note: In the course of preparing this thesis an extensive collection of photographs of guns, etc was built up. These are now lodged in the National Museum, Edinburgh).

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INTRODUCTION

Scottish hand guns have attracted much more attention than artillery. Apart from Mons Meg, Scottish artillery was little recognised by scholars or collectors, but, on the other hand, it has long been well known that several early hand firearms survive, without exception of good quality and by no means all of them immured for the rest of time in state and public collections.

James Drummond, an artist well-known in Scotland for his antiquarian interests, prepared a series of water colour paintings of Scottish weapons for a book on this subject. He unfortunately died before even completing all the paintings. These fell into the very capable hands of Joseph Anderson, Keeper of the National Museum of Antiquities of Scotland, who went ahead to publish them in 1881 in Drummond's name with introductory notes of his own in a volume entitled Ancient Scottish Weapons. Anderson lumped all the traditional style Scottish pistols of the seventeenth and eighteenth centuries together as 'Highland pistols' but distinguished three different types - those with globose, lobed and ram's horn butts.¹

It was only four years after the publication of this work that Charles E. Whitelaw, then a boy of sixteen, persuaded his father to buy him a pistol, the first weapon in a collection which went on to include many of the finest Scottish weapons known and which Whitelaw bequeathed to the National Museum in Edinburgh and Glasgow Art Galleries and Museums. Both institutions have built on Whitelaw's generosity two of the best collections of Scottish weapons in existence. But Whitelaw's contribution to Scottish arms studies was not merely recognising and

1. J. Drummond, Ancient Scottish Weapons (Edinburgh, 1881), 22.

preserving weapons. His enquiring mind sought to understand how they worked and were made and by whom. He was particularly interested in the firearms and published several papers on them, including a seminal essay in 1923 in which he listed many Scottish firearms discovered by him in collections here and abroad. He divided the firearms into two classes according to lock mechanism:

Class I The early snaphance
 The late snaphance

Class II The flint-lock

Of these only the early snaphances are of interest to us here, and the pistols fitted with them he subdivided into two types, those of type A with fish-tail butts (classified by Anderson amongst the ram's horn butt pistols) and those of type B with globose butts.²

Whitelaw intended to go on and write a major study on all aspects of Scottish weapons but on his death in 1939, after a long illness, this work was still far from being completed. Eventually in 1977 a Dictionary of Scottish Arms Makers was published in his name (edited by Sarah Barter), the fruit of Whitelaw's attempts to discover the maker's of Scottish weapons by a systematic study of the Scottish records, including many burgh records which have still not been published. It is evident from Whitelaw's papers, now in the care of the National Museum in Edinburgh, that he relied heavily on professional searchers to go through and transcribe manuscript sources for him and many of their transcripts survive and are of considerable use. Also preserved in Whitelaw's papers are various drafts of a chapter on Scottish firearms but it is fair to say that these show no significant development of the ideas expressed in his 1923 treatise and no apparent intention to

2. C.E. Whitelaw, 'A Treatise on Scottish Hand Firearms' in H.J. Jackson & C.F. Whitelaw, European Hand Firearms of the 16th, 17th & 18th Centuries (London, 1923).

interpret the data on gunsmiths accumulated by his researchers, other than to use it to identify the makers of surviving weapons.

Since Whitelaw's day several notes and papers have been published on Scottish firearms, the more useful of which will be referred to in the following pages. No significant alterations or improvements have been made to his classification of them. Whitelaw was greatly hampered in his assessment of early Scottish firearms by the lack of knowledge and detailed work done in his day on early English and Dutch firearms. This situation has now been remedied to a large extent by the work of Hayward, Eaves, Kist et al. and Hoff.³

THE EARLIEST USE OF HAND FIREARMS

Firearms, in the sense of guns which could be carried and fired from the hands, even if with the aid of a light, portable support, by one man alone, appeared in Europe not much later than the earliest guns, and certainly before the end of the fourteenth century. Early manuscript illustrations show gunners grasping guns, which look like small pieces of artillery, in one hand while holding a ramrod or match in the other. Other early hand guns are depicted with primitive match locks.⁴

3. J.F. Hayward, 'English Firearms of the 16th Century', Journ. Arms & Armour Soc., iii (1959-61), 117-41; The Art of the Gunmaker, vol 1 (London 1962), 106-20, 202-10; I. Eaves, 'Some Notes on the Pistol in Early 17th Century England', Journ Arms & Armour Soc., vi (1968-70), 277-344; 'Further Notes on the Pistol in Early 17th Century England', ibid., viii (1976), 269-329; J.B. Kist et al., Dutch Muskets And Pistols (London, 1974); A. Hoff, Dutch Firearms (London, 1978).

4. A detailed pioneering study of the early development of hand guns still of great value is that by P. Sixt, 'Entwicklung und Gebrauch der Handfeuerwaffen', contained in several short episodes in the first 4 vols of Zeitschrift für historische Waffenkunde (1897-1908). In English there are two papers by R.C. Clephan, An Outline of the History and Development of Hand Firearms, from the Earliest Period to About the End of the Fifteenth Century (London, 1906); 'An Outline of the History of Gunpowder and that of the Hand Gun, from the Epoch of the Earliest Records to the End of the Fifteenth Century', Archaeol. Journ., lxvi (1909), 145-170. There is also a useful recent summary by H. Blackmore in Guns And Rifles of the World (London, 1965).

Hand guns only became a significant weapon in warfare when they could be used reliably by a group of men acting together and this was already beginning to happen in the sixteenth century. It was soon perceived however, that firearms had other uses in hunting, in place of bows and crossbows, and for personal defence in everyday life. By the end of the sixteenth century there were several craftsmen engaged in the Scottish burghs in making firearms of prestige for wearing with civilian dress by those who could afford them.

When hand guns are first mentioned in Scottish documents they are confusingly called culverins, but normally the context makes it clear that larger pieces of artillery are not intended. The earliest evidence for culverins appears to be in 1489 when some were taken from Stirling for use against Lennox and the other rebels at Gartalunane near Aberfoyle in Perthshire.⁵ Culverins were also taken to the siege of Tantallon Castle in 1497⁶ but there is no indication that they were used in any quantity at this time. Their role would presumably have been that of the crossbows also taken to Tantallon - clearing the battlements of the castle of enemy soldiers.

Whatever these early culverins were like it is probable that the hand guns James IV took a personal interest in in 1507 were wooden stocked with lock mechanisms to operate them, weapons easily recognisable to us today as long guns. In that year John Barton the merchant gave James a culverin which had presumably come from abroad. The king's pride in it or other pieces is shown by payments in the Treasurer's accounts for the gilding of it by the cutler, Robert Selkirk, and the purchase of a case for it,⁷ and he used it in shooting matches with Hans the gunner in the

5. TA, i, 122.

6. Ibid., i, 181, 350.

7. TA, iv, 97, 105, 129.

hall of Holyrood Palace, with John Ingles and Lord Ross of Halkhead.

A record of these contests only survives because James lost and his

Treasurer had to pay out money.⁸ It is sad to think that this most

popular of kings should even here be remembered more for his failures

than his successes! In the next year James tried out his culverin in

hunting deer at Falkland and shooting birds about the Isle of May - with

what success is not recorded.⁹

The purchase of other culverins, presumably for the personal use of James IV is noted in the Treasurer's accounts, six at least of them coming

from the Continent via Scottish merchants and the Scottish staple at

Veere,¹⁰ but James must already have been encouraging their manufacture

at home. In 1508 the priest, sir James Pettigrew, who had already

demonstrated his mechanical skills in devising a clock in 1502, was given

the sum of ten pounds for making James a culverin.¹¹ Pettigrew worked

in Stirling and he and his workmen received more than one payment and a

quantity of iron 'to be graith for gunnis',¹² but possibly they were also

involved in the gunfounding. A lorimer, George Bell, was also paid in

1508 for 'tua lokketis for ane culveryn',¹³ presumably meaning mounts

of some sort rather than the actual firing mechanisms.

James was intent on establishing the manufacture of firearms in

Scotland on a firm footing just as he attempted with artillery, armour and

other arms. In October 1510 he had a certain George Keppin, and his

servant Caspar Lepus, culverin makers, installed in Edinburgh Castle and

they received regular payments for their work until at least September 1515.¹⁴

8. Ibid., iv, 98, 105.

9. Ibid., iv, 115, 130.

10. Ibid., iv, 132, 301.

11. TA, ii, 159; iv, 112.

12. Ibid., iv, 95, 101, 116, 117, 139.

13. Ibid., iv, 121.

14. Ibid., iv, 276, 333, 334, 379, 439, (508-12?); v, 32-33, 69.

They are described as Dutchmen, which could, of course, mean they were German, and in fact Keppin could conceivably have been 'George the Almayne gunnar' employed on the gun casting in Stirling in 1508.¹⁵

James V like his father was not without interest in firearms though a payment of forty shillings in 1533 to Walter Cuninghame's wife in Stirling as recompense for shooting her cow does not necessarily reflect great skill in their use.¹⁶ He bought himself a culverin in Rouen in 1536 and John Mosman, the goldsmith, made him a silver powderhorn a few years later.¹⁷ A certain James Hannay, was appointed the King's culveriner by 1529 to look after his firearms,¹⁸ and possibly to make them in place of Keppin and Lepus. He was succeeded by John Bickerton who, 28 July 1541,

'enterit to wirk in the castell upoun the dighting and grathing of the half haggis¹⁹ and culveringis being thairin, till making of vices, vice nails and clengaris to ane parte thairof, ... havand ulklie for his wage xvjs'.²⁰

Bickerton probably lost this special role of looking after the royal firearms when he was appointed a gunner in August 1543.²¹ After this there is no evidence of any appointments of gunners specifically for work on the royal firearms or indeed to manufacture them. A Dutchman, William Van Dyck, called a maker of iron guns, worked in Edinburgh Castle from the end of August 1542 until his death the following December, and had been employed in royal work in the preceding year.

15. Ibid., iv, 127.

16. TA, vi, 96.

17. Ibid., vii, 312.

18. Ibid., v, 375.

19. i.e. Small hagbuts - there is a fuller discussion below on the form of these guns.

20. Ibid., vii, 499.

21. RSS, iii, no. 427.

He may well have been a culverinmaker - the Dutchman who got paid by the king for three short culverins and a long one.²²

Firearms were evidently being used in increasing quantities in the reign of James V. Right at the beginning of the reign, in 1514, it was thought worthwhile to include culverins amongst the officially acceptable weapons for the muster at Roslin Moor²³ and they appear regularly in summons for wapinschawings and musters thereafter.

In 1541 the king himself got several firearms from abroad. English spies reported in July a ship come from France loaded with munitions, including 100 hand guns, but the Treasurer's accounts for the last year or so of James' reign suggest a much higher total from various sources: 692 half-hags and 147 culverins of different sorts, and these over and above those already in the royal armoury, including forty culverins in need of repair.²⁴ All these guns must have been intended for arming household officers or other wageours. After James' death the French sent munitions in 1543 to aid Cardinal Beaton's party, allegedly including 300 half-hags, and 403 culverins came with the expedition under Lorges de Montgomery in 1545.²⁵

The provision of hand guns by the lieges for use in war was encouraged by the government from an early date and when the old acts enjoining the practice of archery had a periodical revival in 1538 culverins were added to the list.²⁶ In 1557 the Town Council of Edinburgh had two silver culverins made as prizes for the young men of the burgh to compete for²⁷ and two silver guns, said to have been given

22. TA, vii, 501-2; viii, 31, 118, 134-5.

23. Irvine Muns., i, 34-35.

24. Hamilton Papers, i, no 74; TA, vii, 498; viii, 31, 46-47, 93-94, 118-19, 120.

25. Hamilton Papers, ii, 103; TA, viii, 381.

26. TA, vi, 341-2.

27. Edinburgh Burgh Accts, i, 239.

by James VI to Dumfries and Kirkcudbright for a similar purpose still survive. They are described below. The Scots as a whole did not take to the idea of doing their military service armed with guns and when they appeared in the warfare of the sixteenth century they were normally in the hands of paid gunners or wageours. An expedient adopted by governments on more than one occasion was to dispense with the military service of all or some of the burghs in return for wageours armed with guns or money to pay them. For the Earl of Arran's raid to the Borders in March 1517/18 the burghs south of the Mounth were to provide fifty culveriners, and in 1565 Irvine alone agreed to supply twenty hagbutters. Hagbutters always seem to have been armed with hand guns rather than the heavier hagbuts of crok (see below for a discussion of the term hagbut meaning hand gun). For her French expeditionary force in 1552 Mary of Guise expected all the burghs to fee 300 hagbutters.²⁸

From 1522 proclamations were made for hagbutters and culveriners to come forward and receive wages, sometimes to augment the forces on raids, sometimes to serve in strongholds under threat on the Borders, like the 100 hagbutters in Coldingham and a further twenty in Jedburgh in December 1542, and the twelve hagbutters sent to Home Castle in August 1547.²⁹ For the siege of St. Andrews Castle in 1546 the governor had a band of eighty culveriners raised under the command of Captain Gavin Hamilton and the parson of Covington, paid for a space of five months.³⁰ Hamilton had also captained a band of sixty-two hagbutters in 1544 which acted as a bodyguard for the governor during the meeting of Parliament.³¹ Pay at this time for each man varied,

28. ADCP, 116-17; Irvine Muns., i, 51-52; RPC, i, 131.

29. TA, v, 203; vii, 150; ix, 100, 114.

30. TA, ix, 138.

31. Ibid., viii, 307.

being as little as 16d a day in one case but normally over £3 a month and in the case of the men at the siege of St Andrews Castle, £4 a month,³² which compares well with the fees of the royal gunners, wrights, smiths, and other craftsmen.

Despite these high wages, there was probably always a shortage of skilled hagbutters and culveriners, as also of the actual weapons. We have already noted the Act of Parliament of 1535 ordering landed men worth 100 merks to have two culverins and landed men worth only £40 to have one each, and later in the century, in 1581, when there was a flow out of the country of Scots to take part as mercenaries in wars on the Continent, the Privy Council had to forbid all but sailors to take hagbuts with them.³³ While there may have been a shortage of guns for warfare the same was not true for other pursuits considered nefarious by the authorities. Already in 1530 the Lords of Council issued the first of a whole string of prohibitions against killing birds and animals with firearms:

'... forasmekle as in tymes bigane thair has been grete derth and scant of wyld foulis be the occasioun of gunnaris quhilkis has slane thame and banyst firth of the realme, so that nane can be had bot apoun ane inconvenient derth, that thairefore in tyme to cum na maner of persoun tak apoun hand to sla ony wyld foulis with culveringis nor with lyme wandis under the pane of deid'.³⁴

In 1540 hares were specifically included in this prohibition as well.³⁵

The various names used for firearms in early documents requires some explanation here, as particular terms seem often to have been reserved for weapons of different types. The information available is, however,

32. Ibid., viii, 307; ix, 100, 138, 161.

33. APS, ii, 345; RPC, iii, 398.

34. ADCP, 350.

35. TA, vii, 422.

very sparse, and although it can be supplemented by English documents, we are still left with a rather confused picture.

Initially a culverin may have been a hand gun of any sort but with the introduction of heavier pieces which required a support the term may have come to be applied to the lighter long guns which could be fired from the hands alone. The term seems to have fallen out of favour about the end of the sixteenth century. Lighter firearms with snap works from then on were often distinguished from heavier guns.

It is not always possible to be sure that the term hagbut in a sixteenth-century document means a firearm rather than a small piece of artillery and even some of the hagbuts of crok might reasonably be classified as hand guns. Hagbuts seem to have been larger and heavier than culverins and may normally have been fired from a rest. They are often described as having snapworks (snaphance locks), although the laird of Glenorchy had two in 1605 with wheel-locks, presumably imported from abroad.³⁶ The English harquebus is described in an official document of 1630 as having a barrel length of two and a half feet (0.762m) an overall length of three feet (0.914m) and a bore of 17 (that is twelve pieces of lead shot to the pound).³⁷ Half-hags were presumably, as the name suggests, like hagbuts but of smaller size. They seem to have been imported in large quantities for use as munition weapons and to have been fitted with matchlocks.³⁸ Possibly it was their cheaper quality and locks which helped to distinguish them from culverins which at least from the 1540s when half-hags first appeared are not normally described as having match locks.³⁹

36. E.g. Black Book of Taymouth, 343.

37. PRO. SP.16/179, as quoted by H. Blackmore Guns and Rifles of the World (London, 1965), 13.

38. E.g. TA, viii, 93-94, 120.

39. An exception is the 'lang culveringis with lichtet lunttis' mentioned in a murder complaint of 1554 (Hist. MSS. Comm., 10th report (1885), 87).

Muskets were heavy long guns which needed a rest for firing and appear in the records from the end of the sixteenth century onwards.⁴⁰ They seem invariably to have been fitted with matchlocks and were probably mostly munitions weapons of foreign origin. Sometimes they are described as being 'double' and hence of larger size.⁴¹ The Scottish military writer Kelly described musquets as been twelve bore in 1627 and three years later the English specified that they should be twelve bore, have 4 feet (1.219m) barrels and an overall length of 5 feet 2 inches (1.575m).⁴² Muskets totally replaced hagbuts by 1627 in the firearms listed in the Edinburgh burgess roll as belonging to those admitted as burgesses.⁴³ It is unclear how much this was a change in terminology or weapons.

Calivers are occasionally mentioned in the late sixteenth century. Three kists, each containing twenty four or thirty of them were shipped from Flanders in June 1571 and the gun forgers of Edinburgh claimed in 1575 that they could make fifty a week if asked.⁴⁴ The English military writer Barwick claimed in 1594 that calivers had a larger bore than harquebuses (hagbuts) but otherwise were similar while they are defined officially by the English in 1630 as having a barrel length of 3 feet 3 inches (0.99m) an overall length of 4 feet 6 inches (1.372m) and a bore of 17.⁴⁵

Couriers were brought into Leith in 1571 on board a vessel from Hamburg.⁴⁶ They were evidently long guns of some sort but little is known about them.

40. David Wedderburne, the Dundee merchant, had one by 1590 (Wedderburne's Compt Buik, 26).

41. E.g. Black Book of Taymouth, 336.

42. T. Kelly, Pallas Armata (Edinburgh, 1627), 112; Blackmore, Guns and Rifles, 13.

43. Edinburgh Burgess Roll, passim.

44. Bannatyne Mems, 173; Cal. Scot. Papers, v, no. 188.

45. H. Barwick, A Breefe Discourse, Concerning the force of all Manuall Weapons of Fire (London, 1594?), 8; Blackmore, Guns and Rifles, 13.

46. Cal. Scot. Papers, iv, 4.

Firearms recognisable to us today as pistols first appeared about 1500. Although the shortness of their barrels meant that they were highly inaccurate and not as powerful as other hand guns they had obvious advantages in that they could be fired with one hand only - for instance from horseback - and could be readily carried about on the body for personal protection. In Scotland the earliest evidence for the use of pistols is in 1549. On 9 May of that year

'Francis Forcane and James Croiff, Duchemen, com in will to the provest of Striveling for breking of our Soverane Ladiis pace and wonding and hurting of William Wrycht in perrell of his liff, undir silence of nycht, and schoting of his pistolate within direge, in gret apering of the slachter of baitht men and wemen amang congregatioun tharof, etc'.⁴⁷

'Lital pistolatis' were fired out the windows by the defenders of Castle Semple in 1560 since they dared not appear at the wall heads owing to the threat posed by the Earl of Arran's hagbutters⁴⁸ and pistols were used at the Battle of Langside eight years later. Lord Home was felled to the ground by many strokes upon the face by the throwing of pistols at him after they had been discharged and they lay upon the spears as the two sides stood locked in combat at spear point.⁴⁹ It is probably true to say, however, that pistols were not a significant element in warfare, either for foot or horse until the mid-seventeenth century. They seem to have been seen essentially as weapons for personal protection, the finer ones being worn with civilian clothing as a status symbol.

Pistols are referred to in sixteenth-century and seventeenth-century documents as either pistolets or dags. Their increasing use can be

47. Stirling Burgh Recs. 56.

48. Cal. Scot. Papers, i, no. 905.

49. Melville's Memoirs (Donaldson), 77.

traced by the repeated prohibitions issued against them, for instance in 1567, 1569, 1574, 1579, 1590, 1593, 1595 and 1597, 'the same dagis and pistollettis nawayes serving for the defens of the realme, nor yet for ony uthir gude or necessair use, bot onlie for revenge of particulair quarellis and private grudgeis'.⁵⁰ An act of 20 December 1567 first spelled out that anyone caught shooting culverins, dags, pistolets or other guns except as a pastime in his 'innerclois, and yaird adiaacent thairto', and sailors (at sea) and soldiers in the king's service, would lose their right hand.⁵¹ Later acts extended this rigour to those who merely wore them in public.

Many must have defied the laws and armed themselves with pistols, even schoolboys, as was shown by a tragic incident which occurred in Edinburgh in 1595. A group of boys, greatly angered because their holidays had been halved by order of the ministers, barricaded themselves in the High School. When Bailie John McMorran threatened to knock in the door with a battering ram he was shot through the head with a pistol by one of the boys. William Sinclair, son of the Chancellor Caithness, a boy of only fourteen, was apprehended and blamed for the crime but was let off thanks to the intercession of the king. Not long afterwards it was decided to apply the anti-firearms laws with increased vigour and three men found in Edinburgh with pistols at their belts were apprehended and sentenced to the full rigour of the law, to have their hands cut off, but after keeping them standing for a long time before the crowd gathered to see this event, James pardoned them since all three were ignorant of the law and it had never been put into practice before.⁵²

50. TA, xii, 90; APS, iii, 29, 84, 146; RPC, v, 90-91, 274, 437-8; Diurnal of Occurrents, 163.

51. APS, iii, 29.

52. Historie of King James the Sext, 352-6.

Later acts concentrated on forbidding the manufacture of pistols under a certain size - half an ell (470mm) in 1595 and an ell in 1597 (940mm)⁵³ so that they could not easily be concealed on the body. There is no mention of restricting the import of pistols of less than the required size and this may be taken as evidence that most pistols in Scotland at this time were manufactured in the country. In fact pistols of foreign manufacture can be recognised in early inventories and there survives a record of some being imported in October 1571. It was then reported to the English government that there was a small vessel from Hamburg in Leith, loaded with brass pieces, four or five lasts of powder, some couriers, pistolets, and corslets of proof, all of which were bought by the regent's party.⁵⁴

SCOTTISH GUNSMITHS

This suggestion that Scotland was more or less self-sufficient in the manufacture of pistols - if not other firearms - at the end of the sixteenth century is by no means an idle one but can be supported by other evidence. The most telling points in favour of this supposition are the quantity of gunsmiths known to have been working in the Scottish burghs and the surviving pistols of the early years of the seventeenth century, without exception competent pieces of workmanship. As early as 1575 it was reported to the English that the gun forgers of Edinburgh had promised to finish at all times, when they should be commanded, fifty calivers (that is long guns) a week, and others powder for the same. The regent had six fair muskets come out of Flanders to serve for patterns to make others by: for which purpose his artificers were skilful, and as for dags,

53. RPC, v, 274, 437-8.

54. Cal. Scot. Papers, iv, no. 7.

otherwise called 'snaphaunces', they had furnished the most part of the gentlemen and horsemen of the realm.⁵⁵

The names of many of the makers of Scottish pistols and other firearms are known, the earliest from the 1570s, almost all recognisably of Scottish descent. The following table lists the place of work and number of all the gunsmiths (masters, apprentices, servants) known before the arbitrary date 1650 (but excluding those still serving their apprenticeship at that date).

ABERDEEN	6	
AYR	2	
BLANTYRE	1	
BRECHIN	6	
DUNDEE	45	
EDINBURGH	50)	131
CANONGATE	81)	
ELGIN	1	
FALKIRK	1	
GLASGOW	17	
PERTH	14	
PRESTON(E. LOTHIAN)	1	
ST. ANDREWS	10	
STIRLING	14	
STRANRAER	1	
WINCHBURGH	1	
		56
TOTAL	251	

55. Cal. Scot. Papers, v, no. 188. By Edinburgh is no doubt meant Edinburgh, Canongate, Leith and suburbs.

56. These figures vary slightly from those given in my paper on 'A wooden stocked fishtail pistol', Proc. Soc. Antiq. Scot., cviii (1976-7), 320, although the data on which they are based is little different. What is different is my method of assessing it - in particular choosing a precise end date of 1650. This does not however alter the overall picture.

While the figures undoubtedly give a reasonable impression of the distribution of gunsmiths in the late sixteenth and early seventeenth century, working in the main towns, it can not be claimed that this is the case for the smaller ones. Unfortunately, most of the evidence for early gunmakers comes from sources like the records of the Hammermen Incorporations and rolls of burgesses and since these only exist in any detail for the main burghs it is inevitable that the picture presented should be one of an industry based in the more important towns. Even here, however, it must be supposed that several craftsmen will have escaped through the net and not have been listed. The dominance of Edinburgh-Canongate-Leith is immediately obvious with Dundee the only significant competitor. The gunsmiths in Blantyre, Falkirk, Preston, Stranraer and Winchburgh are there almost by accident but by their presence suggest that we might expect a gunsmith to be working in any village of any size or town throughout Scotland. While keeping it in mind that our evidence for early gunsmiths is weighted in favour of those working in the main burghs it is, nevertheless, reasonable to suppose that the craft originated in those burghs where there was a large pool of metalworking, mechanical and woodworking skills which could readily be diverted to the making of guns.

By the end of the sixteenth century Hammermen Incorporations had been formed in most of the main Scottish burghs, including Aberdeen, Canongate, Dundee, Dunfermline, Edinburgh, Glasgow, Perth, St Andrews and Stirling. These incorporations retained the monopoly of all 'hammer work' in their burghs, that is, in practice, all metal work, except in the case of Edinburgh where from 1586 the goldsmiths formed themselves into a separate incorporation. Within each incorporation the workers were divided into several different crafts, not invariably the same from burgh to burgh, but including, for instance, armourers, cutlers, lorimers, blacksmiths, locksmiths and pewterers.

It is noticeable from the early hammermen records how new apprentices often bore the same surnames as practising craftsmen. Often they are identified as sons and brothers but in many other cases they seem to have been 'country cousins' thus gaining access into burgh life and prosperity. The intending gunmaker normally had to serve an apprenticeship of seven years with a practising craftsman, one of the brethern or masters of the craft of gunsmithing. Each apprentice had to 'live in' with his master. The apprentice became a dagmaker in his own right - that is a freeman - on completing the full term of his apprenticeship and providing he was a burgess of the burgh and had completed a satisfactory essay piece. The first condition was met by payment of a fee which varied depending on whether or not the apprentice was related to a burgess by blood or marriage. The second condition was a test of competence. The deacon and brethern of the hammermen incorporation would choose two of their members as essay masters to supervise the apprentice in making a specified essay piece, normally in the booth of one of the other masters. They then judged it to see if it was of sufficient quality, and it should be said that there are very few cases noted in the hammermen records of apprentices presenting insufficient work.⁵⁷

A gunmaker could only have one apprentice at a time but he could employ other servants to help him. These might either be unskilled helpers or workers - journeymen - who had served their apprenticeships but had not set up in business for themselves. Unfortunately information is mostly lacking for just how many men gunmakers did employ at any one

57. This paragraph attempts to summarise very briefly some of the salient points of the organization of the hammermen in the main Scottish towns. It is mostly based on the MS records of the Edinburgh and Canongate Hammermen in the EBA and the statutes of the Dundee Hammermen, published in A.J. Warden, Burgh Laws of Dundee (London, 1872), 473 ff.

time, but it is probable that the more successful craftsmen normally employed three or four or even more men at a time. Because a firearm bears the mark of a gunsmith we should not necessarily imagine that that weapon is the work of that one man alone. No servant or apprentice could mark their work with any mark other than their own masters.⁵⁸

In theory, craftsmen could only work in one particular craft and the records of the Hammermen Incorporations contain several accounts of demarcation disputes, though it has been suggested by the editor of Whitelaw's Dictionary that the distinction between crafts tended to be less rigid in most burghs than it was in Edinburgh.⁵⁹ As time went on, in any case, the Incorporations increasingly lost their grip on controlling the craftsmen and their monopolies.

It is also noticeable that demarcation disputes seem mostly to have occurred where there were several craftsmen with a vested interest in the work that was being infringed upon. For example, a dispute in Perth between the cutlers, lorimers and saddlers in 1548 and another in Edinburgh between the locksmiths and blacksmiths in 1568.⁶⁰ In both cases there were several craftsmen in more than one craft who felt their rights were being infringed upon. Where, on the other hand, there was a shortage of craftsmen with particular abilities it is likely that the rules were not rigidly adhered to. For this reason the pewterers of Edinburgh could claim in 1696 that they had a long established right to make brasswork, and certainly James Monteith, the Edinburgh pewterer of the mid-seventeenth century, cast bells and guns and was appointed master founder of the

58. This law is noted for pewterers in Edinburgh (EBA Edinburgh Hammermen Recs, i, 21, no. 62) and in St. Andrews a cutler was admonished in 1599 for allowing his apprentice to stamp another mark than his own (Whitelaw, Scottish Arms Makers, 277). No doubt such restrictions applied equally to all craftsmen.

59. Whitelaw, Scottish Arms Makers, 15.

60. Perth Hammermen, 65; Prot. Bk. Grote, no. 287.

artillery in 1650.⁶¹ If there had been more than a handful of pewterers or brassworkers in the burgh at this time it is doubtful if such a situation could have obtained.

All this must be born in mind when studying the origins of the firearms industry in Scotland. With it we are dealing with the beginnings of a new craft, born into a world where the areas of work of different groups of craftsmen were clearly outlined and conservative and monopolistic influences exerted strong pressures to prevent the development of new skills or the combining of old. Gunsmithing, particularly the manufacture of pistols, did, however, get off the ground as a separate craft and the explanation seems to have been threefold: firstly, there was a demand for pistols in sixteenth-century Scotland; secondly, their manufacture was seen as fair game by anyone who had the ability to make them; and, thirdly, the Scottish craftsmen quickly developed a cheap and serviceable commodity in sufficient quantities to discourage the importation of foreign weapons.

Theory, if not practice, may have prevented one and the same craftsman from working in more than one craft but there was nothing to stop more than one craftsman combining their different skills to produce the one commodity. From Edinburgh and Canongate there is a little evidence (see below) for specialist gunstockers who presumably had their own booths but collaborated with the makers of the barrels and locks. It is questionable, however, whether wooden stocks were always made by separate craftsmen. The essay pieces of several Canongate dagmakers are specified from 1630 onwards as being pistols with wooden stocks, for instance, Robert Beir, 1645; Mungo Mosman (1), 1630; Mungo Mosman (2), 1640; John Paterson, 1650; George Turner, 1639; William White, 1645; Patrick Wilson, 1646;

61. L.I. Wood, Scottish Pewter-Ware And Pewterers (Edinburgh, n.d.), 29; SRO PS 1/116, fos. 167v-168.

Thomas Wilson, 1648⁶² which must mean that they actually made the stocks themselves. It is unfortunate that the records of the wrights (who included gunstockers) of Canongate only survive from 1630, for Dundee from 1628 and those of Edinburgh do not appear to be available for study,⁶³ or else we might conceivably have seen a situation in this earlier period in which the stocking of guns and pistols in wood was normally a separate profession. It is interesting to speculate that the birth of an all-metal style in firearms in Dundee c. 1610 and the success of the Dundee gunmakers was due to their taking the whole process of gun manufacturing into their own hands while Edinburgh and Canongate dagmakers had to co-operate with gunstockers, goldsmiths and damaskers.⁶⁴ This is a point to which we will return in considering the surviving firearms.

Was there any direct link between the growth of the new industry and royal policies on firearms and if so how marked? It must be said right away that there is nothing to suggest that George Keppin and Casper Lepus, or for that matter sir James Pettigrew had any particular gunmaking skills which were passed on to other craftsmen though this is not in itself unlikely. Nor is there any evidence for Scotsmen being apprenticed abroad. Royal encouragement, even if only indirect, can be seen in the employment of Edinburgh craftsmen like James Hannay and John Bickerton as culveriners or culverinmakers, but in neither case is there any evidence that they worked on making firearms outwith royal employment⁶⁵ though

62. Whitelaw, Scottish Arms Makers, sub voce.

63. They are in the possession of Free Masons Lodge No 1, Edinburgh.

64. Only one Canongate wright, who may have stocked guns, is known between the years 1630 and 1650, Simon Murray (Canongate Burgess Roll, 49). No gunstockers are known from Dundee (see Warden, Burgh Laws of Dundee, 584ff).

65. Bickerton, whose workshop was in Leith, made small pieces of artillery - dogs - for the Edinburgh Town Council in 1558 (Edinburgh Burgh Accts., i, 248, 250, 252).

that they did must be considered quite likely. Bickerton had a son Quentin who also entered royal service as a smith and gunner.⁶⁶ There are no records of him manufacturing firearms or of any other apprentices being trained who did so.

Other Edinburgh craftsmen were subcontracted to work on the royal firearms in 1562, including five unnamed smiths and the wright, John Stewart, who three years later was taken on as a wright and gunner.⁶⁷ As is the case with John Bickerton this can only be seen as royal encouragement of craftsmen who already had the ability to do the work.

One royal smith and gunner, John McBen, appointed to Stirling Castle in July 1578, is probably the same John McBen who got into trouble with the Canongate Hammermen in 1626 for working in a dagmaker's booth as an unfreeman. He then turns up in Glasgow in the following year and was admitted a burgher as a dagmaker;⁶⁸ but by this time the craft of gunmaking had been long established in several burghs. An Edinburgh dagmaker, David Kerse and another from St Andrews, Henry Smith also turn up as royal smiths and gunners at the turn of the century.⁶⁹

Even if there was considerably more royal encouragement of gunmaking than has been suggested here it is doubtful if it would significantly weaken the impression that the Scottish firearms industry was a spontaneous growth, drawing on the skills of indigenous craftsmen reacting to an undoubted demand for guns. As for government enactments, constantly reiterated, they sought to limit the use and manufacture of firearms, not to aid the gunsmiths who produced them.

The earliest dagmakers were mostly craftsmen who had trained as smiths or lorimers, but by the end of the sixteenth century many had assumed the

66. TA. vii, 499; RSS, vii, no. 2529.

67. TA, xi, 247-8; RSS, v, no. 2460.

68. RSS, vii, no. 1603; Whitelaw, *Scottish Arms Makers*, 202, 237, 238.

69. SRO E21/72, fos. 87r-88r; E21/74/75, fo. 91r; etc.

title dagmaker and had trained apprentices as such. In the following pages we will consider the evidence for this burgh by burgh.

Edinburgh: In the case of Edinburgh, although the first named gunmakers are only recorded in the 1570s, evidence for the manufacture and repair of firearms can be taken back to the late 1540s, if not a bit earlier to John Bickerton and James Hannay in the 1520s. In 1548 there was a street fight in Edinburgh between the Scots and some of the French soldiers in which John Hamilton of Stanehouse, Captain of Edinburgh Castle, was slain while trying to restore order. It started over a dispute concerning a culverin given by one Frenchman to George Tod to be stocked but claimed by another.⁷⁰ Tod also did work for the Edinburgh Town Council in the 1550s, not as a specialist gunmaker but as a wright making scaffolds and working on the building of the Tolbooth, and was appointed one of the burgh's gunners in 1558 to help shoot the artillery.⁷¹

In 1562 John Chisholm, the controller of the artillery, bought Danskin iron (that is iron from Gdansk) and steel for repairing 151 culverins and 120 half hags in the munition house in Edinburgh Castle. The guns were removed from the castle for John Stewart, an Edinburgh wright and five other smiths to work on them. Twenty of the culverins needed new stocks and a hundred new 'rangearis and skrowis' (ram rods and ?locks).⁷²

That there were no specialist makers or repairers of firearms in Edinburgh at this time is suggested by the record of a dispute between the blacksmiths and the locksmiths, the judgement of which by the masters of the Hammermen Incorporation was drawn up and inserted in the protocol book

70. Knox, History, i, 104-5.

71. Edinburgh Burgh Accts, i, 279, 284; ii, 276, 297, 307-10.

72. TA, xi, 247-8.

of Gilbert Grote in 1569. The judgement clearly specifies which types of work were the monopoly of which craft, both mutually exclusive, except that it should be

'lesum to ather of the saidis craftis (not) loksmythtis alanerlie to wirk conjunctlie thir wirkis underwrittin, viz, to wirk the kingis werk or warkis pertening to the commoun mylnis of this burght, gemma bandis, plett wark, irne yettis, and cruikis to the said yettis to hing on, and to mend or (mak?) hagbuttis, dagis, culweringis, and edge lumes quhilkis thai can mak witht thair awin handis.'⁷³

The Edinburgh craftsmen first on record as dagmakers appear to be David Clerk(1), described as such when his apprentice William Black was registered in 1578, Patrick Archibald, dagmaker, who died in September 1579, and David Kerss (or Cass) who was apprenticed to David Duncan, locksmith, in 1560 and became a freeman locksmith in 1569. He is called a dagmaker when his apprentice Gilbert Kerss was admitted burgess in 1579 and appears regularly in the stent rolls of the burgh from 1583 as a dagmaker. He could, however, still be described as a locksmith in 1605 when another apprentice, William Young, was registered. He appears as one of the smiths in the royal gunnery establishment in Edinburgh Castle from 1598 onwards.⁷⁴

John Watt, admitted freeman of the Hammermen in 1575 as a locksmith, is described as a dagmaker in 1595 and was the master of Alexander Adamson, mentioned as one from 1588. Watt was apparently somewhat of an activist, chosen one of the deacons of the hammermen on several occasions, and as

73. Prot. Bk. Grote, no. 287.

74. Whitelaw, Scottish Arms Makers, 139, 142. References from now on will normally be given in the first instance to Whitelaw's book where the information is noted by him. Additions and fuller references to original source material are given in Appendix E. See also SRO E21/72, fo. 88r.

deacon of the deacons of the craft guilds he was responsible for raising the whole crafts in arms on 17 December 1596 on the rumour that the king then sitting with the lords of session in the tolbooth, was to be murdered. This was the occasion which James VI turned to his advantage to curb the ultra-protestantism of some of the ministers. In 1598 he procured for himself the job as the town's water bailie with an annual salary of £100. When he dropped dead on the Burghmuir three years later it was strongly suspected that he had been poisoned by his neighbour, a merchant, Alexander Slowman, but no proof was adduced of Slowman's guilt.⁷⁵

John Haldane (or Howden, etc) evidently trained as a locksmith and sought to learn the gunmaker's craft. In 1585 he was discharged from further working with Gavin Gilchrist, blacksmith, in his booth on dags or snaps (gunlocks) because the said Gavin could not make any himself. In 1593 he was admitted burgess, dagmaker. David Edgar, who became a freeman locksmith in 1586 was working on finishing hagbuts in 1593 and described as a dagmaker three years later. Patrick Kennedy made a similar essay in the same year as David Edgar and is called a dagmaker in 1592.⁷⁶

Mathew Watson's essay piece of 1594 is one of the earliest known entirely to do with guns. It consisted of a hagbut, a dag and a snap. Gavin Ford's of the same year consisted only of a hagbut and a dag.⁷⁷ It seems to have been about this time that gunsmiths - or dagmakers as they were commonly called - were emerging as a distinct craft. It is probably no coincidence that the previous year saw the first recorded dispute within

75. Whitelaw, Scottish Arms Makers, 139, 161; 'The Diarey of Robert Birrel', in Dalyell, Fragments, 39-40; Edinburgh Burgh Recs (1589-1603), 237, 284.

76. Whitelaw, Scottish Arms Makers, 146, 150. NB. Whitelaw claims that David Edgar's essay was 'two kist locks', but it is not described in the Hammermen Records (EBA Edinburgh Hammermen Recs, iii, 41r).

77. EBA Edinburgh Hammermen Records, iii, 79r, 81r. (Whitelaw (Scottish Arms Makers, 142, 145) is in error).

the Hammermen Incorporation specifically over work on firearms.

Alexander Adamson was fined thirty shillings for his second offence of buying unfreeman's work and David Edgar and Peter Spens were each fined ten shillings for their first offences of a similar nature.⁷⁸

The hammermen were, of course, an incorporation of several different crafts. Each year they elected twelve masters to represent the interests of all their members, and traditionally they consisted of two blacksmiths, two cutlers, two saddlers, two locksmiths, two lorimers, one pewterer, one armourer and one sheathmaker (actually thirteen).⁷⁹ Two dagmakers were regularly elected to the twelve masters: David Cass and David Edgar, and also John Watt in 1585 and 1587 before he is known to have been working on guns, but in all cases they were chosen to represent the locksmiths.⁸⁰ The fact that the dagmakers never secured a niche amongst the masters of the hammermen as dagmakers may be taken as a sign of their weakness.

There were some fifty craftsmen working in Edinburgh in the period up to 1650 who called themselves dagmaker or the like. There were, however, only ever a few operating at the one time. A whole series of early stent rolls for Edinburgh preserved in the burgh's archives,⁸¹ including craftsmen from 1583 onwards, are our evidence for this. The following tables are based on an analysis of the rolls from 1583 to 1610. Thereafter no gunmakers at all appear until after the reign of James VI:

78. Whitelaw, Scottish Arms Makers, 139.

79. EBA Edinburgh Hammermen Records, iii, 35v.

80. Ibid., iii, 38v, 47v, 53r, 57r, etc.

81. EBA Register of Extents, vols. 1 & 2.

	Information from stent rolls	Information from other sources
David Clerk (1)	<u>1586-1592-1593</u>	1578-1621
Patrick Archibald		d. 1579
David Kerss	1583-1609	a. <u>1569-1579</u> -d. 1614
Alexander Adamson	1584-1593	a. <u>1581-1588-1593</u>
John Haldane	<u>1586-1592</u>	<u>1585-1596</u>
Peter Spens	<u>1583-1588-1593</u>	a. <u>1574-1593-1594</u>
John Naysmith	<u>1589</u>	1591
Arthur Hamilton	<u>1589</u> , 1592	
Patrick Kennedy	<u>1589</u> , 1610	a. <u>1586-1592-1601</u>
David Edgar	<u>1586-1593</u>	a. <u>1586-1593-1596</u>
Gavin Furde		a.1594
Mathew Watson		a.1594
John Watt	<u>1583-1592</u>	a. <u>1575-1595</u> -d. 1601
John Kennedy (1)	<u>1595-1601</u>	a.1596-1601
William Vaus		1596
Alexander Muir		1598
Patrick Muirhead (Leith)		1598
Nicoll Wallace		1602
William Clerk	1609	

NOTES Dates give first and last appearance in the records. Dates underlined mean that the person concerned was not then described as a dagmaker or working on guns. A small 'a' indicates date of admission to the Hammermen Incorporation, a small 'd' date of death. NB that references to apprentices are excluded. There are no stent rolls covering the years 1590, 1591, 1596-1606.

	David Clerk (1)	Patrick Archibald	David Cass	Alexander Adamson	John Hadden	Peter Spens	John Naysmith	Arthur Hamilton	Patrick Kennedy	David Edgar	Gavin Furde	Mathew Watson	John Watt	John Kennedy (1)	William Vaus	Alexander Muir	Patrick Muirhead	Nicoll Wallace	William Clerk	Numbers from stent rolls alone	Numbers from all sources
1578																					2
1579																					3
1580																					2
1581																					3
1582																					3
1583																				1	3
1584																				2	3
1585																				2	3
1586																				2	4
1587																				2	4
1588																				3	5
1589																				3	5
1590																				3	5
1591																				3	6
1592																				5	7
1593																				4	7
1594																				1	8
1595																				2	7
1596																				2	8
1597																				2	5
1598																				2	7
1599																				2	5
1600																				2	5
1601																				2	5
1602																				2	4
1603																				2	3
1604																				2	3
1605																				2	3
1606																				2	3
1607																				2	3
1608																				2	3
1609																				2	4
1610																				2	2

NOTES ■ recorded in stent rolls ■ recorded in other sources only.
There are no stent rolls for the years underlined. Dates are given
only from the first recorded mention of each craftsman as a dagmaker.

It is not altogether clear why fewer gunsmiths appear in the stent rolls than seem to have been working at any one time.⁸² Various reasons might be suggested for this including the inefficiency of the collectors. If some of the craftsmen lived outwith the bounds of the burgh(which was illegal) they may have found it easier to escape paying taxes. This is a problem which deserves much greater study than can be devoted to it here.

The most important information, however, that can be gained from the stent rolls is information on the wealth and standing of the dagmakers compared to the rest of the burgess community. Here we have taken the extent roll of 7 July 1592 as an example since more dagmakers are recorded at this time than any other. The money to be raised was £4360 of which the dagmakers were to pay as follows:

Alexander Adamson, dagmaker	50s
Peter Spens, dagmaker	15s
David Kerss, dagmaker	15s
Arthur Hamilton, dagmaker	10s
David Clerk (1), dagmaker	30s
David Edgar, smith	10s
John Watt, smith	30s
John Haldane, smith	10s

There is no doubting that these payments are below average. Some burgesses at this time were exceptionally wealthy, several merchants being assessed to pay sums of over £20 or even over £40. One paid £60 and another £66. Several craftsmen - litsters, skimmers, cordiners, barbers, goldsmiths, a glasswright, etc - were assessed to pay sums of over £3, but most of the

82. This comment could apply to any group of craftsmen in Edinburgh at this time,

members of the Hammermen Incorporation paid less than this, one notable exception being John Weir, pewterer, put down at £9. The Hammermen Incorporation was one of the biggest craft groups in the town but most of its members were at the lower end of the money scale and within the group none of the dagmakers stuck out financially. Adamson, apparently the most affluent taxed at 50s was about average.

Before leaving the stent roll of 7 July 1592 let us look at it another way and show how the dagmakers compared numbers-wise with the rest of the community.

EDINBURGH - Extent Roll of 7 July 1592

		NW Quarter	NE Quarter	SE Quarter	SW Quarter	Total
SUPPLIERS of food and drink.	(baxters	4	7	32	7	50
	(brewsters	1		3	6	10
	(buttermen				7	7
	(cooks	6	7	5	2	20
	(fishmongers	2		3		5
	(fleshers			26	11	37
	(maltman			10	20	30
	(poultrymen			2	4	6
	(taverners	1	2	3		6
	(victuallers	2				2
CLOTHING and SHOES	(bonetmakers		1	3		4
	(cordiners	5	4	6	9	24
	(drapers	3	1		7	11
	(hatmakers		4	3		7
	(litsters	1		1	6	8
	(skinners	9	10	3	12	34
	(tailors	20	13	23	15	71
	(walkers	3			5	8
	(websters			1	6	7
	(woolmen	3				3
HAMMERMEN ⁸³	(cutlers			6	1	7
	(dagmakers			5		5
	(damaskers			1		1
	(lorimers			2		2
	(pewterers		2		1	3
	(potters			1		1
	(saddlers		5	5		10
	(smiths			5	6	11
	(spurriers			1	1	2
	(swordslippers		2	1		3

83. The 45 hammermen given here must be compared with the list of all the freemen of the Incorporation made in 1591, including 78 names (EBA Hammermen Records, iii, fos. 68v-69r).

EDINBURGH - Extent Roll of 7 July 1592 (contd)

	NW Quarter	NE Quarter	SE Quarter	SW Quarter	Total
goldsmiths	2	2	2	10	16
(bowers		1	2		3
(casemakers	1				1
(coopers			1	1	2
(glasswrights	1	1	1		3
(wrights		1	8	2	11
masons	1		2	4	7
slaters	1		2		3
(carters				1	1
(drivers				2	2
(stablars		3	13	8	24
(apothecaries	1		3		4
(barbers	3	1	4		8
(chirurgeons	1				1
grassmen				1	1
seedmen		1			1
candlemakers		1	1	4	6
bookbinders		1	2	2	5
painters		1			1
other trades	2	2	6	4	14
(chapmen				1	1
(cramers	1	2	5	2	10
(hucksters				1	1
(merchants	72	49	48	80	249
others, unspecified	102	81	107	182	472
TOTAL	246	209	355	434	1244

The inescapable conclusion to be drawn from all this is that the Edinburgh dagmakers were a small and insignificant group of craftsmen, making a living but not riches. This might at first sight seem surprising given the importance of Edinburgh as the capital and by far the largest town in Scotland and the early establishment of gunmaking in it. The reasons will be much clearer when we come to consider the surviving pistols and Canongate and Dundee where gunmaking seems to have developed at the expense of the craft in Edinburgh.

It is noticeable from going through the stent rolls how in roll after roll the same names tend to occur together, if not exactly in the same order. It is reasonable to suppose that this is because the extensors went through the quarters of the burgh systematically from end to end. Most of the dagmakers lived in the south-east quarter - Peter Spens, David Cass, Arthur Hamilton, David Clerk, John Kennedy - and their names tend to appear close to or next to each other in the lists suggesting they were neighbours. Alexander Adamson who started off in the north-east quarter in 1584 moved to the south-east quarter in 1586. Other metalworkers like Hew Vaus, damasker, Alexander Thomson, cutler and William Cokkie, goldsmith, were also their neighbours. It is possible that the part of the south-east quarter occupied by these craftsmen was actually the extramural Liberty of Edinburgh next to the burgh of Canongate.⁸⁴ Other dagmakers definitely lived outside the town proper. Alexander Adamson was living in Leith by 1602 and John Watt's property was on the Burghmuir, presumably the St. Roche's acre set to him in March 1591-2.⁸⁵ Does this explain why neither Adamson nor Watt appear in the stent rolls at this time?

84. Possibly a detailed study of the stent rolls in conjunction with the MS Annuity Tax Roll of 1634 or 1635 (also in the Edinburgh Burgh Archives) which gives 'addresses' would help to confirm this.

85. Edinburgh Burgh Recs (1589-1603), 61, 308. The location of Watt's property is given (*ibid.*, 178) as in the West Gate of the East side of the muir, opposite Alexander Slowman's house. Perhaps it is also the property called the yards of the Sciennes in 1598 (*Ibid.*, 239).

By 1610 there is reason to believe that the craft of gunsmithing had all but died away in Edinburgh. Although no dagmakers appear thereafter in the stent rolls, at least one, David Clerk, seems to have continued working, and his son, also called David, was made a freeman in 1621. His essay piece was a brass buckle and an arrowhead, produced with the consent of the lorimers and in 1628 and on several occasions after that he was one of the two masters elected by the lorimers.⁸⁶ It is noticeable how several other gunmakers later in the century fashioned essays consisting in whole or in part of a brass buckle or carabine hanger and an arrowhead and how they were associated with the lorimers rather than the locksmiths.⁸⁷ John Miller, dagmaker, was like Clerk one of the lorimers' masters from 1647-9.⁸⁸ An exception was Michael Achesoun, wright or gunstocker, who had been (working?) in Amsterdam in 1635 and became a burgess of Edinburgh in 1644.⁸⁹ A revival in the number of gunsmiths working in Edinburgh only came in the late seventeenth century.

Canongate: Canongate, now incorporated in the city of Edinburgh, was at the period under our consideration a separate burgh with its own trade guilds, eight in all including the hammermen. There were over eighty makers of hand guns listed in the period before 1650, that is almost twice as many as were in Edinburgh. For information on them we have to rely heavily on the Records of the Hammermen⁹⁰ which unfortunately only survive from 1613 onwards.

86. Whitelaw, Scottish Arms Makers, 142, 143. David Clerk (1) was presumably still alive in 1621 when his son's essay was made in his booth (EBA Edinburgh Hammermen Recs., iii, 314r). See also *ibid*, iv, 11v, 34r, 44v, 54v, 61v, 96v.

87. Whitelaw, Scottish Arms Makers, *passim*.

88. EBA Edinburgh Hammermen Recs., iv, 148v, 156v, 167v.

89. J.B. Kist, J.P. Puype & R.B.F. Van Der Sloot, Dutch Muskets And Pistols (London, 1974) appendix; Whitelaw, Scottish Arms Makers, 138.

90. EBA Canongate Hammermen Records, 1613-1822.

The first dagmakers appear in Canongate in the 1580s - William Fender in 1580, William Smith (1) in 1582 and John Castellaw, Bartilmo Hamilton and John Kello (1) in 1589.⁹¹ By 1595 there were at least nine, but thereafter numbers seem to tail off, precisely as was the case in neighbouring Edinburgh; but whereas in Edinburgh the decline continued in Canongate there was a resurgence, with at least seven dagmakers in 1613, rising to sixteen in the 1620s and seventeen in the 1630s. It is likely that gunmaking developed in the Canongate at the expense of this craft in the neighbouring burgh of Edinburgh, but what is the explanation for the decline in both burghs at the turn of the century? It does not seem to be directly related to any particular piece of legislation restricting the use or manufacture of firearms nor to the removal of the court, and hence possibly a lucrative market, to London in 1603. If the evidence of surviving firearms is anything to go by both burghs may have suffered from competition from Dundee.

Unlike with Edinburgh the Canongate gunmakers appear as dagmakers from the beginning and are consistently referred to as such. Some may have operated sizeable businesses like Francis Multray who is recorded as having at least one apprentice and six servants (not necessarily all at the same time).⁹² James Naysmith was fined in 1626 for having two 'unfreemen', John McBen and William Logan working in his booth. In 1635 Hew Duncan had a shop and two smithies in Leith Wynd.⁹³ Only one gunstocker ('wright stoker of dages and lang gunis') is recorded before 1630 when the surviving Canongate Wrights and Coopers records start, Robert Hamilton, made burgess and freeman in 1587.⁹⁴ Prominent among the Canongate dagmakers were

91. Whitelaw, Scottish Arms Makers, sub voce.

92. Ibid., 204. Include in list of servants at end of Multray's entry James Kyle and William Walker.

93. Ibid., 205; EBA Annuity Tax Roll, 237.

94. Whitelaw, Scottish Arms Makers, 200. Hamilton had at least one apprentice admitted burgess in 1637 after his master's death. No gunstockers occur in the Wrights and Coopers records of the first half of the 17th century preserved in the EBA.

James Hart, deacon of the hammermen in 1613, 1614, 1616, 1620, 1622, 1623; Mungo Mosman (1), deacon in the years from 1641 to 1644; Robert Mosman, deacon in 1624; and George Turner, appointed King's Armourer 'anent the making and mending of his hieness hagbuttis, pistolettis, arce and pellet bowis and all iron weapons, als well for defens as offenss, thair pertinentis and furnitour' in 1650 in succession to Henry Smith of St. Andrews.⁹⁵

Dundee: The records of the Hammermen Incorporation of Dundee begin in 1587 when Patrick Ramsay, gunsmith, was deacon, with a list of the masters and a set of statutes, acts and ordinances drawn up under Ramsay's supervision. At that time there were thirty-five masters of the craft, eight of whom were listed as 'gunmaker' (precisely the term used).⁹⁶ Ramsay is of interest not only because, as we shall suggest below, he was the maker of one of the earliest surviving Scottish firearms, but because there is slightly more documentation for him than most other early gunsmiths.

His father was Silvester Ramsay, a master smith of the Dundee Hammermen, and Patrick was enrolled as a blacksmith by right of his father on 8 May 1582. Two brothers, Hugh and Thomas, were made burgesses as smiths in 1588 and 1595 respectively, both also turning up later as gunsmiths, and there were three other gunsmiths of the name of Ramsay trained as apprentices, two of them by Hugh.⁹⁷

Already by 1583 Patrick Ramsay had the keeping of the town clock for in that year the town council, no doubt short of ready cash adopted the following

95. Whitelaw, Scottish Arms Makers, 200, 203, 204, 209.

96. A.J. Warden, Burgh Laws of Dundee (London, 1872), 471ff. Amongst 'the most part' of the masters witnessing statutes in the hammermen records are six gunsmiths in 1606 and five in 1622 (NMAS photos of Dundee Hammermen Lockit Book).

97. Whitelaw, Scottish Arms Makers, sub voce.

method of paying him for repairing it. They awarded him with the grant of a burgess-ship so that he could not only get his money from the fee paid by the recipient of the burgess-ship but could do a friend or colleague a good turn by putting them forward. In 1583 it was a sea-captain, Andrew Thomson. Four years later, under similar circumstances it was one of the customs officers, Robert Menzies.⁹⁸ The choice of these two is interesting as Ramsay is known to have imported items from abroad, including wine and in January 1583/4 figures as the owner of the Grace of God newly returned from Flanders.⁹⁹ Evidently Ramsay was a man of some substance.

In 1588, at the time of the scare occasioned by the expected arrival of ships of the Spanish Armada, Ramsay was appointed gunner, to look after the artillery in the steeple, under Thomas Davidson, its principle^{al} master, with a stipend of £20.¹⁰⁰ He also looked after the burgh clock and bells¹⁰¹ at first with a yearly fee of £40, raised to £60 in 1610¹⁰² and to £66 13s 4d in 1612.¹⁰³

In 1604 there was a major dispute in Dundee over the election of the new town council and the magistrates in which Ramsay took the side of the council against many of his fellow craftsmen. This caused him much unpopularity and there are several instances of hammermen, even as late as the election of a new deacon in 1611, getting into trouble with the magistrates for abusing or misrepresenting him. These included two other gunsmiths, James Gray and William Low. William Low had been replaced by Ramsay as deacon in 1604 by order of the Privy Council and the James Low (gunsmith) who was collector

98. NMAS Whitelaw MSS, Dundee Burgess Roll.

99. Wedderburne of Dundee's Compt Buik, ed. A.H. Millar (Scot. Hist. Soc., 1898), 196, 210, 214, 224.

100. A. Maxwell, The History of Old Dundee (Dundee, 1884), 212.

101. Ibid., 213; NMAS Whitelaw MSS, Dundee Burgess Roll.

102. Maxwell, History of Dundee, 370-1.

103. Ibid., 371.

of the crafts¹⁰⁴ at the time of the riots and one of the ringleaders in them, was presumably related. He was ordered into ward in Blackness Castle for his part in the disturbances. Ramsay was even maliciously accused of hewing certain iron bolts from the battlements and other parts of the church steeple, but when a group of town councillors was appointed in 1607 to visit the steeple they could find no evidence of any iron work having been recently removed and Ramsay was exonerated.¹⁰⁵

Meagre as the information about Patrick Ramsay is, it is still more substantial than that for most other early gunsmiths, and throws an oblique light on the origins of gunmaking in Dundee. Ramsay was a blacksmith and a man of some stature in the burgh. He was responsible for organising and drawing up regulations for the Incorporation of Hammermen. His association with the maintenance and repair of the town clock is a demonstration of his mechanical aptitude. He was, however, by no means the only early Scottish gunmaker who was connected with clocks.

It is interesting that by the time Ramsay became deacon of the hammermen in 1587 he described himself not as a smith but as a gunsmith^s as did seven other craftsmen: James Alison, Peter Alison, John Alison, Andrew Alison, Robert Alison, Hew Ramsay and Alexander Lichtoun. The Alisons, presumably all related to each other, are a striking example of how craft skills tended to remain 'in the family', and of course, with the exception of Lichtoun, all the gunsmiths at this time were either Ramsays or Alisons, suggesting that the gunmakers formed a close-knit group. In the late 1580s and 1590s at least eleven gunsmiths started their apprenticeships, including four Ramsays, and this must be taken as a sign

104. The collector was chosen by the craft guilds to represent all their interests. It was an office of some importance, normally held by a man of some status. See Warden, Burgh Laws of Dundee, 242-9.

105. Maxwell, History of Dundee, 213, 362, 368, 369, 370; RPC, vii, 12, 31, 585-8, 735-7.

of the consolidation of a separate gunmaking craft in Dundee - and after all the statutes drawn up under Ramsay at the beginning of the Hammermens' locked book, firmly order 'that ewerie maister virk his awin vark he professes, and na other manns', meaning for the gunmakers work on hagbuts and dags.¹⁰⁶ The gunmakers working in Dundee at any one time always numbered less than the forty known overall and if we are right in assigning so many of the surviving Scottish firearms to them as we do (see below) the impression to be gained of the industry here is very much of a small scale one making prestigious guns and pistols for a luxury market.

Of the other masters in the list at the beginning of the hammermens' locked book six are put down as (black) smiths, four as lockmakers, two as guardmakers, two as goldsmiths, five as swordslippers, one as a lorimer, four as cutlers, one as a pewterer and two as saddlers. There are no brassworkers included though it is a remarkable fact that the Burgess Roll of Dundee lists twenty-eight of them admitted between 1525 and 1581.¹⁰⁷ Such a concentration of brassworkers is not known for any other Scottish burgh and inevitably the impression is given that Dundee was an important centre of brass-working in the sixteenth century. Again we must anticipate of our discussion of the surviving firearms by saying that most/the guns and pistols attributed to Dundee gunmakers are made substantially of brass, or at least the barrels and lockplates. This use of brass is particularly characteristic of Scottish firearms at this time and the existence of a group of craftsmen in Dundee with skills in casting and working brass must be seen as an important and unique reason for the development of the craft of gunmaking there. But why are none of the brassworkers listed in the burgess roll included in the 1587 list of masters of the hammermen either

106. Warden, Burgh Laws, 473-6; Whitelaw, Scottish Arms Makers, sn Dundee.

107. NMASS Whitelaw MSS extracts from Dundee Burgess Roll.

as brassworkers or of any other trade? This question, unfortunately, cannot readily be provided with an answer. Some of the brassworkers working in 1587 might conceivably have worked in the gunmakers' booths solely on casting barrels and lockplates but surely this was not the case with all?

Glasgow: Apart from Edinburgh, Canongate and Dundee there is no evidence of any other centres in late-sixteenth and early-seventeenth-century Scotland where gunmaking was practised on a large scale. Glasgow, with up to seventeen known gunmakers before 1650 must rank as next in importance.

In the 1570s the names of five Glaswegian craftsmen are known who may have had a more or less tenuous connection with guns. Firstly there was John Hannay, smith, probably the man referred to as a snapmaker on 3 July 1578 when he was ordered to serve John Barry, lorimer, in making snaps from Whitsunday just passed to the following Martinmas and a month beyond to complete his term of service for which he had already received half his fee. He had apparently tried to transfer his services to Humphrey Galbraith, cutler, with whom Barry had had a fight with whingers (a type of short sword or dagger) the previous August.¹⁰⁸ Finally there was George Laing, armourer, who in 1579 was discerned to pay John Hog twenty-one shillings for stoking guns.¹⁰⁹

It can be suggested from these references that there were craftsmen in Glasgow in the 1570s prepared to do work on guns, one of whom manufactured snaplocks and another of whom stocked guns. Perhaps the work was largely confined to dressing imported barrels. One might in fact have expected to find more evidence of such activities in Glasgow at this time owing to the flourishing re-export trade in munitions to the

108. Records of the City of Glasgow (Maitland Club, 1832), 77, 96.

109. Ibid., 112.

'queen's rebels' in Ireland.¹¹⁰

The earliest dagmakers so-called in Glasgow came from Stirling. They were David McBen, admitted to the Hammermen Incorporation as a stranger in 1621, and his brother who was admitted on serving an apprenticeship in 1627, a year after David's death. It is significant that when he was made a burgess earlier in the same year he had his fines modified 'becaus he is ane necessar craftisman to be keipit be the toun'.¹¹¹ As mentioned above it was probably him who was employed as a smith and gunner in Stirling Castle and who turns up working for James Naysmith in the Canongate in the 1620s.

Stirling: Evidence for gunmaking in Stirling goes back to William Stanley, gunsmith, one of the masters of the hammermen in 1599, and Adam White and James Frissall, dagmakers, both recorded in 1592.¹¹² David McBen was admitted a freeman gunmaker in 1607 and his brother John is included in a contemporary list of the brethern of the craft but with no trade specified.¹¹³ The essay piece for apprentice gunmakers in 1621 was 'ane reoche and ane snap' (a gun barrel and a gunlock) but in 1636 John Ker, who had served seven years apprenticeship with his brother Andrew Ker, dagmaker, presented as his essay 'ane snap with a cavenat lok and ane schamber dor lok' and was admitted freeman dagmaker.¹¹⁴ Presumably there was a shortage not only of work on gunmaking but also of locksmiths in Stirling at this time.

110. See G.A. Hayes-McCoy, Scots Mercenary Forces in Ireland (Dublin & London, 1937), 160, 259-61, 271, 281, 284-5, 303, 308. Also, D.H. Caldwell, 'A hagbut of crok from Corr, County Armagh', Ulster Journ. Archaeol., xxxix, (1976), 53-55.

111. Whitelaw, Scottish Arms Makers, 237, 238.

112. Ibid., 289, 291.

113. Ibid., 290.

114. NMAS Whitelaw MSS, extract from Stirling Hammermen Recs for 2 July 1621; Whitelaw, Scottish Arms Makers, 290.

Perth: In Perth there were fourteen gunsmiths working before 1650, but most combined their business with another - lorimer work - as follows:¹¹⁵

Andrew Moncreiff, admitted freeman lorimer and gunmaker,
24 January 1586.

John Jamieson, admitted freeman lorimer and gunmaker,
13 September 1593.¹¹⁶

Andrew Smith, admitted master lorimer and gunmaker,
15 January 1593/4.

Thomas Ramsay, admitted freeman gunmaker, 12 February 1593/4.

John Smith (1), lorimer and gunmaker (c. 1593-1606)¹¹⁷

William Thomson, admitted freeman gunmaker, 21 May 1594¹¹⁸

George Brey, admitted freeman gunmaker, 8 November 1595.

John Smith (2), admitted freeman gunmaker and locksmith,
10 June 1606.

William Low, admitted freeman gunmaker, blacksmith and locksmith,
28 July 1607.

Alexander Dunbar, admitted freeman gunmaker and lorimer,
10 March 1612.

James Dickson, admitted freeman gunmaker and lorimer,
27 December 1626.

John Dickson, admitted freeman gunmaker and lorimer,
13 January 1648.

Thomas Ramsay, William Thomson and George Brey, recorded at an early date as gunmakers only, paid heavy fines when they were admitted freemen, and since there is no mention of their relationship to any other Perth

115. Whitelaw, Scottish Arms Makers, sub voce, except where noted.

116. NLS MS 19239, fol. 58v. Given in error by Whitelaw (Scottish Arms Makers, 270) as James Jamesoun.

117. Father of Andrew and John (2). NLS MS 19239, fos. 58v, 84r. His trade is not actually given.

118. NLS MS 19239, fo. 60r. Omitted by Whitelaw.

burgesses or to their having served apprenticeships with Perth masters it may be suggested that they came from elsewhere, bringing their skills with them. Were Thomas Ramsay and William Low the two Dundee gunmakers of that name and William Thomson a dagmaker from Edinburgh, all attempting to make a go of it in Perth? The fact that gunsmithing in Perth was normally combined with another trade does not suggest it was big business. The son of John Smith (2), also called John, successfully made supplication to the deacon and brethern of the incorporation in 1659 that he should not be restricted to gunsmithing only, which was now become useless, but should also be admitted to the liberty of a blacksmith.¹¹⁹

St Andrews: In St Andrews there was a John Smith described as a gunner in 1581 but a gunmaker in 1585 when he was deacon of the hammermen.¹²⁰ He had as an apprentice John Learmonth, admitted freemen in 1593,¹²¹ and Henry Smith, admitted freeman in 1585/6, may have been related. In May 1598, Henry Smith, gunner and burgess of St Andrews, was appointed for life 'armoriar to his majestie anent the making and mending of his hienes hagbuttis, pistollettis, ance and pellok bowis and all uther yrne wapinis alsweill for defence as plesour, thair pertinentis and furnitour', and he is listed as a smith with the gunners, wrights and smiths in Edinburgh Castle, receiving a monthly wage of £6.¹²² Altogether there are ten gunsmiths recorded in St Andrews before 1650 who may have formed quite a close-knit group as far as craft training is concerned:

John Smith - ? related to - Henry Smith

John Learmonth John Cunningham, David Ramsay and

Alexander Pryde (1), Henry Wilson - ? related to - William Wilson

Thomas Pryde - ? related to - Alexander Pryde (2)

119. NLS MS 19239, fo. 133r.

120. Whitelaw, Scottish Arms Makers, 281. The term 'gunner' may have been used indifferently in the St Andrews Hammermen Recs to mean both cannoneer and gunmaker.

121. Whitelaw, Scottish Arms Makers, 280.

122. Ibid., 280; SRO E21/74/75, fo. 91v.

Other Burghs: In Aberdeen six gunsmiths can be traced in the period before 1650, four of the name of Gordon and probably all related. The earliest, Thomas, was admitted as a burgess, gunmaker in 1591, free, in consideration of his services in looking after the three town clocks over the preceding year. Adam Gordon, gunmaker, possibly his son, took over this task in 1601.¹²³ In Ayr the local snapmaker, John Smith, also had responsibility for looking after a clock, in the burgh's Tolbooth, and George Wallace, knockmaker in Prestonpans, who was made a burgess of Stirling in 1646, was presumably related to Robert Wallace, dagmaker, recorded there in 1609.^{124*}

To sum up, it can be suggested that gunmaking developed in Scotland in the mid-sixteenth century, largely due to a demand for firearms. This new industry had its home in the larger towns, especially Edinburgh-Canongate and Dundee where there was already considerable metal - and woodworking expertise which could readily be adapted to the manufacture of guns and pistols. At first in the larger towns, and for longer in the less important centres, blacksmiths, locksmiths, lorimers and others practised gunmaking as part of their trade, but by the 1570s in Edinburgh and the 1580s in Canongate and Dundee certain craftsmen had come to specialise in gunmaking and called themselves dagmakers, gunmakers or the like. In the last years of the century there were between seven and ten gunmakers working in each of the three main centres - Edinburgh, Canongate, Dundee - at any one time. There were several others working throughout Scotland, two or three in each of the other large towns and many others working singly, perhaps practising other crafts as well, in towns and villages. At the beginning of the

123. Whitelaw, Scottish Arms Makers, 37.

124. Ayr Burgh Accts, 255; Stirling Burgh Recs, 190; RPC, viii (1st series), 340, 356.

*There were 6 gunmakers in Brechin (see Appendix E). Unfortunately information on them came too late for detailed consideration here.

seventeenth century Dundee rose to prominence as a centre of gunmaking at the expense of Edinburgh and Canongate, as will be seen more clearly when we come to consider the surviving firearms.

It is likely that Scottish craftsmen were able to meet the demand for pistols, if not long guns, in the late sixteenth and early seventeenth century. There is little evidence for the import of either at this time. The industry was essentially a luxury one, catering for the nobility and better-off townspeople. Firearms were yet to make a significant mark in warfare.

HAND GUNS, PART TWO : THE FIREARMS

INTRODUCTION

In the years from the mid-sixteenth century to c. 1640 Scottish arts and crafts flourished as never before. Large quantities of basic manufactured goods like humble pots and pans and luxuries for the nobility were still imported, mostly in return for raw materials or cash, but Scottish craftsmen, faced with an increased market for luxury goods at home were able to rise to the occasion and produce good quality work, including houses and castles, weapons, embroidery, silver, jewellery, painting, printing and wood-carving. This greater demand for better quality consumer goods was partly a result of the transfer of much of the wealth of the old church into secular hands and the greater wealth and self-assurance of the burgesses in the larger towns.

It may only be a coincidence that this period also saw the adoption by all sorts of Scottish craftsmen of many of the forms of decoration generated by the great Renaissance of art and culture in Italy and spread

throughout Europe. The earliest intimations of an awareness of the Renaissance can be traced back to the reign of James III but the first major manifestations are to be seen in the palace-building programme of James V in the 1530s and 1540s at Linlithgow, Stirling and Falkland. Foreign craftsmen were possibly largely responsible for the detailing of the sculpture on the outside of the buildings and the carved woodwork of the interiors, surviving in the form of medallion busts from the ceiling of the presence chamber at Stirling, but there is no doubting the Scottishness of the overall results, and the same applies to all the other Renaissance influenced art produced in the country. It is fair to say that often its distinctiveness lies in its inferior quality when set beside contemporary work from elsewhere but in much of it there is a spark of originality and sometimes great beauty. Renaissance decoration of an internationally recognisable type was used to ornament buildings, silverwork and weapons of a particularly Scottish form. Sometimes, as in the case of the towerhouses like Crathes and Craigievar with their enriched battlements and the standing mazers with their gilt, engraved and embossed silver mounts the form can be seen to be a variation on a type of well-respected age. In other cases the form appears as Scottish only from the late-sixteenth century. This was certainly the case with firearms.

At the same time as the Scottish gunsmiths were developing their own characteristic style of firearms armourers, swordslippers and cutlers were evolving equally distinctive basket-hilted broadswords and dudgeon daggers. In a recent assessment of the origin of basket-hilted swords Claude Blair failed to find definitive evidence of whether they were an English or Scottish invention, but he did show that they were considered to be Scottish by the English from as early as the opening years of the seventeenth century.¹²⁵ The dudgeon daggers are a Scottish development

125. C. Blair, 'The Early Basket-Hilt in Britain', Scottish Weapons And Fortifications, ed. D.H. Caldwell (Edinburgh, publication forthcoming), 153-252.

from the medieval ballock-knives common throughout Europe and, as suggested below, may be particularly associated with cutlers working in Edinburgh and Canongate. Pistols, swords and daggers were all richly decorated and intended for wear with civilian clothes.

THE EARLIEST SCOTTISH FIREARM

There is a very early firearm in the collection of Sir Walter Scott at Abbotsford. Unfortunately, nothing is known as to its provenance but it is likely that it comes from Scotland.¹²⁶ In form it is like a hagbut of crok though considerably lighter and rather smaller than most. It is these features that allow us to consider it as a hand gun rather than as a piece of artillery. It is of wrought iron, the barrel being 1.102m long with a bore of 21mm. The muzzle is slightly flared and octagonal in section. The breech end is also octagonal but the surfaces lie in a different plain from those at the muzzle. Two thirds of the way along the barrel from the muzzle an iron band is firmly fixed round it, probably once with a hook on its underside. The touch-hole is in the side of the breech and there is a rectangular slot cut round it for a powder pan. The stock takes the form of an iron rod ending in a loop, giving the gun a total length of 1.657m.

Two similar hand guns, both with hooks, are depicted in the early seventeenth-century carvings in Edinburgh Castle Gateway. Others survive elsewhere in Europe, for instance, one said to be from a castle at Dijon now in the Historical Museum in Bern, Switzerland,¹²⁷ and another in the

126. The writer is grateful to Mr J. Corson, an authority on Scott and Abbotsford, for advice on this.

127. R. Wegeli, Inventar der Waffensammlung des Bernischen Historischen Museums in Bern IV Feuerwaffen (Bern, 1948), no. 2202.

Legermuseum in Leiden, Holland.¹²⁸ Both have iron stocks ending in loops, hooks and touch-holes positioned in the sides of their barrels, and it is likely that they and the Abbotsford gun date to the second half of the fifteenth century. It has been suggested by M. Joseph Laver of the Musées de l'État de Luxembourg that the rings at the end of the stocks indicate that the guns were intended to be used from horse-back,¹²⁹ but although there are fifteenth-century illustrations of horsemen firing similar (but shorter) guns from forked rests attached to their saddles and with lanyards passing through the loops and round their neck,¹³⁰ this use, in the present writer's opinion, should not be considered to be exclusive.

FIREARMS LOCKS .

Matchlocks: The earliest hand guns were fired by applying a lighted match or red hot metal rod to the touch-hole, just as with pieces of artillery. A refinement of this primitive method was to attach the lighted match to an arm which could be lowered into a powder pan adjacent to the touch-hole by pressure on a trigger. At first the arm for the match and the trigger were formed as one S-shaped member, pivoted behind the powder pan. There were 'tua lang serpentine culverinnis of irne stokkit' in Edinburgh Castle in 1566¹³¹ and it is possible that these were primitive hand guns, the 'serpentine' referring to locks of this nature. Out of these in the late fifteenth century developed matchlocks.

In the typical matchlock the trigger and match-holder (or cock) are formed as separate members with a sear and a tumbler, all of which are

128. A. Hoff, Dutch Firearms (London, 1978), 4-5.

129. J.M. Van Den Brink, 'A Late Medieval Hackbut', Journ. Arms & Armour Soc, vi (1968-70), 242.

130. Ibid., pl. LII.

131. Wardrobe Inventories, 169.

attached to a lock-plate set into the side of the gun-stock. The sear is a lever pivoting up and down, connecting at one end to the trigger and at the other to a slot in the tumbler which in turn is attached to the base of the cock. By pressing on the trigger the head of the cock is caused to fall into the powder pan. The sear is further made to operate against a spring to give greater precision and control in the operation of the lock. The 'twich plaith half fut lang' on one of James IV's culverins was probably the lock-plate of such a lock and the 'fyre' of another probably refers to the cock.¹³² In 1525 James V got two culverins 'with thair lunts',¹³³ and luntwark seems to have become the normal term for a matchlock in Scotland, at least from the end of the sixteenth century, occurring in an inventory of 1600 of weapons belonging to the Laird of Glenorchy.¹³⁴ The term 'firework' - not luntwork - was commonly used in the sixteenth century and was probably intended to describe any hand gun or its lock mechanism. It cannot, in Scotland, be taken to mean, at any time, any particular type of lock mechanism. Luntworks remained in use in Scotland as elsewhere throughout the sixteenth and seventeenth centuries.

No complete Scottish matchlock firearms survive. There is, however, a long gun from the collection of the Lairds of Glenorchy, with a stock and snapthance lock of c. 1640 but with a barrel which has originally had a matchlock. It is deeply grooved at the touch-hole to take a powder pan with a high back shield of the type only fitted on matchlocks. It has a large bore of 21.5mm and a length of 1.183m. The rear portion is octagonal, the front rounded, and the muzzle is flaired and moulded like a small piece of artillery. A date in the mid sixteenth century can be

132. TA, iv, 122, 123.

133. Ibid., v, 255.

134. Black Book of Taymouth, 336, 343-4, 348. In the printed version lunt is invariable but wrongly transcribed as 'linit'.

suggested for it. There is also a very fine Dutch gun barrel of the beginning of the seventeenth century remounted in the eighteenth century with a new stock and a flintlock mechanism, but evidently originally a matchlock. It is known as 'the Black Gun of Newe' and is preserved in the Anthropological Museum in Marischal College, Aberdeen.

From Dirleton Castle there are the fragmentary remains of a 'snap matchlock' mechanism of great interest. Snap matchlocks were first developed about 1500 and occur, often on guns intended for target practice, into the first half of the seventeenth century. They are unknown on pistols. Their essential characteristic is that the cock with its burning match could be forced sharply on to the powder by the action of a strong spring, but only once a stopping device (sear) had been released. On the one hand the match was kept forcibly out of the way of the powder until the gunner wished to fire the gun, and on the other hand the process of firing was made more definite and decisive.¹³⁵

The mechanism from Dirleton Castle consists of a rectangular lock-plate to which appear to be corroded on the outside the vestiges of the match-cock and part of the external main spring below it. It presumably once extended the full length of the plate and curled up under the tail of the cock to bring pressure on it. On the interior are the remains of the sear, pivoting centrally, originally with an extension at one end going through an aperture in the lock-plate to catch the tail of the cock and hold it in full-cock position. The mechanism was fired by pressing the button which can be seen on the outside of the plate. This brought horizontal pressure to bear on the sear causing the sear extension to retract and release the cock.

135. For a fuller account of this type of mechanism see A. Hoff 'Late Firearms with Snap Matchlock', Four Studies on History of Arms (Tøjhusmuseets Skrifter, Copenhagen, 1963), 9-30.

This simple two lever button release is an early feature and the mechanism is likely to date to c. 1500-20. It can be compared to the locks on two early arquebuses, dated c. 1500, in the Basle Historical Museum although on both of these the mainspring is positional internally.¹³⁶ An early hand gun in the Tower of London now lacking its lock must have had its spring externally since there is no cavity in the stock for an internal mechanism. The Dirleton Castle lock is important evidence for the knowledge in Scotland of a type of mechanism which is the direct precursor of the snaphance lock.

Wheel-locks: Matchlocks had several disadvantages, not least the difficulty of keeping the match lit but clear of the powder in the pan except when it was desired to fire the gun. It is not surprising, therefore, that other methods of firing guns were sought after and appropriate mechanisms developed for them. About the beginning of the sixteenth century, probably either in Germany or in Italy,¹³⁷ the wheel-lock made its appearance using a revolving serrated wheel which protruded through the bottom of the powder pan, to strike sparks from a piece of iron pyrites gripped in a pair of jaws on the cock. The wheel had to be wound up before firing with a key or spanner, but a gun or pistol could readily be carried loaded and primed for action. Wheel-locks were expensive and complicated, and required to be cleaned regularly in order to work efficiently. They were thus not suitable mechanisms for general use.

It is likely that some of the firearms belonging to James V were fitted with wheel-locks and that some of the nobility were provided

136. H.L. Peterson, Encyclopedia of Firearms (London, 1964), 35. I am grateful to Mr H.L. Blackmore, Deputy Master of the Armouries, HM Tower of London, for this reference and helpful comments on the Dirleton Castle lock.

137. See C. Blair, 'A Note on the Early History of the Wheel-lock', Journ. Arms & Armour Soc., iii (1959-61), 221-56; Blackmore, Guns and Rifles, 19ff.

with them. Matchlocks were never fitted to pistols which were at first operated by wheel-locks alone. Unambiguous references to wheel-locks in Scotland are difficult to find, but, as pointed out by Claude Blair, the pistol said to have been carried by Patrick Ballantyne at the time of the murder of David Rizzio in 1566 must have been one. Ballantyne is said to have 'offered a dagge agaynste her (the Queen's) bellye with the cocke downe' and only a wheel-lock would have been ready to fire with the cock in this position.¹³⁸ Three firearms with what are undoubtedly wheel-locks are listed in early inventions of the Glenorchy family:

1600 : 'ane brasin pistolet with rowet werk'

1605 : 'tua hagbuttis of rowet wark'.¹³⁹

Rowet is derived from the French word 'rouet' meaning a wheel.

Recently a claim has been put forward by the editor of Charles Whitelaw's Dictionary of Scottish Arms Makers that wheel-locks were manufactured in Scotland. The essay pieces of several dagmakers in Canongate in the early seventeenth century are described as 'ane outred pistol with ane irne ratch and ane tymber stock', for instance, David Wallace (1638), George Turner (1639) and Mungo Mossman (1640). The editor concludes that 'The "ratche" was perhaps a wheel-lock: "to ratche" is defined by Jamieson as "to pull or tear away so roughly ... as to cause a fracture", and a wheel-lock might seem to fit the term better than any other type, but no certain definition has been found'.¹⁴⁰

That a ratche was not a gunlock of any sort can readily be shown. In an inventory of the goods and possessions of the Lairds of Glenorchy

138. C. Blair, 'Scottish Firearms', Bul. American Soc. Arms Collectors, xxxi (1975), 64, quoting Original Letters, ii, 213.

139. Black Book of Taymouth, 336, 343.

140. Whitelaw, Scottish Arms Makers, 21.

dating to 1640 there is 'ane muskett indentit with bane overgilt and grawen upone the ratch with lunt work'.¹⁴¹ Since the 'lunt work' indicates that the gun was a matchlock it could not be a wheel-lock as well. In fact, a totally different explanation for rathe can be given which accords well with its known use. It most likely means a gun barrel, being used in that sense as late as the eighteenth century. The Scottish National Dictionary compare it to the French rochet, a lancehead or spool.

According to Joseph Anderson¹⁴² there was a wheel-lock pistol (by implication, Scottish) of the time of Charles I on which the armourer's mark was a pair of bagpipes and the initials CL then (c. 1881) in the collection of Mr Glen. What happened to this pistol after this time is totally unknown and to the best of the writer's knowledge there are no other references to it. The Mr. Glen in question was a well-known Edinburgh bagpipe maker with antiquarian interests and it is not unfair to point out that he is nowadays suspected of perpetrating several forgeries of early Scottish weapons and bagpipes. Strong doubts must be entertained that this pistol was not all it was meant to be. Equally to be mistrusted are two illustrations in the Sobieski Stuarts' The Costume of the Clans which show what appear to be Scottish types of pistols with wheel-locks being used or worn by Scots. One of the engravings is said to be copied from a portrait of George, Second Earl of Seaforth, then in the possession of the De Witt family in Amsterdam, and the other, depicting the conflict of the Clan Kay and Clan Chattan, is stated to be from an original drawing in a manuscript copy of Boethius' History in the possession of Mr. Hawkesby, Wardour Street, London.¹⁴³ Neither picture is otherwise

141. Black Book of Taymouth, 348.

142. Drummond, Ancient Scottish Weapons, 22.

143. J.S. Stolberg & C.E. Stuart, The Costume of the Clans (Edinburgh, 1845) pls. III and IV.

known, but it is not unknown that other work by the Sobieski Stuarts' is not of unimpeachable accuracy or veracity.

There are two long guns in the Swedish royal collection, plain military type weapons of c. 1600 mounted with wheel-locks, both of which are described as Scottish in an inventory of 1654.¹⁴⁴ The collection contains other Scottish weapons gifted or acquired from Scottish mercenaries, many of whom served the Swedes in the seventeenth century. It also contains two English guns called Scottish perhaps because they were known to have been acquired from Scots - one indeed bearing the arms of James Spens from Wormiston in ^{Fife}~~Peebles~~shire. The two wheel-lock guns may similarly have been described as Scottish because they belonged to Scots, though it is not impossible that the barrels are really Scottish but have been remounted.

No other convincing evidence can be advanced for the manufacture of wheel-locks in Scotland, and in the writer's opinion, while it is possible that they may have been made by some gunsmiths, this must have been most exceptional. A possible case of this is the 'brasin pistolet with rowet werk' listed in 1600. This implies an all-metal pistol which at this time and in this context would certainly be Scottish, but our account of the surviving firearms will show it is only too common to come across guns which have had their locks renewed or replaced. If we are right in our assessment we must conclude by suggesting that the lack of interest by Scottish gunsmiths in manufacturing wheel-locks had more to do with the success of their snaphance locks than any technical difficulties to be encountered in making the former. There were Scottish clock-makers of the period, notably David Ramsay (? related to Patrick Ramsay of Dundee) and Hieronymus Hamilton capable of making most elaborate clock and watch

144. R. Cederstrom & G. Malmberg, Den Alde Livrustkammaren 1654 (Stockholm, 1930) inv. nos 1247, 1245; pls. 54, 4 and 57, 1.

movements which involved a mechanism not totally dissimilar to that of wheel-locks.¹⁴⁵

No early wheel-lock weapons with Scottish provenances survive. There is, however, a wheel-lock key from Dirleton Castle. The head could be used as a screw-driver and the loop on the back of the stem was for attaching to a cord. It may date to the sixteenth or early seventeenth century.

Snaphance locks: Enactments against the use of pistols and dags started in the 1560s and became more and more common as the century wore on, and, as we have seen, our evidence for gunsmiths and dagmakers in the towns was beginning to pick up then too. It is no coincidence that the 1560s also saw the first mention of a new type of gunlock which goes a long way to explaining the rise and success of the early Scottish firearms industry. In George Bannatyne's manuscript collection of poems of 1568 there is one entitled 'Heir followis the defence of Crissell Sandelandis for using hirsself contrair the Ten Comandis' with the following lines in it:

'Now ye ar lamit fra labour, I lamet it,
Your pistolis twmit, and bak spent lyk a wand:
Snapwark, adew, fra dagmen dow not stand,
And worss than that, ye want yor morsing powder.'¹⁴⁶

This is the first known occurrence of snapwark or snap in the Scottish language and there is no doubting that it refers to a type of lock known elsewhere not long afterwards and nowadays as a snaphance - in 1575 the

145. See J.R. Findlay, 'Notes on a Watch ...', Proc. Soc. Antiq. Scot., liv (1919-20), 150-3.

146. Satirical Poems of the Time of the Reformation, ed. J. Cranstoun (Scot. Text Soc., 1891), i, no. XLVII.

Englishman, Killigrew, called the dags made in Edinburgh snaphances.¹⁴⁷ These locks do indeed 'snap' when fired, the cock, loaded with a piece of flint, striking violently against a steel. It is probable that the Scots, at least sometimes, referred to dog-locks and flintlocks - both beyond the scope of this work - as snaphances when they were introduced in the seventeenth century but it is certain that snapwork and snap were terms not applied to other types of locks¹⁴⁸ which had names of their own: lunt works, rowet works and skaramishes (? matchlock). Only 'firework' was used generally to describe all types.¹⁴⁹

Scottish snaphance locks were divided into an early and late type by Charles Whitelaw. The later type seems only to have been introduced in the 1640s, the earliest dated example being on a pistol of 1647. Snaphances of Whitelaw's early type are the only gunlocks found on Scottish pistols and long guns of the first half of the seventeenth century and examples are known on weapons as late as the 1680s.¹⁵⁰

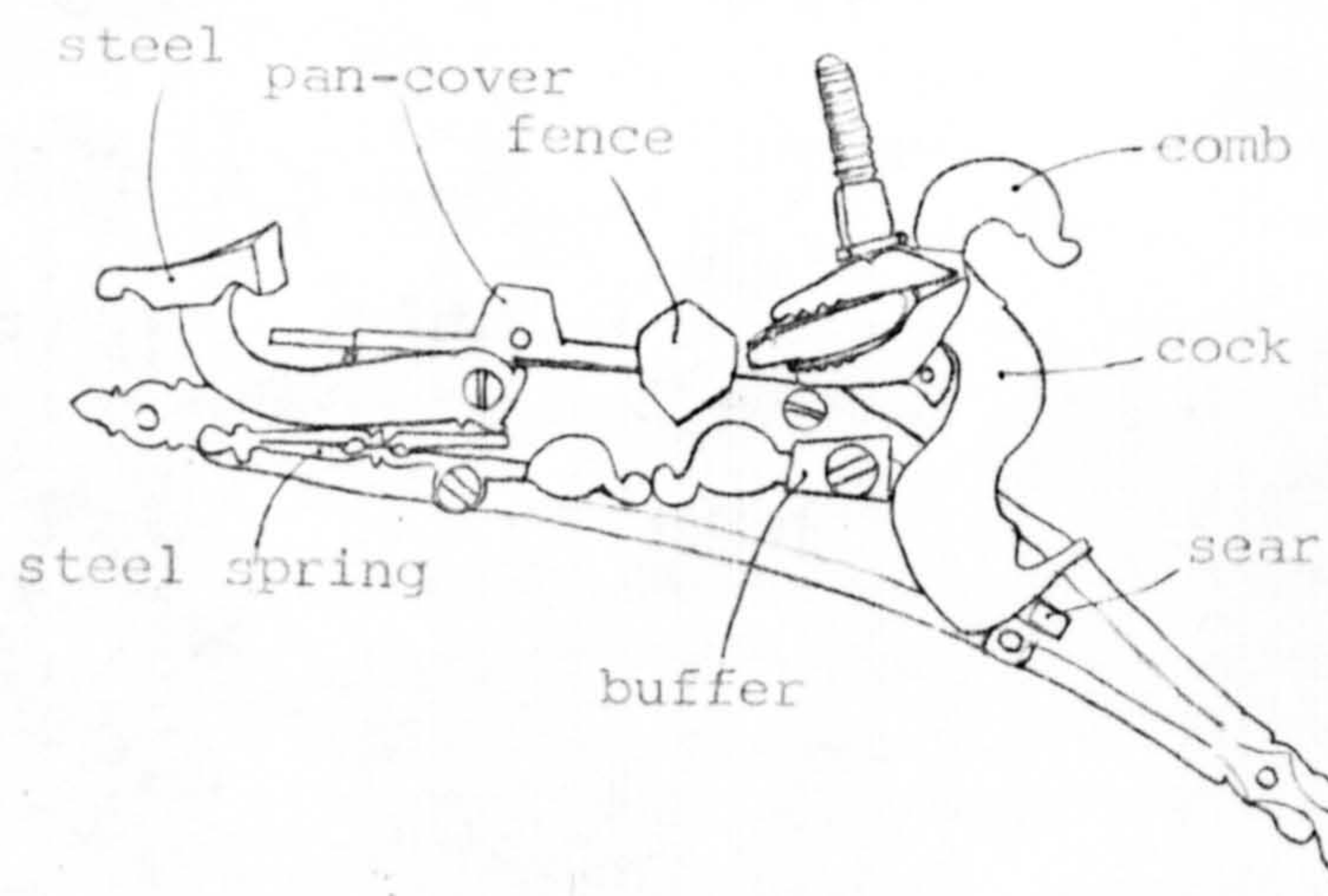
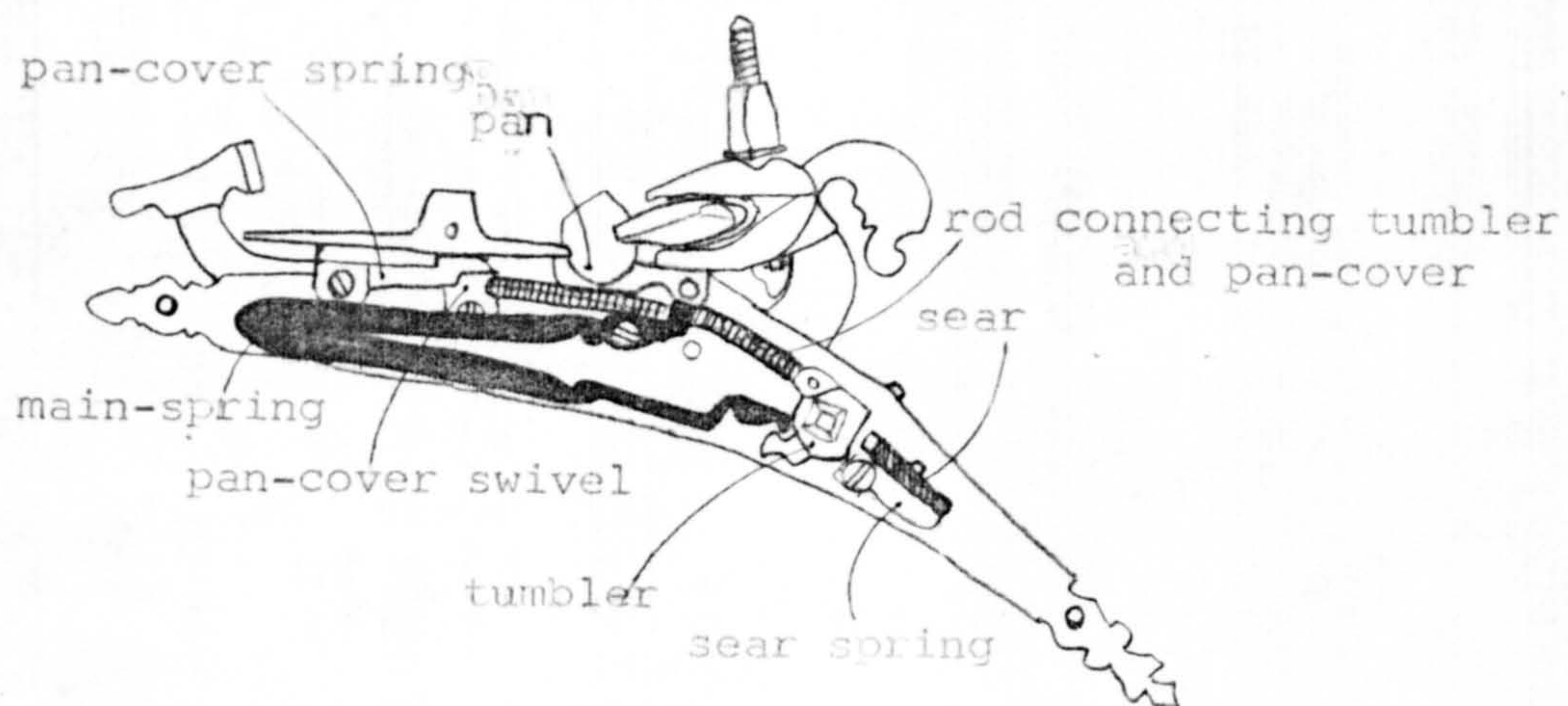
i/ The main operational characteristics of the early variety of Scottish snaphance lock are as follows. There is a pan beside the touch-hole, primed with powder, the ignition of which fires the charge in the barrel. This ignition is achieved by the striking of sparks from a flint which is caused to snap violently against a steel immediately over the opened pan. The flint is secured in the jaws of the cock, tightened by a pin inserted from below and a nut screwed down over the upper jaw, though some later examples have a pin only screwed from above. The cock, invariably broad,

147. Cal. Scot. Papers, v, no. 188.

148. There was, however, the term 'half-bent lock' for dog-locks and flintlocks. The use of 'snapwork' here to mean a snaphance should be carefully distinguished from the recent trend amongst weapons' experts of calling snaphances with a combined steel and pancover snaplocks. These snaplocks are not relevant to this discussion.

149. Later in the 17th century, however, snaphances were called firelocks.

150. H.J. Jackson & C.E. Whitelaw, European Hand Firearms (London, 1923), 60-64; C.E. Whitelaw, 'Variations of the Dog Lock Found on Scottish Firearms of the Seventeenth Century', Proc. Soc. Antiq. Scot., xi (1924-5), 211-21.



Scottish early snaphance lock. Inside and outside

flat and S-shaped with a comb at the back of the jaws, is prevented from falling too far forward by a buffer attached to the lock-plate in front of it. The steel is formed as a separate pivoting arm which is held in place above the pan by pressure from an external spring. It can lie forwards when out of use. The pan is provided with a protective fence, hexagonal in the earlier examples, round in the later ones from about 1627 onwards. The pan also has a sliding cover with an upstanding conical or bell-shaped mount for pushing it shut with the fingers. All of these elements are attached to the outside of a lock-plate, either of steel or brass. The pan and cover is sometimes of brass but the other moving parts are always of steel.

The cock is braised on to a rectangular spindle which passes through the lock-plate and the tumbler on the inside of the lock. When the pistol is loaded the cock is pulled back manually, causing the tumbler to exert great pressure against the main spring. Behind the tumbler is a horizontally pivoted sear. When the cock is fully pulled back an extension of this sear which is caused to project through the lock-plate to the outside by pressure from a small spring, engages against the top of the rectangular back extension of the cock, thus holding it in full cock position. The gun is fired by pressing on the trigger which hangs below the lock. This causes horizontal pressure on the sear making it retract and the cock is snapped forward by the downward pressure of the main spring against the tumbler. As the cock comes forward an arm attached to the tumbler pushes against the pan-cover swivel causing the pan to open to expose the priming powder to the sparks struck from the steel by the flint. Locks are placed on the right and left hand side of each pair of pistols - an arrangement peculiar to Scottish weapons.

The snaphance lock was a great improvement on the simple matchlock. It had similar advantages in ease of use to the wheel-lock but had a simpler

mechanism, less likely to go wrong and easier and cheaper to produce. The disadvantages, are of course, much easier to see in hindsight. Although there is no half-cock position as on the later dog-locks and flintlocks, the loaded gun could be rendered safe by swinging the steel away from the rest of the action. The disadvantage of this was that an accidental release of the cock withdrew the protection given to the priming by the pan-cover. The operation of the vertical movement of the cock by a horizontally pivoting sear is not the neatest of mechanical solutions and the single most important difference between the snaphance and the flintlocks which were introduced into Scotland at a later date is that the latter had mechanisms which operated completely vertically. This is an important distinction which was first clearly seen by a Swedish scholar, Torsten Lenk, in the 1930s.¹⁵¹

These criticisms should not be allowed to detract too much from the snaphance lock which was an ingenious and much used device. As described, it appears fully fledged in Scotland, the earliest dated examples being those on a pair of pistols in Dresden signed IK (John Kennedy, Edinburgh?) and dated 1598. It is not known if the Scots started by making these fairly sophisticated versions or whether earlier examples were of a simpler form. What is certain - as we will show below - is that the idea came from the Continent.

THE SURVIVING FIREARMS

Several more or less complete early Scottish firearms with snaphance locks survive, many of them in foreign collections. In fact it is probably true to say that with the exception of a long gun signed AP 1635 and the 'Breadalbane Gun', both preserved in the armouries of first rank Scottish

151. T. Lenk, The Flintlock (English edn., London, 1965).

families, all the finest firearms were until recently in collections and armouries in England and on the Continent. A glance at the catalogue of these appended to this work will show that extant Scottish firearms belonged to Charles I of Great Britain, Louis XIII of France, and the Duke of Kurland; that others were preserved in royal collections in Dresden, Madrid, Leningrad, Copenhagen and Stockholm; and that yet more found a home in armouries in Berlin, the Schwarzburg in Thuringia, Cracow, Skokloster and other places in Europe. The lack of pieces which can be given a lengthy Scottish provenance is surprising and difficult to explain. Several reasons, however, can be advanced for why they were preserved abroad.

Being implements of prestige they early commanded themselves as presentation pieces to foreign rulers and dignitaries. Some may have been royal gifts made by James VI, like the pair of pistols signed IA in Madrid, and the pair of pistols signed IH 1615 which belonged to the Duke of Kurland. Many others were undoubtedly gifted by Scottish mercenaries hoping for advancement in foreign service. They were luxury items and sufficiently different from other firearms - perhaps even regarded as curiosities - to merit being kept and displayed in the fashionable seventeenth-century European Rustkammeren, those important predecessors of our modern museums. There may even have been some demand for Scottish pistols abroad. This is suggested by two entries in the account book of David Wedderburn, a Dundee merchant. In 1597 he had a pair of 'pistollattis' costing £12 to be sent to England or anywhere else where a good profit could be obtained on them and in 1608 he sent four other pistols to be sold in Spain.¹⁵² Perhaps if similar

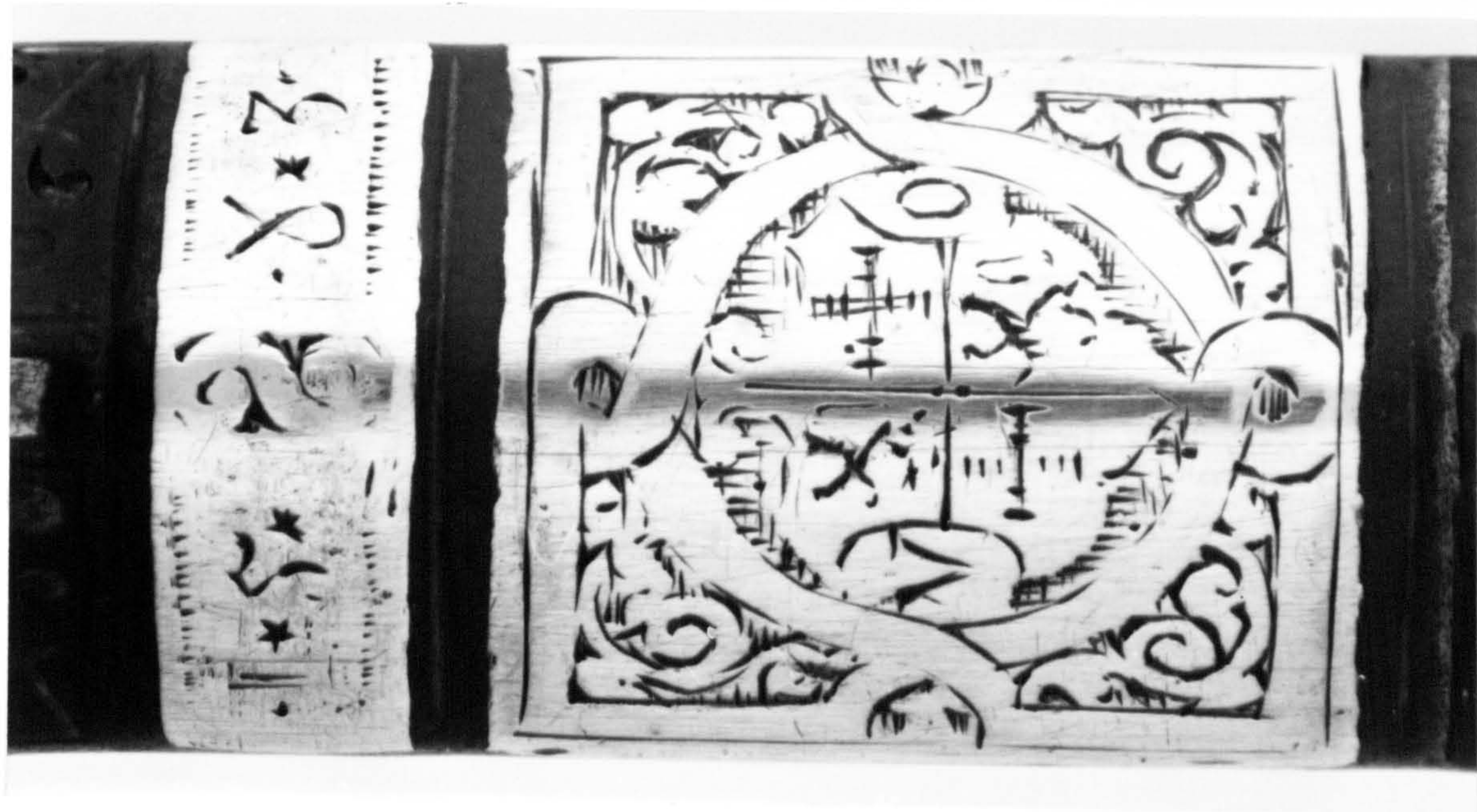
152. Wedderburne of Dundee's Compt Buik 1587-1630, (Scot. Hist. Soc., 1898), p. xxxii, 87.

account books of other contemporary Scottish merchants survived such cases could be considerably multiplied. On 22 August 1589 Sir Arthur Throgmorton, an Elizabethan courtier, noted in his diary that he had paid £3 for two cases of Scottish pistols.¹⁵³

LONG GUNS

There is a small group of early Scottish gun barrels, most of which are richly decorated in a style already distinctively Scottish. Unfortunately there is no evidence for how any of them were mounted. The earliest is a small barrel inlaid in copper all over its top surfaces with a delicate leaf-scroll design. It has inset silver panels as well, vī one bearing the date 1583 and another the arms and initials of Sir Walter Ogilvie of Deskford and Findlater, Lord Chancellor of Scotland. The next in terms of date is a barrel in the Historical Museum in Moscow with the arms and name of David, eleventh Earl of Crawford and the date 1585. It is inlaid in silver with a running series of plant motifs including flower-heads. A barrel dated 1589 in an American private collection has some inlaid silver plant designs not dissimilar in character but also includes geometric designs and a(?) Virgin and Child. There is an inscription on this barrel but it has not been read. Finally there is an undated barrel in the Musée de l'Armée in Paris inlaid in copper and silver. The length of the barrel is covered with strapwork containing foliage designs, thistles, a pot of lilies, (?) Adam and Eve with tree and serpent, the initials and arms of George Earl of Huntly and a monogram consisting of his initials conjoined with those of his wife, Henrietta Stewart. Since he married her in 1586 and was created

153. Quoted by Eaves, 'Some Notes on the Pistol', 333.



Gun barrel, DEL I583

Marquess of Huntly in 1599 the gun is likely to date to between those years.¹⁵⁴

It is not just the Scottish associations of these guns but details of their design and the technique of metal inlay which make it almost certain that all were Scottish produced. The only clues as to the actual place any of them were manufactured are that the earliest of them, the gun belonging to Sir Walter Ogilvie, has DEL stamped beneath it at the breech. What this stands for is not known. The Earl of Huntly's gun barrel with the pot of lilies on it might well be a product of Dundee since this motif appears on the coat-of-arms of that town and also on the 'Breadalbane Gun' of 1599 (see below) which is known to have been made there.

The work of inlaying the barrels with other metals may have been the work of specialist damaskers, at least in Edinburgh, where there was a small group of them in the late sixteenth century, starting with Hew Vaus, at least from 1583.¹⁵⁵ They seem to have specialised in doing work on weapons, swords and daggers being specifically mentioned.¹⁵⁶ There is no documentary evidence for damaskers elsewhere in Scotland at this time. This decorative technique of inlaying metal with metal was a favourite of Scottish gunsmiths later in the seventeenth and eighteenth century, but many worked in small towns like Doune, Elgin, Brechin, Old Meldrum and Edzell where they were unlikely to be affected by 'closed shop' practices.

In 1979 the so-called Breadalbane Gun, now thought to be the oldest complete Scottish long gun, was acquired by the National Museum of Antiquities of Scotland. The gun is dated 1599 on its barrel, and its

VII

154. Scots Peerage, iv, 541-4.

155. EBA Register of Extents, i, 28 June 1583.

156. Whitelaw, Scottish Arms Makers, sub voce John Bruce, John Carwood and Hew Vaus.



The Breadalbane Gun

existence, though not its importance, has been generally known by students of Scottish weapons since rubbings of the decoration on its barrel were featured in Whitelaw's 1923 treatise on Scottish firearms.¹⁵⁷ Whitelaw, however, was of the opinion that the gun's lock was a later replacement and misdrew the maker's mark, thus failing to appreciate that the maker is most likely to have been Patrick Ramsay of Dundee. Later writers¹⁵⁸ seem to have assumed that only the barrel was as early as 1599 and no further attempts were made to identify the maker's mark correctly.

The gun has an overall length of 2.083m and the barrel is 1.701m long with a bore of 22mm. It must have been used with a support when being fired but was probably not just a 'wall gun' (for defending fortifications) as previously described.¹⁵⁹ The stock is slightly curved and fluted, fairly thin, and bellied on the underside in front of the trigger. This fluting is a typical feature of early Scottish long guns, and unique to them. There is a deep thumb-notch behind the breech and it is shod with iron at the butt. The wood is dark brown, apparently brazil wood, found on other Scottish firearms at this time, particularly those manufactured in Dundee. Dundee was an important centre of textile manufacturing and brazil wood was imported for use as a red dye, via the Low Countries.¹⁶⁰

The lock is an example of the Scottish snaphance mechanism. A point of special interest is that the bottom edge of the lock-plate follows the bellied outline of the stock. The fence for the pan is hexagonal and is engraved 640, presumably once the date 1640. The trigger, unlike most surviving early Scottish guns and pistols, is provided with a guard, the terminal of which is cut and engraved as an animal head.

157. Jackson & Whitelaw, European Hand Firearms, 61, fig. A.

158. Blair, 'Scottish Firearms', 68.

159. Jackson & Whitelaw, European Hand Firearms, 59.

160. Wedderburn's Compt Buik, 210, 220, etc. NB how the Laird of Ardkinglas' hagbut, used to murder the Laird of Cawdor in 1594, is described as 'reid stokit' - i.e. brazil wood? (Warrender Papers, ii, 248).

The barrel is octagonal and has an unusually elaborate muzzle consisting of four members, more like a column base in overall effect than a capital engraved with geometric foliage and flowers. There is also a small button sight. There are three raised and chiselled panels along the barrel. Firstly, a strapwork design incorporating the initials S/DC for Sir Duncan Campbell, seventh Laird of Glenorchy, a rectangular panel with Sir Duncan's arms, initials and motto FOLLOW ME; and at the breech a floral design incorporating a pot of lilies and the date 1599. The raised comb at the breech is overlaid with a brass band engraved with a band of guilloche. It is hinged so that different types of peep sights can be dropped into place for use in different lighting conditions. Ramsay's mark is stamped thrice on little brass plates inset into the barrel and consists of a spread eagle - a prominent feature of the arms of the various branches of the Ramsay family - with a crown above and a P and R on either side.

The (1)640 on the lock is no doubt the main reason why the gun was thought to be a work of more than one period but the lock itself looks earlier than this. The hexagonal form of the fence is an early feature which is not otherwise found on a Scottish firearm dated later than 1630, by which time circular fences were more normal. The lock has evidently been made to go with the stock of the gun as it follows its profile carefully - nor is there any evidence internally that it is a replacement. Only the main spring and jaw pin are obvious substitutes, perhaps put on when the gun was restored in 1640.

The stock also looks earlier than 1640. The slight bellying on its underside cannot be matched on any other Scottish long guns but it is a feature which occurs on a pair of pistols signed IH (? James Hart, Canongate) 1615, and more pronouncedly on a late sixteenth century English long gun in Stockholm. It also has a deep thumb notch, as another English

gun of the same date, also in Stockholm, which belonged to a Scotsman, James Spens. The almost straight outline and long flutes of the Breadalbane gun contrast markedly with the curvaceous stocks, butts set at an obtuse angle with the barrel and flutes stopped well short of the butt, of mid- to late seventeenth-century Scottish long guns. None of this proves that the Breadalbane gun is substantially a work of 1599, not just the barrel, but in the writer's opinion this is much more likely than that lock, stock and barrel were only brought together in 1640.

It is interesting to note that the gun can be recognised in early inventories of the Lairds of Glenorchy. It appears to be the gun described in a 1600 inventory of Balloch Castle as a 'gilt pece' (no traces of gilding can be seen now) 'with the Lardis armes that come out of Dundie stockit with brissell'. It is again listed in an inventory of 1605 as 'ane lang hagbut that wes maid in Dundie with the Lairdis armes of snap wark' and in an inventory of 1640 as 'ane uther great long musket with the Lairds airmes gravin thairon'.¹⁶¹

This gun remained together with several other weapons belonging to the Campbells of Glenorchy and Earls of Breadalbane until dispersed at auction in 1917. The only other gun from the collection which has been traced is the gun in Glasgow Art Gallery and Museum, previously mentioned, with an early barrel originally fitted for a matchlock. It was restocked about 1640 and provided with a snaphance lock signed HD (? Hew Duncan, Canongate). Two other long guns from the same collection, the present whereabouts of which is unknown, are listed in Appendix D.¹⁶²

Of note amongst the other early Scottish long guns are two apparently by Dundee gunsmiths. The earlier is dated 1614 and signed RA (? Robert

161. Taymouth Bk, 337, 343, 348.

162. Only one other weapon from the collection has been traced: a two-handed 16th century Scottish sword, now in Glasgow Art Gallery & Museum.

Alison) on lock and barrel. Its brazil wood stock is not markedly different in outline from the Breadalbane Gun's, except that it is slightly narrower and longer in proportion. It is not fluted but inlaid with silver thistles, roses, nails and stars. The barrel is of steel, partly engraved with gilt strapwork and roses, but the lock-plate is of brass, originally gilt all over, and it is provided with a trigger guard. It has been called the birding piece of Prince Charles (Charles I) but in fact belonged to Louis XIII of France.¹⁶³ The second gun is signed AP (? Andrew Philp, Dundee) on its brass lock-plate and dated 1635 on its fence. The brazil wood stock is similarly shaped to the last gun, but is cut with long flutes and inlaid with a charmingly naive silver hunting scene with men on horseback, dogs, fish and other animals. It has a trigger guard, and the steel barrel has brass and silver engraved plaques, and a flared octagonal muzzle with a brass sleeve. Two remarkable all-brass sporting guns will be described below since in many ways they relate more closely with contemporary pistols.

PISTOLS

Early Scottish pistols with snaphance locks were invariably made in pairs with right and left hand locks and sometimes a cast-off is discernible in the stocks as an aid to accuracy in firing them. They have been divided into two main types, those with fishtail and those with lemon or globular IX, XI butts, and both varieties, furthermore, have either wooden or metal stocks. These names are recent inventions, there being no known contemporary descriptions distinguishing the two. Most have dates which can reasonably be taken as their year of manufacture at the breech of the barrel and/or on

163. C.J. ffoulkes, Inventory of the Armouries of the Tower of London, vol. 2 (Ldonon, 1915), 340; Lenk, The Flintlock, 16-18, 171.



Long Gun, RA I6I4, and Brass Gun, IL I624

the fence of the powder-pan, and a maker's mark, typically consisting of two letters, on the lock-plate and occasionally the barrel. It has been possible in many cases to make a plausible guess as to the identity of these gunmakers. The pistols are always provided with belt-hooks but never with trigger-guards - which says something for the character of the Scots! The barrels normally only have a calibre of about 10 or 11mm, small even by contemporary standards, but in later ones especially the bores are of larger size. 'Thistle shaped' muzzles are normal, often with a small button fore-sight, and the raised flange at the breech is invariably cut with a V-notch sight.

EARLY PISTOLS MADE IN EDINBURGH AND CANONGATE?

The Scottish style of pistol decoration is already clearly recognisable on the earliest dated pair of Scottish pistols, preserved in Dresden. They are marked IK 1598 and ascribed to John Kennedy of Edinburgh. In the first place they have the typical Scottish trilobate form of fishtail butted stocks, in this case of walnut,¹⁶⁴ only in these pistols without metal reinforcing mounts. Fishtail-like butts are characteristic of many north European pistols of the late sixteenth and early seventeenth century. Many have a simple broad tail, others have bifurcated ends like a pair of German pistols of c. 1600 in the Tøjhus Museum, Copenhagen (B286/87), but only Scottish pistols have this trilobate form which must be seen as a Scottish

164. The description of the wood of which the stocks of Scottish firearms are made has presented a great problem to the writer. It seems it has only been done carelessly or inconsistently in the past. For obvious reasons it has not been possible to carry out any scientific analysis of the wood. In the case of this pair of pistols by IK 1598 the writer arrived at his conclusion that they had walnut stocks by comparison with samples of veneer. No other Scottish firearms considered in this work have stocks made of wood remotely similar in appearance. It has been assumed that the deep red, brittle, wood, especially used on guns and pistols made in Dundee, is brazil wood. All other woods are described as fruit wood. John Knox, Brechin (see Appendix E), was less probably their maker.

development. An attempt has been made recently by Boothroyd to derive them from a German prototype, in particular a South German wheel-lock pistol dated 1590 in the Staatliche Kunstsammlungen, Dresden, in which the butt is in outline like a bifurcated fishtail but is carved as a bird's head. Some Scottish wooden-stocked fishtail pistols have little animal heads - of which more later - engraved on the bottom-most flukes of their butts, which Boothroyd identifies as birds' heads, and links, therefore, with the wheel-lock pistol in Dresden.¹⁶⁵ In the present writer's opinion, however, the identification of the Scottish engravings as birds' heads can not be pressed too strongly and the dissimilarities of the German pistol to the Scottish are very much more marked than the similarities. On the evidence of butt forms alone it would seem hazardous to point to any one particular influence rather than any other.

The barrels already have the typical thistle like muzzles, raised breeches and decorative bands. The iron lock-plates have a kink in their lower edge, just where the maker's mark is stamped. The decoration is restricted to bands on the muzzle section of the barrels and to the moving parts and buffer on the lock-plate. It consists of engraved and gilt foliage, some of the forms reserved against an incised background, but the most striking and refined foliate patterns are formed of the incised surfaces themselves - positive, rather than negative patterns.

Whitelaw, followed by others, considered the nature of the decoration on these pistols and the others to be 'Celtic',¹⁶⁶ but in general character it can best be considered as a variant of contemporary European decorative art. Such 'mannerist' decoration made its appearance in Scotland in the royal palaces being built or reconstructed by James V in the 1530s and

165. G. Boothroyd, 'The Birth of the Scottish Pistol', Scottish Weapons And Fortifications, ed. D.H. Caldwell (Edinburgh, publication forthcoming), 315-16.

166. Jackson & Whitelaw, European Hand Firearms, 57.

early 1540s, notably at Falkland and Stirling and remained popular in Scotland well into the seventeenth century, as is witnessed especially by painted ceilings, book bindings and other metalwork, particularly silver.¹⁶⁷

The 1598 pair of pistols have certain features about them which link them most closely to a group of pistols which can all be ascribed to Edinburgh or Canongate dagmakers. They include a pair of fishtail pistols signed AM (? Alexander Muir, Edinburgh) 1611; a pair of fishtail pistols signed IH (? for John Hadden, Edinburgh or more probably James Hart, Canongate) 1615; a lemon butt pistol signed RM (? Robert Mosman, Canongate) 1625; a pair of lemon butt pistols signed RM 1630; and another (XI) similar by the same maker of about the same date; a pair of lemon butt pistols signed PH (? Patrick Hamilton, Canongate), c. 1630 and a fishtail pistol signed MM (? Mungo Mosman, Canongate), 1645.

All of these have fruit wood stocks, except the IH 1615 pair which appear to be stocked with brazil wood. Only one early pistol can with good reason be assigned to Edinburgh or Canongate which has not got a wooden stock. It has a brass one with lemon butt, the lock-plate being signed MM and dated 1631. The lock-plates of most of these pistols have a kink at the bottom. This is also to be seen on the lock with which the early gun barrel from the armoury of the Lairds of Glenorchy is mounted. It is signed HD (for Hew Duncan, Canongate?) and dates to c. 1640. Engraving with positive rather than negative designs occurs on the pistols by IH 1615, RM 1625 and RM c. 1630.

The fishtail pistols by IH 1615 are almost unique amongst surviving Scottish pistols in having a bifurcated form of butt rather than a trilobate one. These butts are capped with silver mounts which are engraved with

167. For a general survey of these see M.R. Apted, The Painted Ceilings of Scotland; W.S. Mitchell, A History of Scottish Bookbinding 1432 to 1650 (Aberdeen 1955); and I Finlay, Scottish Gold and Silver Work (London, 1956).

hunting scenes. Both pistols used to be in the Dresden Rustkammer, and bear the arms and initials of Wilhelm Duke of Kurland. The barrels are rifled, being a very early example of this. In Fact there appears to be only one earlier surviving example of rifled pistols, a pair of wheel-locks dated 1594 by Zacharias Herold of Dresden. An account of how to make rifled pistols is contained in Sir Hugh Platte's Jewell House of Art and Nature, published in London in 1594.¹⁶⁸ Each pistol also has a step, rather than a kink on the bottom edge of its lock-plate which matches up with a slight swelling on the underside of the stock. The steel belt hooks are pierced and have ring-shaped terminals.

Although the Scottish characteristics of this pair of pistols have long been recognised the pistols are sufficiently different from most other early Scottish firearms to cause some unease amongst weapons experts as to their true provenance. In 1947 Granscay expressed the opinion - despite ample evidence to the contrary - that they could not be of Scottish workmanship since there could have been no Scottish craftsmen capable of the engraving on the silver butt plates.¹⁶⁹ Hayward accepted the locks and barrels as Scottish but suggested that they had either been stocked in England or re-stocked in Germany.¹⁷⁰ More recently Eaves has made a study of them in the context of contemporary English pistols but seems unable to have come to any firm conclusions as to whether they are entirely Scottish or only Scottish in the locks and barrels.¹⁷¹

Granscay seems to be very much in a minority in rejecting a Scottish origin for even the locks and barrels. These are so similar to all other undoubted Scottish examples described here that we need argue their Scottish origin no further. The overall appearance of the pistols is

168. Eaves, 'Further Notes on the Pistol in Early 17th Century England', 317.
169. S.V. Granscay, 'Scottish Pistols in the Metropolitan Museum', American Rifleman (Nov. 1947), 18-20.

170. Hayward, The Art of the Gunmaker, i, 223.

171. Eaves, 'Further Notes on the Pistol', 316-20.

undoubtedly different from the conventional image of a Scottish fishtail pistol but as we shall argue below, the conventional image is of a fishtail pistol manufactured in Dundee whereas these pistols may reasonably be claimed as the work of an Edinburgh or Canongate craftsman. It is thus possible that we see in them an example of a style practised by gunmakers in these neighbouring burghs, a style which is not now well represented, not just by the accident of survival but because it gave way to the more acceptable products of the gunmakers of Dundee.

The form of the locks and their engraving fits in well with the other early firearms which can be attributed to Edinburgh and Canongate. The engraving on the silver butts, however, is different. With its bold but sketchy lines reinforced with hatching it is reminiscent of contemporary wood-cuts. The butts are likely to be the work of a local goldsmith and it is perhaps significant in this respect that they are the only metal mounts on the pistols which have not been finished by gilding.

There are three other Scottish, or possibly Scottish, pistols with bifurcated tails, including a pair by IA (? James Alison, Dundee) and a restocked pistol in Copenhagen variously described as Scottish, Dutch or German, all described more fully below. Bi-lobate butts, with one fluke curled inwards, occur on two early seventeenth-century English pistols in the Palazzo Ducale, Venice, dated to c. 1610-15.¹⁷² They are both plain, military type weapons. Other pistols with bifurcated tails are depicted in eighteenth-century engravings of Highlanders, for instance, two of c. 1743 by Van Der Gucht¹⁷³ which seem generally to be quite accurate. They, like the English pistols in Venice, are presumably poorer quality weapons of a military character, none of which have survived but which may

172. Eaves, 'Some Notes on the Pistol', pl. LVIII-LIX.

173. J.T. Dunbar, History of Highland Dress (Edinburgh & London, 1962), pl. 42.

have been quite common. The IH 1615 pistols are thus not an aberrant form but a rare 'up-market' survival of a style of pistol made in Scotland and England in the early seventeenth century, and, more particularly, a good example of the style of gunmaking developed in Edinburgh and Canongate.

There is one other early pistol which might possibly be the work of an Edinburgh or Canongate craftsman, or of another Scottish town other than Dundee. It is a pistol in the Tøjhus Museum in Copenhagen. Unfortunately, it has like other arms in the Danish Royal collection been restocked about 1835, but there is reason to think that the new stock^a would be/ reasonably accurate copy of the original. In any case it is a fishtail stock with bifurcated tail not unlike that on the IH 1615 pistols. The underside of the stock has a pronounced belly and the bottom of the lock-plate is stepped to match. The barrel and lock are of iron and there is a trigger guard, not necessarily original. The fence on the powder pan is fluted like a scallop shell. The cock is taller and narrower than on other Scottish examples but has the normal Scottish segmental shaped jaws and tightening arrangement of pin and nut. The ends of the lock-plate are plain and rectangular.

Torsten Lenk seems to have considered that this was a Scottish weapon of c. 1620 while noting its connections with the Netherlands: 'The neck of the cock is only slightly curved, and what is more, the shoulder of the cock and the steel spring have the turned detailed typical of the Netherlands snaphances. They are not unusual on West European wheel-locks.¹⁷⁴ He might also have added that scallop-shell fences are typical of Netherlandish firearms of the early seventeenth century and only also Russian ones which owe so much to them. Lenk also thought that the butt, supposing that in

174. Lenk, The Flinklock, 20.

its present form it could be used as evidence, has very much in common with Scottish fishtail pistols, and also with the butt of the pistol in the 1594 portrait of Captain Thomas Lee now on loan to the Tate Gallery, London. This butt, however, is not bifurcated, ending in a straight line and has been convincingly identified as an English pistol.¹⁷⁵

Eaves also noted the similarity of the stock on the Tøjhus Museum pistol to that in the Lee portrait and considered the engraving of the lock to be similar to that on a number of sixteenth-century English firearms. He nevertheless concluded that owing to the form of the lockplate and the scallop-shaped fence that it was likely to be Dutch. He dated it c. 1600.¹⁷⁶

Hoff thought that the engraving on the body of the cock and on the arm of the steel had no trace of 'the Celtic ornament always found on Scottish locks', and that the turned finials of the buffer and the steel spring were also very Continental. He considered that the engraved decoration on the barrel, consisting of chiselled points ending in shallow circular pits, was a typical German decoration reminiscent of the Gothic. This together with the plump and almost square lock-plate suggested to him a German rather than a Dutch origin and he dated it to very early in the seventeenth century.¹⁷⁷

It is obvious from the foregoing opinions that there has been considerable doubt over the origin of the pistol. Lenk's date of 1620 for it is undoubtedly on the late side and it seems more reasonable to follow Eaves and Hoff and date it c. 1600. Lenk's supposition, however, that it is Scottish is not so very unreasonable and the following points can be advanced in favour of this. The belly on the underside of the stock and

175. J.F. Hayward, 'English Firearms of the 16th Century', Journ Arms & Armour, iii (1959-61), 120, pl. XXXIII.

176. Eaves, 'Some Notes on the Pistol', 327.

177. A. Hoff, 'Scottish Pistols in Scandinavian Collections', Journ Arms & Armour Soc, i (1953-5), 208-11; Dutch Firearms, 65-66.

the stepped outline of the lock-plate are matched on the IH 1615 pistol, while the pin and nut attachment on the jaws of the cock is a feature not encountered on any non-Scottish snaphances. The shape of the jaws themselves is typically Scottish, other early snaphances having wedge-shaped jaws, and the long armed steel curving gracefully at the neck contrasts with the long necks and almost right angle bends of steels on foreign snaphances. Only a very finely decorated petronel dated 1584, in the National Museum, Copenhagen, has jaws and steel of this typical Scottish shape. The decoration, on the lock-plate of the Copenhagen pistol is not so markedly different from other Scottish engraving as Dr. Hoff implies, and, of course, like the decoration on all Scottish firearms, could hardly be said to bear traces of 'Celtic' ornament. This is a misunderstanding which goes back to Charles Whitelaw. The barrel on the Copenhagen pistol is not of a particularly distinctive pattern but it can be compared in Scotland with the silver guns of Kirkcudbright and Dumfries, dated 1587 and 1598 respectively. Although these are fitted with tubular sights like those much used on contemporary long guns their proportions are those of pistol barrels.

The place of manufacture of this pistol must still remain in doubt but it is only right to re-stress its Scottish features, especially since, as we would argue, there is no need to assume that all Scottish firearms conformed in style to those recognised as being made in Dundee. There is no body of contemporary Dutch snaphance pistols to compare it with and in the author's opinion an origin for it elsewhere on the Continent at present seems less likely. Only in two features of its lock does it bear comparison with the earliest English snaphance known but in so many other ways it is so very different from it and all later English firearms. In rather more detail it bears comparison with Scottish firearms and may tentatively be regarded as an early example of one.

Possibly the earliest surviving Scottish pistols are an undated pair or John in the Real Armeria, Madrid, signed IA (? James/Alison, Dundee) on the lock-plates. The barrels are of steel and etched with strapwork designs incorporating foliage. They are stamped with a flagon, the mark of Anton Krug of Augsburg and are probably now shorter than they were originally intended. The stocks are of wood with bifurcated fishtails, one much damaged. There are no metal mounts on the stocks. They have belt-hooks and baluster triggers without guards, and the locks, right and left handed are of Scottish snaphance form. That they are earlier in date than other Scottish pistols is suggested by the simple bold outlines of the positive engraving on the locks. Also the fences are pentagonal in shape like the gable end of a house, which is possibly an early feature. A date of c. 1580-90 might be ventured for them.

They were described but not illustrated in the 1898 catalogue of the Real Armeria with no comment on their possible place of origin,¹⁷⁸ and more recently they have been remarked upon by Eaves. He concluded that the locks were Scottish, though of unusual type but that the stocks were not, but possibly copies or originals made in England. He also reckoned that the barrels were replacements.¹⁷⁹

In the present writer's opinion there is no mistaking the Scottishness of the locks of these pistols, nor any reason to doubt that the form of the stocks is Scottish as well. There is no good reason to think that they might have been remounted in England. Given that fishtail butts of similar form occur on both English and Scottish firearms it is more reasonable to consider them as Scottish. On the other hand the locks, barrels and stocks

178. Catalogo historico-descriptivo de la Real Armeria de Madrid (Madrid, 1898), 334-5 (K.215-K.216).

179. Eaves, 'Notes on the Pistol', 331-2.

seem to fit together neatly despite the fact that the barrels are not Scottish, which inevitably suggests that the stocks might have been replaced or remodelled when the original Scottish barrels were replaced by these German ones. An alternative explanation worthy of very serious attention is that these are the original barrels and that the pistols are substantially as manufactured. In other words that a gunmaker in Dundee in the late sixteenth century was using imported barrels rather than manufacturing his own. Their strapwork decoration, which is characteristic of South German firearms of the second half of the sixteenth century, is reminiscent of the strapwork on later Scottish barrels and indeed could well be the prototype.¹⁸⁰

The earliest dated pistols which can be attributed to a Dundee gunsmith are a pair of wooden stocked fishtails in the Tøjhus Museum, Copenhagen, marked IL (? James Low) and dated 1602. They have the typical Scottish trilobate form of butt mounted in silver. The barrels are of iron with thistle-shaped muzzles and raised breeches, and they are decorated with panels of chiselled and gilt foliage and flowers. The undecorated portions are blued. The lock-plates are of brass but all the other metal fittings are of iron except for the bands and panels inlaid in the stocks which are of silver and brass. The stocks are of brazil wood. Barrels and lock-plates are marked with the IL stamp.

The engraved decoration is not dissimilar to that on the pistols previously described, and there are even elements of positive design, particularly in the engraving on the steels and the silver butt caps. A notable feature of the decoration on the latter are the little animal heads on the bottom-most flukes. These occur on other wooden-stocked

180. Cf. the South German firearms illustrated by H. Schedulmann, Die Grossen Buchenmacher (Braunschweig, 1972), 3-64, in particular the barrel of the wheel-lock long gun dated 1583, signed HHHH, in the Vienna Waffensammlung (abb. 70).



Pair of fishtail butt pistols, IL I602, Tøhusmuseet, Copenhagen

fishtail pistols which are thought to have been made in Dundee: RA

(? Robert Alison), 1615; RA 1618; and CA (? Charles Alison), 1619.¹⁸¹

X

The heads are stippled and are reminiscent of the spotted animals which occur in Highland Art over a long period of time. The writer would suggest that these animal heads are one of the more tangible cases of influence from that quarter in Lowland decoration. To a certain extent the motifs of the two regions converged at this time. Both areas used leafy scroll work, though in the case of the Highlands this was a very late survival of Gothic and Romanesque forms. The interlace designs of the Highlands are in some cases superficially similar to Renaissance inspired guilloche or plaited-and strap-work, and it has been suggested that the craftsmen of the Highlanders - and the native Irish of this period - consciously revived such decorative devices as a result of the stimulus provided by vaguely comparable designs evolved in the rest of Europe.¹⁸² The animal heads on the pistols conform closely in shape to the outline of the space to be filled, a feature typical of Highland animals, and the stippling is composed of groups of two dashes, side by side. This form is most closely matched in the animals on the silver mount of Rory Mor's horn at Dunvegan Castle in Skye, dating to c. 1600.¹⁸³ The spots on later brass brooches tend to take the form of individually placed stab marks as on several brooches of the second half of the seventeenth century in the National Museum, Edinburgh.¹⁸⁴

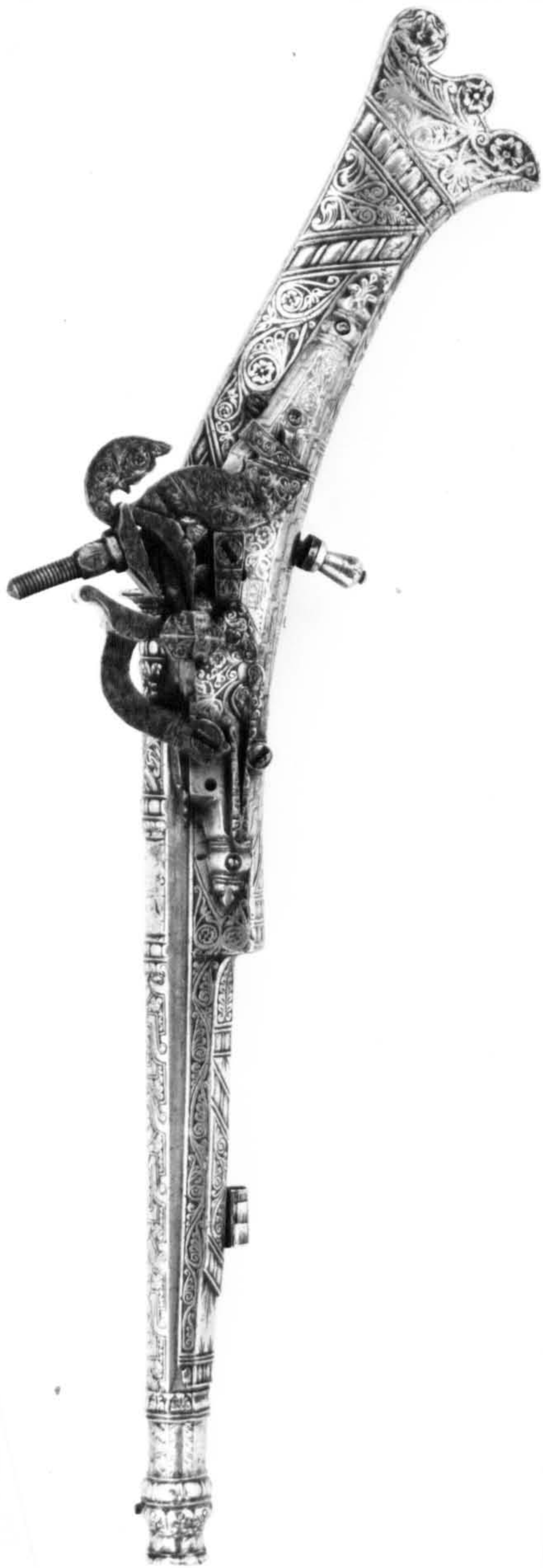
The remains of one other pair of pistols bear close comparison with the wooden stocked fishtails of 1602 in Copenhagen. All that survives is a barrel, the tip of a ramrod and a ramrod pipe, all remounted in a

181. Charles Alison is not included in Whitelaw, Scottish Arms Makers, but he was deacon of the hammermen in 1622 (NMAS photos of Dundee Hammermen Lockit Book).

182. E. Rynne, 'Three Irish Knife Daggers', Roy. Soc. Antiq. Ire., I (1969), 142.

183. R.C. MacLeod, The Book of Dunvegan, 2nd vol. (The Third Spalding Club, 1939), figs. 10-12.

184. For instance, D.H. Caldwell, 'Highland Art', Scottish Field (Dec, 1979), 97.



Fishtail butt pistol, IL I6II, and another, RA I6I8

modern stock with a German wheel-lock. The barrel has a stamp with RL (for Richard Low of Dundee?) and panels of gilt decoration including a crowned IR, presumably for James VI. The long tang on the barrel indicates it must have had a wooden stock originally.

The next pair of pistols which can be assigned to a Dundee gunsmith are amongst the finest weapons ever produced in Scotland and represent what we propose to call the Dundee style at its best. The pistols in question are a pair of fishtails signed IL 1611 and made totally of brass (except for the moving parts on the locks). The substitution of a wooden stock by one all of brass is perhaps not very surprising. The design of wooden-stocked fishtail pistols is peculiarly weak, the slender stock being extensively cut out to accommodate the barrel and lock, and is even further weakened by the pin holes securing the various applied metal plates and long barrel tang. What is more, the all metal finish meant that the production of pistols could be limited to hammermen alone, and probably meant that pistols were produced in toto in the one workshop. The brass stocks of the IL 1611 pistols, like all later fishtails are made in two pieces of beaten metal. The first was formed into the fore-stock and was riveted to the rest on either side where the stock deepens to form a sleeve for the ramrod. The main part of the stock was presumably hammered round a model and then braised along the bottom edge of the side with the lock.

The brass barrels have been cast and rebores, presumably using similar techniques to those employed in making artillery. Their sides have been filed down flat to lie snugly in their stocks. The breeches are closed with screwed-in plugs. On the underside of each barrel there is a hook which slots into a hole in the fore-stock and a stud at the breech is held firmly under the top of the stock.

The stocks are boldly engraved all over with leafy-scroll work and flowers. Flower-heads, leaves and stems are reserved against a deeply cut

background and detail delicately filled in with neatly incised lines.

The lock-plates and lock mechanisms are decorated all over and also the barrels where the leaves and flowers, etc, are contained within a frame of strapwork. At the breech of each barrel a space is left for the date, and further along for a coat-of-arms or the owner's initials. In this case there are the arms and title of Louis XIII of France and Navarre, a noted collected^{or} of firearms.

On the basis of the IL mark on the lock-plates of this pair of pistols they have been attributed to James Low of Dundee, gunmaker, admitted burgess in 1593.¹⁸⁵ He is the only gunmaker known at this time with the appropriate initials, apart from John Learmonth, gunmaker in St. Andrews, admitted freeman in 1593.¹⁸⁶ All the firearms with an IL mark bear marked similarities in design not only to each other but to other firearms thought to have been manufactured in Dundee, and a veritable tradition has grown up amongst students of firearms of assuming that they are all the work of James Low. The present writer proposes to follow this tradition, at the same time cautiously noting that there is no reason for assuming that St. Andrews, not so very far from Dundee, did not contain gunmakers capable of making fine firearms. After all, one of Learmonth's colleagues, Harry Smith, was in 1598 appointed 'armorior to his majestie anent the making and mending of his hienes hagbuttis, pistollettis, arce and pellok bowis and other yrne waponis alsweill for defence as plesour, thair pertinentis and furnitour'.¹⁸⁷

The IL stamp on these pistols is in fact different from that on the 1602 pistols in Copenhagen and there appear to be at least four different IL marks in all. Any active craftsman was likely to wear out or break more than one

185. Whitelaw, Scottish Arms Makers, 50.

186. Ibid., 280.

187. SRO PSI/70, fo. 187.

punch in a lifetime, but in the case of the IL ones it can be deduced that there were at least two in operation an any one time from 1611 to 1627. A possible explanation is that we are dealing with the output of a father and son. The James Low listed as a lockmaker in 1587 was the father of James Low the gunmaker admitted in 1593 and also Richard and William, both gunmakers, but he could not have been responsible for making any of the pistols as he was dead by the latter year. There were at least two other Dundee burgesses called James Low at the beginning of the seventeenth century but one was a merchant and the other a brewer.¹⁸⁸

Fourteen pairs of pistols and one long gun marked IL are represented by surviving pieces as follows:

mark 1	mark 2	mark 3	mark 4	<u>XXIV</u>
(Støckel no 3438) ¹⁸⁹	(Støckel no 3439)	(Støckel no 3440)		
1602	1611	1620	16(2)1	
1614	1613	1624	1624	
1619	1617	1627	1624	
	1618	1634	1629	

Mark 4 is very obviously different from the others by having a small six-pointed star between the initials, otherwise it is not unlike mark 1. As for the weapons themselves it is difficult to distinguish differences in style which might be the result of different hands. Those with mark 2 and mark 3 include the best decorated pieces with fine fluid foliage and flowers. Apart from the pistols belonging to Louis XIII a pair of wooden stocked lemon butt pistols dated 1618 in Leningrad and an all-brass long gun of 1624 in Edinburgh are notable. A brass fishtail pistol dated 1620 with mark 3 on its lock is of interest since its barrel is marked AP (? Andrew Philp, Dundee). If, as seems likely, lock, stock and barrel belong

188. NMAS Whitelaw MSS Extracts from Dundee Burgess Roll; Whitelaw, Scottish Arms Makers, 50; S. Maxwell, 'A brass sporting gun dated 1624', Proc. Soc. Antiq. Scot., cvi (1974-5), 217.

189. J.F. Støckel, Haandskydevaadens Bedømmelse (Copenhagen, 1938, 1943). Also new German edn, ed. E. Heer (Grandson, 1978, 1979-).

together, this must be seen as evidence for collaboration between different workshops. These firearms signed IL form the largest group assignable to one - or two - workshops. Most other early gunsmiths are now represented at most by one or two pieces.

All but one pair of pistols signed IL are of all metal construction. Wooden stocked pistols remained common but the all-metal finish became a characteristic of the native Scottish gunmaking industry from then until its lingering death in the nineteenth century. Brass barrels, all of the same form and with remarkably similar ornament, almost totally replaced iron barrels on pistols until the 1640s.

Alongside the pistols assigned to James Low can be placed others signed IA, RA and CA, probably for John, Robert and Charles Alison of Dundee. Count Axel Oxenstierna (1583-1654), the famous Swedish Chancellor, had a superb pair of globular butt pistols signed IA 1613. They are all of gilt brass with exceptionally long barrels and fine decoration. Wooden stocked fishtail pistols by RA and CA have inlaid brass thistles and roses in their grips, reflecting the popularity of the Union of the Crowns in 1603. There are also two separate pistols signed IG, probably for James Gray of Dundee, giving us twenty-five pairs of pistols out of fifty-six attributed to gunsmiths in Dundee.

Count Axel Oxenstierna's pistols of 1613 are the earliest Scottish ones with globular or lemon butts. The majority of European pistols of this and earlier date have large rounded butts or pommels of similar shape and as with fishtail butts, no close parallels can be made for the butts alone to any pistols from elsewhere. The stocks of globular butted pistols are rounded in section and taper slightly towards the butt which in all metal pistols is invariably formed of two cups braised together round the middle. All the globular butt pistols which may have been the work of Dundee gunsmiths are of all-metal construction, except the exceptionally fine pair with

brazil wood stocks, inlaid with silver and mother-of-pearl, and with gilt brass barrels and lock-plates, now in the Hermitage Museum in Leningrad. They are signed IL (mark 3) and dated 1618. Their pommels are more pointed or lemon-shaped in outline, in common with all wooden stocked pistols of this type. Other pistols by IL (mark 3) 1629 and (IL (mark 4) 1629 have globular brass pommels decoratively pierced.

In these fishtail and globular butt pistols assigned to Dundee makers, in particular to the workshop of James Low, it is possible to discern a distinctive - a Dundee - style. It is characterised by cast brass barrels and lock-plates decorated uniformly with foliage, flowers and strapwork, by all-brass stocks, the use of brazil wood and the inlaying of wood with metal plaques and nails. It is in fact the style generally identified with early Scottish pistols and on the evidence of the Louis XIII pistols was fully developed by 1611. Surviving pistols and their ownerships suggest that the style was much appreciated and it can be shown that it exerted a great influence on the Scottish pistols produced elsewhere.

It is noticeable how brass barrels only appear on pistols thought to be by Edinburgh or Canongate makers in 1625 - on a wooden stocked lemon butt pistol marked RM (? Robert Mosman, Canongate), 1625 - and it was about this xi time, as we mentioned above, that the Edinburgh dagmakers ceased to be associated with the lockmakers, who worked only in iron, and instead joined forces with the lorimers, their apprentices making brass buckles and two of their number being elected masters of the lorimers. Documentary evidence for the ability of Canongate dagmakers to cast in brass comes in a round about way from the fact that an apprentice coppersmith, Thomas Duncan, was appointed to prepare his essay piece, 'ane bonet and ane brasine bukili castine' in the booth of Frances Multray, dagmaker, in April 1628.¹⁹⁰ Multray must therefore have had facilities for casting brass.

190. EBA Canongate Hammermen Records, 26 April 1628.



Globular butt pistol, IG I627, and lemon butt pistol, RM I625

Brass barrels also appear on pistols signed RM 1630, MM 1631 (? Mungo Mosman, Canongate); IS 1633; AG 1634 (? Adam Gordon, Aberdeen); and AD (? Alexander Dunbar, Perth). There is really so little variation in the form of these barrels and their decoration that it is likely that many were made using one barrel as a model for the mould of another. The decoration, however, of Canongate brass barrels tends to be heavier and less intricate than the norm and there is sometimes an engraved thistle at the muzzle. It is probable that some gunsmiths bought in brass barrels and lock-plates from Dundee for assembly in their own pistols. Perhaps this was the case with David McBend of Glasgow who had 'aucht pair of Braisen reschis (barrels) of pistolles with their plaitts (lock-plates)' in his possession when he died in 1626.¹⁹¹

The only pistols which can be credited to an Aberdeen dagmaker are a brass fishtail dated 1622 and a pair of lemon butts dated 1634, all signed AG (? Adam Gordon). There are no distinctive features about the former which marks it out in any way from any of the other brass fishtail pistols. The pommels of the 1634 pair have a lenticular cross-section, a feature not seen on any others. A brass lemon butt pistol of c. 1630 with a conjoined AD may be the work of Alexander Dunbar of Perth.* The pommel is pierced in the manner of the globular butt pistols by IL 1629. The decoration is otherwise undistinguished and perhaps rather unsure. Another pair of all brass globular butt pistols dated 1633 and signed IS may be the work of another Perth craftsman, either John Smith senior or junior, or else of James or John Sinclair, Canongate, or John Stevenson, Canongate. The 'IS' is remarkable in that it is engraved and not stamped. The only other all-metal pistol of early seventeenth-century date which could be attributed to an Edinburgh or Canongate gunsmith is an all brass globular butt pistol

191. Whitelaw, Scottish Arms Makers, 300.

*Alternatively Alexander or Andrew Daw, Brechin (see Appendix E) might have been its maker.

signed MM (? Mungo Mosman, Canongate) 1631. A pair of wooden stocked lemon butt pistols signed PH (? Patrick Hamilton, Canongate) of about the same date also seem to be heavily influenced by the Dundee style in their use of decorative brass plaques and nails. The engraving - entirely negative in technique - is, however, surprisingly crude. An unsigned wooden stocked lemon butt pistol dated 1627 is remarkably similar and could come from the same workshop.

Only one early pistol can be assigned to a Glasgow maker and this attribution is perhaps more doubtful than most. It is a globular butt pistol of iron with a brass lock-plate signed IB, dateable to about 1630. It is possibly the work of John Barry who appears either as a smith or a lorimer in the Glasgow Burgh Records covering the years 1576 to 1578. One of his apprentices, John Hannay, was, however, trained as a snapmaker.¹⁹²

Finally there is a group of all brass fishtail pistols, representing three pairs, all dated 1613 and with a stamp on their lock-plates which in the past has been variously read as JO, JB, JS or VB.¹⁹³ It in fact consists of a crowned hammer, the symbol of the hammermen to the shaft of which are attached two letters, in the present writer's opinion best identified as a V and a D. There is a pair of globular butt pistols at Skokloster Castle in Sweden which have VD stamped in a cartouche on their lock-plates and 1633 engraved on their barrels and these may be the work of the same maker. Unfortunately it is not possible to suggest who he was. All that can be said is that the fishtail pistols are very close indeed to others assigned to James Low. The globular butts have pierced brass pommels and iron barrels. The fore parts of the stocks are of brass but the hind parts

192. Records of the City of Glasgow (Maitland Club, 1832), 63, 74, 77, 96.

193. Jackson & Whitelaw, European Hand Firearms, 99; A. Hoff, 'Scottish Pistols in Scandinavian Collections', Journ. Arms & Armour Soc., i (1955), 211, n. 6; Der Neue Stöckel, no. 8016.

are of iron. A dual metal stock like this is only to be found on one other pistol, unsigned, dating to about 1620.

Whatever the correctness of our attempts at identifying the makers and place of manufacture of the above pistols, all have features which link them with the Dundee style. This style appears earliest and in its most accomplished form on pistols attributable to James Low and John Alison of Dundee which suggests that the similarity of these other pistols thought to be made in Canongate, Aberdeen, Perth and Glasgow is the result of conscious copying of the firearms made in Dundee, or even the use of brass barrels and lock-plates made in that burgh.

Many of the brass barrels are about 300mm or less in length but some by Dundee gunsmiths are rather longer, over 400mm and as much as 590mm in the case of the pair of all brass pistols signed IA 1613 which belonged to Chancellor Oxenstierna. Although these have belt-hooks they may have been intended as holster pistols for use on horseback. It is unlikely that they were a direct response to the legislation requiring pistol barrels to be over an ell (37 inches = 0.94 m) long.¹⁹⁴

In two cases, the globular butts unscrew and extend on metal rods so that the pistols could be used like petronels. The best example is a fine pair of all brass pistols signed IL (mark 1) and dated 1614. Their length of 0.59m can be improved upon by extending their butts about 1.08mm. There are the much altered remains of what was probably a very similar pistol dating to the following year.

A Scottish brass barrel of early seventeenth century date is mounted in a wooden stock with an English lock probably dating to c. 1630. The stock ends in a flattened discoid pommel fitted with an iron bar which extends to form a 'skeleton' grip, held in place by a small catch. When

194. RPC, v, 437-8 (23 Jan. 1597/8).

folded it forms a trigger guard. A similar firearm is shown in the picture of an unknown man dated 1637 by an artist of the British School.¹⁹⁵

There survive two remarkable all brass sporting long guns which are considered here with the pistols since in technique of manufacture and decoration they are closer to them than the other long guns. One is signed IL (mark 3) and dated 1624. The original lock of the other has been VIII replaced in the eighteenth century by a flint-lock and there is no maker's stamp on the barrel, only a date, 161-. The fore-stock of both are made separately from the rest as on the pistols, and the stocks have a curving, paddle shape, in outline like that of the gun of 1635 attributed to Andrew Philp. In these guns, however, the ends of the stocks terminate in open-work butts, designed as (English) crowns which can be extended on ratchets to lengthen the stocks. The mechanism is not identical in both, the earlier extending on a single notched brass slide controlled by a button on the underside of the stock, the later having two slides operated by two spring catches. It is interesting to note that a similar butt extending arrangement (with one slide) occurs on an English (?) snaphance long gun of c. 1600 in the Livrustkammur in Stockholm, which belonged to a Scotsman, James Spens. The earlier gun has what appears to be an original trigger guard.

There is no doubting the similarity of the ornamentation on the IL 1624 gun to other IL pistols. It is particularly fine and fluid decoration of the same standard as is found on the fishtail pistols of 1611 which belonged to Louis XIII. Both William Reid and Stuart Maxwell in recent accounts of these two guns have suggested that the earlier of the two is the work of the same craftsman.¹⁹⁶ Its decoration, however, appears altogether crisper

195. This picture was presented for sale at Bonham's, London, in 1980. I am grateful to Mr A.V.B. Norman, Master of the Armouries, HM Tower of London, for information and sketches from it.

196. W. Reid, 'A Prince's Gun from Dundee', The Connoisseur, clxiii (1966), 148-50; S. Maxwell, 'A brass sporting gun dated 1624', Proc. Soc. Antiq. Scot., cvi (1974-5), 215-18.

and more open than on the 1624 gun, and the prominent use of large five-petalled flowers is not matched on earlier or later IL firearms. Possibly nearer in feeling is the decoration on Oxenstierna's 1613 pistols, attributed to John Alison of Dundee. Reid also suggested that the earlier of these two guns may have been made for a member of James VI and I's family, owing to the English-type crown on the butt, and designated Prince Charles (the later Charles I) as the most likely owner, believing that the interlaced C-scrolls which are a feature of its decoration supported his case.

IRON PISTOLS

While brass barrels, lock-plates and stocks seem typical of Dundee or Dundee influenced firearms iron and steel were also used, and the earliest all iron pistol which can be confidently dated is one signed IG (? James Gray, Dundee), 1627, now in the National Museum, Edinburgh, and despite the fact that iron is harder to work than brass, it is one of the most pleasingly shaped and decorated of all Scottish weapons. The iron stock XI is essentially made out of one piece of metal and not two, as in the brass pistols, but there is a reinforcing iron plate braised on to it to give a firm grip for attaching the front of the lock-plate to the stock. The butt is globular - there are no iron fishtails - and the finely engraved decoration is perhaps slightly more restrained than on most contemporary brass pistols. The barrel has a calibre of 12.5mm, rather larger than most brass ones and more in line with later developments.

The same maker was also responsible for a brass stocked globular butt pistol of 1630 which is likewise well executed, but other iron stocked pistols tend to be plain or crude and foreshadow the more utilitarian pistols of the second half of the seventeenth century. Iron barrels are usual from about 1630 onwards and have flared octagonal muzzles, obviously derived from the brass thistle-shaped ones. Five Canongate dagmakers submitted iron pistols

in the years from 1629 to 1643 as essay pieces and seven others submitted wooden stocked pistols with iron barrels in the years from 1630 to 1651.¹⁹⁷ Possibly this tradition of iron barrels and stocks is an Edinburgh-Canongate one, rather than anything developed in Dundee.

The brutal sack of Dundee by General Monck in 1651 has been advanced as one of the main reasons for the decline of the early Scottish firearms industry¹⁹⁸ but Dundee was not the only town manufacturing guns in the first half of the seventeenth century. Besides, most of the best firearms seem to have been made prior to the 1630s and there is then a tailing off both in quality and in the number of surviving pieces. A more likely explanation is related to the changes in Scottish beliefs and habits occasioned by the establishment of a vigorous presbyterian party and the ascendancy of their puritanical views, especially in the years after the signing of the National Covenant in 1638. The ostentatious wearing of pistols with civilian dress must have been strongly discouraged.

This is not to say that gunmaking itself died out, and indeed in the wars that resulted from the head-on-clash of King and country we have evidence for the extensive use of pistols for military purposes. The cavalry of the Army of the Solemn League and Covenant in the 1640s, although it relied extensively on lances, seems also to have been well supplied with pistols or carbines and petronels.¹⁹⁹ At the battle of Aberdeen in 1644 between Montrose and Lord Burleigh the cavalry of the covenanters, commanded by Sir William Forbes of Craigievar, unsuccessfully attacked the enemy en caracole, that is in successive waves, each group firing their pistols into the enemy

197. Whitelaw, Scottish Arms Makers, passim.

198. G. Boothroyd, 'Scottish Pistols', Journ. Arms & Armour Soc., vi (1968-70), 158.

199. The Army of the Covenant, ed. C.S. Terry (Scot. Hist. Soc., 1917), i, p. xcvi, 35, etc.

lines as they wheeled away at the last minute, without attempting to break into them.²⁰⁰ It is likely that owing to the wars of the mid-century many gunmakers would have concentrated on supplying utilitarian weapons for the military. The fact that most of these would have been wooden stocked and of no artistic merit may explain why they have not survived.

Scottish pistols again become common in the second half of the seventeenth century, from the Restoration onwards. They are then almost always made entirely of iron with inlaid silver and brass wire, plaques and bands. The heart and scroll (ram's horn) shaped butts obviously bear some relationship to the globular and fishtail forms of the pistols made earlier in the century but now the main burghs do not seem to have had the monopoly of their manufacture, many being made by gunsmiths in the smaller towns and burghs up and down the east coast, like Elgin, Old Meldrum, and Brechin, and on the edge of the Highland line Dumbarton, Doune, Stirling and Edzell, all catering largely for the continued Highland appetite for weapons.

THE ORIGINS OF THE SCOTTISH STYLE OF FIREARMS AND SNAPHANCES

Writing in 1923 Charles Whitelaw could claim of the early Scottish weapons that 'the characteristics of these weapons suggest that they were evolved from the Dutch pieces imported into the country during the XVIth century'.²⁰¹ This was the view held until quite recently largely due to the lack of research into early Dutch and English gunmaking. This situation has now been remedied by the publication of important works on Dutch firearms by Kist et al and Hoff, and on English firearms by Hayward and Eaves.²⁰²

200. D. Stevenson, Alasdair MacColla and the Highland Problem in the 17th Century (Edinburgh, 1980), 131-4.

201. Jackson & Whitelaw, European Hand Firearms, 57.

202. J.B. Kist, et al., Dutch Muskets And Pistols (London, 1974); A. Hoff, Dutch Firearms (London, 1978); J.F. Hayward, 'English Firearms of the 16th Century', Journ. Arms & Armour Soc., iii (1959-61), 117-41; The Art of the Gunmaker, vol. 1 (London, 1962), 106-20, 202-10; I. Eaves, 'Some Notes on the Pistol in Early 17th Century England', Journ. Arms & Armour Soc., vi (1968-70), 277-344; 'Further Notes on the Pistol in Early 17th Century England', ibid., viii (1976), 269-329.

In 1970 Eaves dismissed the idea of a strong Dutch influence on early Scottish firearms but noted how Scottish and English pistols have a number of features in common which are unique to those examples alone, and are not recorded on any Dutch or Flemish firearms. He drew attention to the possibility that a well organised Scottish industry with gunmakers of originality could have been a significant influence on England but preferred the conclusion that the main flow of ideas was most likely to be from England to Scotland.²⁰³

Four years later Kist et al., having noted that there are Scottish, English and Scandinavian snaphance locks of earlier date than Dutch ones concluded that a Dutch type only emerged at the beginning of the seventeenth century, doubtless inspired by Scottish and English examples.²⁰⁴

Finally in 1978, Arne Hoff, writing about Dutch snaphance firearms could say that their origin was uncertain, and that practically nothing was known about the lock-type in the Netherlands before 1600, while both literary evidence and arms themselves of this kind are known to have existed earlier than 1600 in England and possibly also in Scotland.²⁰⁵

The earliest evidence for snaphance locks appears to come in the 1540s. They are mentioned in 1547 in a Swedish royal account (as snapplas = snaplock) and in the same year in a Florentine ordinance (as archibusi ... da fucile. Fucile = 'strike-a-light' or tinder-lighter).²⁰⁶ The earliest surviving snaphance lock is thought to be that fitted to a gun in the Livrustkammare, Stockholm, with a Nurnberg gunbarrel. It is probably one of the thirty-five Nurnberg harqubuses known to have been fitted with 'snaplocks' in the Swedish royal armoury at Arboga in 1556.²⁰⁷

203. Eaves, 'Some Notes on the Pistol in England', 328-33.

204. Kist, et al., Dutch Muskets And Pistols, 35.

205. Hoff, Dutch Firearms, 63.

206. A. Meyersen, Stockholms Bossmakare (Stockholm, 1936), 10n21;

A. Angelucci, Catalogo della Armeria Reale (Turin, 1890), 421.

207. A. Meyersen, Vapenindustrierna i Arboga (Stockholm, 1939), 103.

The lock has an external main-spring which engages with the fore-edge of the cock. The jaws of the cock are peculiarly long and held together by a pin fastened from above. There is no evidence for an automatically opening pan-cover. Several other snaphance locks similar to this one in their main details are known from Scandinavia and the Baltic in the rest of the sixteenth and seventeenth century, fitted to long guns, but not to pistols. There is good reason for thinking, however, that the idea for this type of lock was not Scandinavian but German, since at the time the 1556 lock on the Livrustkammars was made there were several German workmen employed at Arboga.

There are no Italian snaphances known which are likely to be any earlier than those from Scotland and on present evidence it seems unlikely that the development of gunlocks in Italy or elsewhere in the Mediterranean area had any direct bearing on the situation in Scotland.

A crucial consideration in any assessment of the origins of snaphance locks is the availability of flint. This does not, of course, apply to the earlier wheel-locks which used iron pyrites for ignition - or rather some sort of sulphide. Unfortunately while the eighteenth and nineteenth century gun-flint industries which supplied most of the firearms in use in Europe and elsewhere in the World are fairly well documented the same can not be said for earlier times. A study of gun-flints in sixteenth and seventeenth century firearms as they survive in European collections would probably not take us very far as many do not have flints in any case, and for the others there is a high degree of probability that the flints are considerably later than the guns they are associated with. Only in America has a significant body of excavated material been found in archaeological contexts dating from the early seventeenth century onwards, and it is interesting to note that the earliest imported gun-flints in North America - as distinct from those manufactured from local flint by the Indians, appear to be from a single

material, the Nordic flint of Jutland. This is said to be the only European flint known in North American contexts dating prior to 1675.²⁰⁸ If this conclusion is confirmed and reinforced by future research it goes some way to supporting the view that snaphance locks are essentially a North European - perhaps even a Scandinavian - development. One might add that what are assumed to be Dutch gunflints only appear in North America in the late seventeenth century. From c. 1740 French flints became extensively traded to the New World, soon ousting competition from other sources until in turn they gave way to English flints from Brandon in the nineteenth century.

Evidence for gunflints in Scotland, both in terms of surviving pieces and documentary evidence is practically non-existent. The writer knows of no gunflints from stratified deposits in excavations which can be dated to the first half of the seventeenth century or earlier. Furthermore, although various gunflints exist in museum collections in Scotland he could not point to any and say with any confidence that they were earlier than the eighteenth century. Only one early reference to gunflints has been traced and that comes in 1575 when the Countess of Moray noted a payment for the making of three dozen flint stones when she bought two pair of pistols.²⁰⁹ Presumably the work was done in Scotland. There is also the curious case in 1558 of Edinburgh Burgh Council having a burden of flint stones (? imported) used for making bullets (for artillery).²¹⁰ This hardly suggests flint would have been in short supply for making gunflints.

There is a group of long guns, thought to be German, four with combined snaphance and match-locks, three of which are dated 1571 or 1572, and two

208. J. Witthoft, 'A History of Gunflints', Pennsylvania Archaeologist, xxxvi (1960), 12-49.

209. Hist. MSS Comm., App. to 6th Report (1877), 657.

210. Edinburgh Burgh Accts., i, 251.

others with snaphances alone of similar date. The snaphances have their main springs internally, acting on a tumbler as in the Scottish snaphances, and they also have a device for the automatic opening of the pan-cover when the gun is fired. This consists of a lever attached externally to the lock-plate which is pushed by the cock and in turn acts upon the external swivel for the pan-cover.

It only remained for the mechanism for operating the pan-cover to be placed internally and the snaphance would have had all the operational characteristics of the earliest surviving Scottish pistols. All these features are found on a group of guns and pistols normally considered to be either Dutch or English and dating to the last two decades of the sixteenth century which we will discuss further below. Only one snaphance of less developed form is known fitted to a pistol - a lock with external pan-opening mechanism on a pistol with a Nürnberg barrel now in the Tower of London. It is dated c. 1590 by Howard Blackmore²¹¹ though it could perhaps be a bit earlier than this. In the light of all this it may seem that the Scottish snaphance lock in its earliest known form may not date much earlier than its earliest surviving dated examples (1598). Whatever the earlier Scottish locks were like they probably had one feature which was retained in all subsequent ones although it fell out of fashion everywhere else. That is the method of securing the top jaw of the cock by a pin passing through both jaws from below with a nut screwed over the top. This feature is found on several early wheel-locks and also the snaphances mentioned above with external pan-opening mechanisms.

The Scottish documentary evidence would lead us to believe that snaphance pistols were being manufactured on a largish scale by the early

211. Blackmore, Guns & Rifles, 29, pl. 150. Hayward considers the lock of this pistol, and also at least one of the long guns mentioned above, to be French (Art of the Gunmaker, i, 105).

1570s and possibly to a significant extent in the preceding decade. For the period, effectively from 1598 to 1650 there are the remains of fifty-six pairs²¹² of undoubtedly Scottish pistols known to survive. The earliest references to snaphance pistols in England only comes in 1580 and the first reference to their manufacture there - by Henry Radoe of Norwich - eight years later.²¹³ The earliest surviving English snaphance pistols, a pair at Koňopiste in Czechoslovakia, date to 1593 and there are some twenty-eight pairs represented in all, spanning the years from this date to c. 1620 when the more developed 'English-lock' took over. No evidence, to the best of the writer's knowledge, has been adduced for the extensive use or manufacture of snaphance pistols in other countries in Northern Europe prior to the seventeenth century and only a mere handful of other pairs dating prior to the 1640s can be attributed to Dutch workmanship. No Scandinavian pistols have been recognised and only the one German (?) mentioned above. There are some Russian so-called Anglo-Dutch snaphance pistols but the seventeenth-century origin of the gun-making industry there, based on imported English and Dutch expertise, cannot be denied.²¹⁴

The evidence, such as it is, would suggest that the marrying of snaphance locks to pistols was a Scottish development. In other countries like France, Germany and the Low Countries there was a long tradition of making the more complicated wheel-locks and fitting them to pistols. Scottish craftsmen almost certainly did not partake in this mechanical tradition and when they became exposed to snaphances in the second half of the sixteenth century could fully appreciate their potential not just for long guns but for pistols as well. It is of interest to note that in 1608 John Nassau-Siegen could

212. The figures here are given for pairs since at this time, all over Europe, pistols were invariably made in pairs.

213. Eaves, 'Some Notes on the Pistol', 325.

214. J.F. Hayward, The Art of the Gunmaker (London, 1962), i, 244-5; I. Eaves, 'Some Notes on the Pistol in Early 17th Century England', Journ. Arms & Armour Soc., vi (1968-70), 336-7.

write of dragoons being armed with 'Fuer oder Schottische Schloss' which could only have been snaphances. This surely must imply that snaphances were by then so generally associated with Scotland or the Scots that they could be called after them.²¹⁵ The implications for this on the Scottish role in the development of the snaphance lock and on firearms in general ought not to be overlooked.

There is one other early snaphance pistol with internal mainspring which has not yet been mentioned which may have some relevance to the development of pistols in Scotland. That is a pistol in the Porte de Hal Museum in Brussels which may date to c. 1580 on the basis of its early looking straight cock.²¹⁶ It has a wooden stock ending in a straight-edged fishtail butt and is inlaid with plaques of engraved bone and mother-of-pearl. It has a ball-shaped trigger with no trigger guard. Flemish, Dutch or even English origins have been suggested for it.²¹⁷ On present evidence it is most unlikely to be Scottish. It is most unfortunate that it will not be possible to assess its place in the development of snaphance pistols until a clearer idea of its provenance can be obtained and its early date established with much more certainty.

The earliest known Scottish snaphance locks on the pistols signed IA in Madrid and IK 1598 in Dresden are already well-developed pieces with all the mechanical features found on other Scottish firearms of the early seventeenth century. The possibly Scottish (restocked) pistol in the Tøjhus Museum, Copenhagen is constructionally less sound. The engagement of the main spring terminal with the tumbler has been considered faulty so that it has been necessary to provide a support for the spring to prevent it dropping out of position.

215. Lenk, The Flintlock, 22.

216. Hoff, Dutch Firearms, 65.

217. Ibid., 65; Eaves, 'Some Notes on the Pistol', 326-7.

The earliest English snaphance locks are mechanically similar to the Scottish ones. The first, on a finely decorated petronel signed RA²¹⁸ and dated 1584 in the National Museum, Copenhagen, has a flat cock as on Scottish snaphances, though here considerably straighter, and a steel of similar outline to Scottish ones, that is curved gently at the neck. Later English snaphances, from c. 1600 onwards, tend to have cocks with rounded necks and steels bent almost into right-angles. What is more, the jaws of the petronel's cock are segmental in shape like on all Scottish snaphances whereas all other English ones are wedge-shaped. The rectangular fence bears some comparison with the pentangular one on the early IA pistols in Madrid. Later English snaphance locks invariable have circular fences, with the exception of a musket of 1588 at Belchamp Hall, Essex, by the maker of the Copenhagen petronel.²¹⁹ These similarities of style between this earliest English snaphance and early Scottish snaphances should not be overstressed as the dissimilarities, including the shape of the lock-plate, the jaw tightening arrangement and the shape of the cock itself, are more striking.

The earliest Dutch or Flemish snaphance of developed form, with internal mainspring and sliding pan-cover, appears to be the pistol in the Porte de Hal, Burssels, previously described. It is not close in stylistic details to the Scottish pistols. The restocked pistol in the Tøjhus Museum, Copenhagen, which we have suggested might be Scottish, could well be Dutch, as it certainly has features about it found on early seventeenth century Dutch weapons. The direct derivation of Scottish snaphance weapons from Dutch ones, however, is not so clear as Whitelaw would have had us believe, and with the possible exception of the two pistols just mentioned, there are no Dutch snaphance weapons surviving which are early enough to have been used as models. Nor

218. It has been suggested (Der Neue Stöckel, no. 7017) that this could be for Robert Alison of Dundee, but the present writer feels this is most unlikely on grounds of style.

219. Illustrated by Hayward, 'English Firearms of the 16th Century', pls. XXXV-VI.

is there any documentary evidence to suggest that Low Countries gunmakers were turning out snaphance weapons in the late sixteenth century. The possibility of Dutch, Flemish - or even German or Northern Flemish - influence on the development of Scottish snaphance locks in the late sixteenth century should not be altogether discounted. Scotland did have strong links with the Continent and did absorb a lot of Continental styles of art and decoration. It would be wrong, however, to argue too strongly for a Continental role at this time without considerably more evidence.

If the early Scottish gunmakers derived the snaphance lock from English examples it must be supposed that their models were stylistically less advanced than the 1584 Copenhagen petronel, and, having made their copies, presumably some time in the 1570s or even the preceding decade, they retained early features like their segmental jaws and jaw tightening device. If we accept this hypothesis as correct it must also be assumed that the Scottish gunmakers, having adopted an English type, did not attempt to keep pace with the further stylistic developments of the English locks. The next possible indication of English influence on Scottish snaphance locks was the adoption on the latter of circular fences some thirty years after they were first known in England, but, of course, the English did not previously have the monopoly of the form since it occurs extensively on Dutch and Russian snaphances.

In a situation in which Scottish gunmakers copied the snaphance lock from an English prototype one might have expected that the conditions which encouraged this to happen once would have continued to work to make the Scottish locks dependent stylistically on the English ones. This was not the case. If the Scottish snaphance lock as we know it was not derived from an English model it is most likely that it is the result of several years of development by Scottish gunmakers, deriving ultimately from

Continental prototypes of a much more primitive form, perhaps like the lock with external mainspring on the German (?) pistol in the Tower of London. It has segmental shaped jaws fastened by a pin inserted from below, as do several contemporary Continental wheel-locks.

The origins of a quality firearms industry in late sixteenth-century Scotland must be seen in the context of other related skills and industries being developed in the main burghs in the second half of the sixteenth century, in particular silver work and cutlery. The fact that a dependence on English models has not been claimed for much of this work makes the search for an English connection for the firearms less compelling. Goldsmiths developed a particularly Scottish repertoire at this time, including disc-headed spoons and standing mazers, the latter derived from medieval Scottish forms.²²⁰ Cutlers, particularly in Edinburgh and Canongate made a distinctive type of knife, the dudgeon dagger, evolving it from the ballock knives common to the whole of northern Europe. These daggers were finely produced with etched and gilt blades, and like Scottish firearms have ended up in important collections abroad.²²¹

220. G.E.P. How & J.P. How, Silver Spoons And Hall-Marks (London, 1953), ii, 311-47; G.E.P. How, 'Scottish Standing Mazers', Proc. Soc. Antiq. Scot., lxviii (1933-4), 394-411.

221. The original identification of these knives as Scottish was made by C. Blair & J. Wallace, 'Scots - Or Still English?', Scottish Art Review, IX, i (1963), 11-15, 35-37. The present writer has located the industry in Edinburgh and Canongate on the basis of a study of what is known of early Scottish cutlers (in particular, Whitelaw, Scottish Arms Makers, passim) and from the fact that at least two of the cutlers' marks appearing on these knives can now be attributed to Edinburgh cutlers since they used them as signatures in extant Edinburgh records:

a crowned T = Alexander Thomson (EBA Edinburgh Hammermen Records, i, fo. 52v. 13 Aug. 1588). A dagger with this mark in the Tower of London may be his, or his son's work.

a crowned M = Thomas Miller, cutler (EBA Register of Extents, i, 22 Jan. 1588/9). Cf a dagger (no. A823) in the Wallace Collection, London. There are others in the Musée de l'Armée, Paris, the Metropolitan Museum, New York and Salisbury Museum.

To the writer's knowledge no knives have yet been found with a crowned B, but this appears to have been the mark of Alexander Bruce, cutler (EBA Register of Extents, i, 27 Feb. 1593/4. The crown is actually before the B).

Sword blades were similarly treated and, on the evidence of the documentary records, sword hilts as well, though they await discovery or identification. These surely included distinctively Scottish basket hilts, produced with no reference to English models.²²² In the case of clock and watch making, far from being dependent on England, Scottish workers like David Ramsay and presumably Hieronymous Hamilton, served their apprenticeships abroad, the former being made royal clockmaker in 1613. He was also the first master of the (English, London) Clockmakers' Company in 1632.²²³

Given the documentary evidence for the early development in Scotland of snaphances and snaphance pistols, the distinctiveness of the earliest surviving pistols and the lack of evidence of derivation from England or elsewhere it seems reasonable to suppose that the Scottish firearms industry as we know it is essentially the result of Scottish initiative and inventiveness in parallel with developments in other arts and crafts. Far from recognising a direct stylistic dependence on firearms produced elsewhere it is possible to trace the influence of Scottish firearms in English workmanship, in particular in a pair of pistols with brass barrels, wooden stocks and open-work globular butts in Skokloster Castle, Sweden. Hoff considered them to be either Dutch or German of c. 1575-1600, while noting their similarity to Scottish firearms.²²⁴ More recently Eaves has

222. Examples of sword blades with similar etched and gilt designs on their blades to the dudgeon knives are a two-handed sword with the arms of Murray in the Livrustkammare, Stockholm, and a broad blade with the arms of Grant and the spuriously (?) early date 1563 now in the National Museum, Edinburgh. It is mounted with an early 17th century basket hilt, originally incrustated in silver and copper in a style considered to be English. Perhaps, however, it might be Scottish. If the contemporary hilt on the dagger of c. 1600 with the royal Scottish arms in the Dean Castle, Kilmarnock, is Scottish work it suggests that gilt and damascened sword hilts of considerable sophistication were also produced.

223. Dict. Nat. Biography, sub voce.

224. Hoff, 'Scottish Pistols in Scandinavian Collections', 208.

convincingly shown that on the basis of such features as the shape of their lock-plates and barrels and comparison of the decoration, including inlaid brass wire, with that on English pistols that they are English. He dated them to c. 1610.²²⁵ In overall effect, though certainly not in detail, they clearly mimic Scottish pistols of the early seventeenth century, even to the extent of having cast brass barrels. A few other English brass barrels are known which may also be the result of the influence of Scottish firearms. They, like this pair of pistols, may be slightly later than Hoff and Eaves guessed. Perhaps 1620 would be nearer the mark.

225. Eaves, 'Some Notes on the Pistol', 327-8. See also 'Further Notes', 289-92.

INTRODUCTION

Scotland's early fortifications have received much more attention from scholars than other aspects of the history of warfare. In the nineteenth century a great corpus of Scottish castles was published with copious plans and illustrations in five volumes by David MacGibbon and Thomas Ross¹ and since then numerous castles have been inventoried by the Royal Commission on Ancient and Historical Monuments of Scotland. This century has seen the appearance of a great number of detailed papers on individual buildings by scholars such as W. Douglas Simpson and also works of synthesis by Mackay Mackenzie and Stuart Cruden.² A particular interest has been taken in works showing the influence of artillery by Iain MacIvor and the writer has had the benefit of access to as yet unpublished work of his and opinions on the subject always freely given.

This chapter is in large measure a work of synthesis, summarising the conclusions reached by other writers with regard to the dating of fortifications, and putting them in the context of the development and use of guns. Since this is the only aspect considered here it must be borne in mind that the coverage is very one-sided and limited. It has also been made difficult by the fact that some of the most significant fortifications for the history of guns are now totally or partly destroyed.

1. D. MacGibbon & T. Ross, The Castellated and Domestic Architecture of Scotland, 5 vols (Edinburgh, 1887-1892). Practically all the castles described in this section are described and illustrated in this work and in most cases it is worth consulting for more information on them.

2. Simpson's numerous papers are referenced, where appropriate, below. The other two works are W.M. Mackenzie, The Mediaeval Castle in Scotland (Edinburgh, 1927) and S. Cruden, The Scottish Castle (Edinburgh, 1963).

Scotland is a land of castles and fortified houses and these continued to be erected as late as the seventeenth century by lairds and nobles alike. Most were individually weak but together were too numerous to be easily dominated by an enemy force, and hence could offer a considerable nuisance value to an invader. This, of course, applied particularly to the Borders and it was government policy to strengthen these with men and weapons at times of crisis³ and also to encourage their erection. An act of 1535 'For bigging of Strenthis on the Bordouris' ordered that every landed man of £100 of new extent

'...sall big ane sufficient barmkyn apoun his heretage and landis In place maist convenient of Stane and lyme contenand thre score futis of the square ane Eln thick and vi Elnys heicht for the Ressett and defenss of him his tennentis and ther gudis in trublous tyme with ane toure in the samin for him self gif he thinkis It expedient And that all uthir landit men of smaller Rent and Revenew big pelis and gret strenthis as thai pless for saifing of there selfis men tennentis and gudis And that all the saidis strenthis barmkynnis and pelis be biggit and completit within twa yeris under the pane'.⁴

While the nobility and lairds looked to the security of their own houses with some royal encouragement the crown never developed an overall strategy as far as fortifications are concerned. Scottish kings never collected castles like their Tudor contemporaries and did not pursue a vigorous policy of building fortifications in strategic positions. Such building as was done was mostly of a purely residential nature, as the palaces at Stirling, Linlithgow, Falkland and Holyrood. There was a fear that any fortifications of a substantial nature might be turned against

3. See above, p. 113.

4. APS, ii, 346.

them as had happened in the fourteenth century. This lack of emphasis placed by Scottish governments on major fortifications as a front line of defence is explained by Major in his History of Great Britain:

'The Scots do not hold themselves to need walled cities, and the reason of this may be, that they thus get them face to face with the enemy with no delay and build their cities, as it were, of men.... There are in Scotland for the most part two strongholds to every league, intended both as a defence against a foreign foe, and to meet the first outbreak of a civil war; of these some are not strong; but others, belonging to the richer men, are strong enough. The Scots do not fortify their strongholds and cities by entrenchments, because were these to be held at any time by the enemy, they would simply serve him for a shelter; and thus it would in no way profit the Scots, especially within the marches of the enemy, to possess fortified cities or even strongholds'.⁵

This sentiment was also expressed by the Scottish nobility in a set of 'devises' drawn up in 1560, which went on to recommend the demolition of all the fortifications made or begun since the Treaty of Boulogne and also of the fort on Inchkeith. Histories and experience had taught them that fortresses had never preserved the country from invasions and the main reason that Scotland had so long remained a free nation was the lack of them since an enemy finding no place to lodge himself could only burn a small part of the country before departing - 'and that better it is to have a spylt countrie than a tynt countree'.⁶

5. J. Major, History of Great Britain (first published 1521; Scot. Hist. Soc., 1892), 29-30.

6. Cal. State Papers Scot., i, 432.

Certain royal castles, however, like Edinburgh, Stirling, Dunbar and Dumbarton did have important functions as military bases, depots or storehouses. Others like Blackness and Tantallon (in royal hands for some of the sixteenth century) had important roles to play in coastal defence.

In Europe in general guns caused a complete revolution in fortifications, though the pace of change and development was not quick and even everywhere at once. In the late fifteenth century Italy was a major innovating centre in this field and it was Italian architects who developed the first fully articulated artillery fortifications with pointed angle bastions, low profiles and complete flanking capability in the first decade of the sixteenth century - notably Guilamo da San Gallo at Borgo San Sepulcro, Nettuno and Arezzo.⁷ The printing of treatises on fortifications and the employment of Italian engineers and architects as far away as Scotland ensured that such ideas were widely disseminated in the sixteenth century. This particular Italianate style with pointed bastions was, of course, not the only solution found in the struggle to adapt fortifications to guns, merely that recognised as the most successful and the one that lies behind all the major fortifications of the seventeenth and eighteenth centuries. There were several other approaches to the problem like squat round towers with one or more stories of gunloops, favoured in one form or another in northern Europe. They often had only very limited objectives in the field of defence and an element of show can not be discounted for many of them.

The methods used in building a fortification to withstand gunfire included making very thick walls which could withstand a lot of battering:

7. J.R. Hale, 'The Development of the Bastion, 1440-1534', in Europe in the Late Middle Ages, ed. Hale, J.R., Highfield, T.R.L. & Smalley, B. (London, 1965), 488.

making the walls and towers low so that battlement superstructures, turrets, steeples, etc. could not be tumbled down; giving the walls a batter and positioning them so that enemy shot was likely to glance off them; hiding the walls or other defences behind outworks or below the level that enemy guns could reach. In the matter of active defence the prime consideration must have been to provide suitable positions for suitable guns - small guns and large guns - guns to rake the walls and guns to dismount enemy artillery.

The Scots were aware of such ideas in fortifications although particular applications of them, developed elsewhere in Europe, sometimes percolated to Scotland rather tardily and often in a diluted form. In the mid-sixteenth century, however, when the country was the arena of conflict amongst not only the Scots but French and English forces as well, both foreign powers erected artillery fortifications of the most advanced type. The Scots' strong links with France for most of the period also ensured that new ideas on fortification from the Continent were brought into the country. Concessions to the power and efficacy of guns in building were not just confined to the major fortresses of the King and magnates but extended down the social scale to the towerhouses of lairds and merchants' townhouses.

It is important to emphasise that in most cases in Scotland we are dealing merely with concessions to the power and efficacy of guns rather than logically and powerfully built fortresses. Castles and towerhouses were first and foremost homes and military considerations were not allowed to intrude too markedly into everyday life. Very few castle owners expected their homes to withstand more than a short sharp raid. If they had reason to fear more - the royal artillery train or an English invasion - they would probably have preferred not to be caught at home. It must not be imagined that castles, apart from the greatest in unsettled times were kept constantly manned by a force of fighting men. A watchman or porter would have sufficed for most of the time for many castles, and it may be imagined that many a

lesser laird relied solely on his stout front door and wrought iron. A rare example of the provisions made for looking after a house of one of the mid-ranking nobles of the sixteenth century is to be found in a tack by John Campbell, the Laird of Glenorchy, to John McConochy MacGregor in 1550 of lands including the service and keeping of the Castle of Glenorchy. MacGregor was to pay the expenses of 'ane sufficient wetchman' and keep the tourhead (that is the battlements) clean.⁸

Before the advent of guns conventional wisdom suggested that fortifications should be tall as well as stout walled and that their defence should be conducted principally from the wall tops giving the advantage of height to the defenders. Many Scots from the monarchs down to the lesser lairds in the fourteenth and fifteenth centuries favoured compact tower-like houses which could offer little more than passive resistance to an invader. In works of a larger size the value of flanking fire from towers projecting from the main mass of buildings or enclosure walls was demonstrated, even if only inconsistently. In most work of the period one looks in vain for slits or apertures specially designed for defence with projectile weapons - crossbows and bows. A possible exception is the late fourteenth century Douglas towerhouse on Threave Island in the River Dee, Kirkcudbrightshire, which has rectangular windows regularly spaced in its walls just below parapet level. These may have been intended for the use of crossbows. There are similar sized windows in the fifteenth-century Murdoch's Tower at Caerlaverock Castle in Dumfriesshire.

In Scotland the identification of fortifications which show the influence of guns or which were intended to be defended by them comes down largely to the matter of whether or not they are provided with loops which can be identified as gun-loops. Simple vertical slits with a wider, rounded aperture

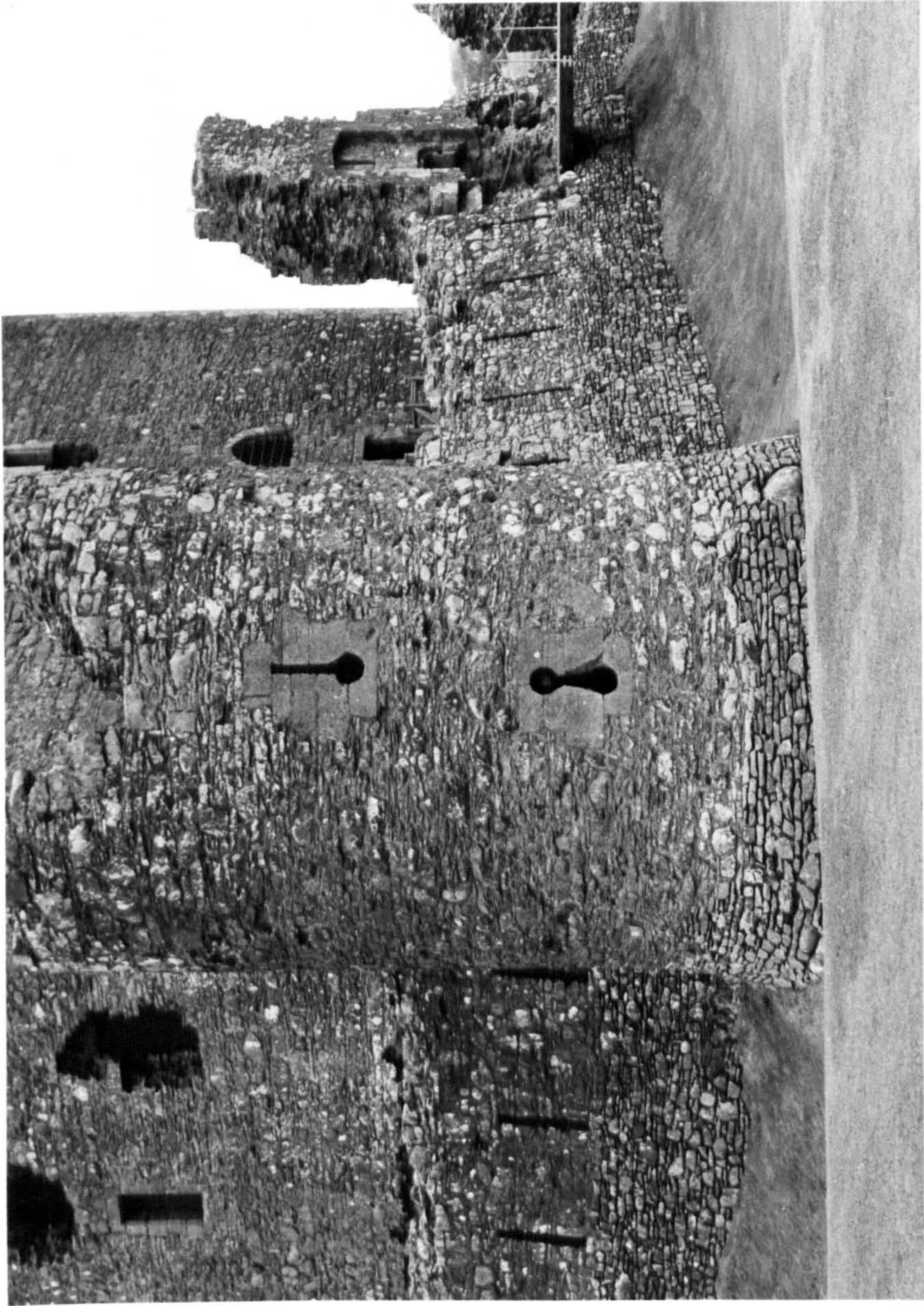
8. Black Book of Taymouth, 405-8.

at the bottom - 'inverted key-hole loops' - appear widely in Europe in the second half of the fifteenth century at a time when guns were becoming increasingly common. Such loops would in most cases have been totally unsuited for bows or crossbows but not guns, either small pieces of artillery or hand guns. Their peculiar shape allowed a gun to be placed in the opening at the bottom and the slit above to provide light and ventilation. We should, however, beware/^{of} assuming that guns had to be fired from loops particularly designed for them. There are several cases of castles and houses which have not been built with gunloops but have had them put in at a later date, for instance Amisfield in Dumfriesshire,⁹ a towerhouse built originally in the late fifteenth or early sixteenth century and much altered about 1600; but one might almost say that in the late fifteenth and sixteenth century such castles or additions to castles that were erected were normally supplied with gunloops. In most cases building was not undertaken in order to have the gunloops - they were merely included because the building was done. It follows that while the presence of gunloops may be a useful indicator of an interest in guns the converse is not necessarily true.

FORTIFICATIONS AND GUNS, c. 1450 - c. 1550

The Scottish fortification identified as being the earliest with gunloops is, in fact, one of considerable sophistication. It is the curtain wall at Threave Castle. The fourteenth-century tower house is screened by a two-sided curtain with round towers at both ends and a third at the salient angle. The walls are constructed with a continuous external batter and are pierced at regular intervals with rectangular slits. They were originally nearly six metres high with a wall walk and parapet. From the evidence of

9. A.M.T. Maxwell-Irving, 'Early Firearms and their influence on the military and domestic architecture of the Borders', Proc. Soc. Antiq. Soc., ciii (1970-1), 212-14.



Threave Castle. Curtain wall

57 one almost completely surviving tower, supplemented by information gained in excavation, it seems that all three tower~~es~~ were two storeys high with flat roofs protected by tall crenellated parapets. Each storey was provided with three so-called gun loops. This whole work was surrounded by a rock-cut moat which was filled with water from the River Dee thus turning the castle into an island within an island, for the other sides of the towerhouse were protected by the river with an area of marshy ground beyond.

The so-called gunloops are of two different varieties, either with inverted key-hole slits flush with the outer wall or dumb-bell loops.* Both types have splayed embrasures and sills, some of which - and perhaps originally all - housed cross timbers. By analogy with later gunloops these timbers can be interpreted as mountings for small pieces of artillery.

With its extensive provision of loops at ground level and battered walls this work is unique in early Scottish military architecture. The array of loops in the curtain walls is curiously reminiscent of the musket loops in eighteenth-century government strongholds such as Corgarff and Braemar. In the case of Threave, while it is perfectly possible that they were intended for hand guns or small pieces of artillery it is perhaps more realistic to think of them as being for bows or crossbows.

10. See for instance B.H. St.J. O'Neil, Castles And Cannon (Oxford, 1960), 1-21.

* As key-hole loops but with (decorative) roundels at top.

The battered (i.e. sloping) outer face of the Threave curtain walls can be explained as an early attempt to lessen the impact of low trajectory gun fire. Battered walls are a standard feature of artillery fortification design, the theory being that enemy projectiles would be deflected upwards harmlessly by the inclined surface.

The Threave curtain wall and towers thus show features which can convincingly be interpreted as the results of the influence of guns. A major problem then, is to establish the date of its construction and recent excavations by Tabraham and Good have lent support to the belief that it is a work of the Douglasses, erected not long before the siege of the castle by James II in 1455. Briefly the points in favour of this date listed by the excavators are: (1) the recovery of a jetton in good condition, thought to date to the last quarter of the fifteenth century, found on the floor of the south-west tower; (2) the discovery within the west wall of a rare and worn penny of Robert III which is unlikely to have been in circulation later than the early 1460s; (3) the date of 1447 given by dendrochronological means to the timber gate-post of the harbour at the end of the west wall, which on constructional evidence could be contemporary or later than the artillery work proper.

There are two documentary references which can be taken as lending support to the archaeological evidence for a date prior to 1455 for the work. In June 1455 James II accused the Earl of Douglas of treason for munitioning and fortifying his castle of Threave (*pro proditoriis munitionibus et*

fortificationibus turrium et fortaliciorum de Treve).¹¹ It is arguable that this refers to the construction of the artillery work. Furthermore, after the taking of the castle by the king we find that repairs were done about 1457 on the 'domus artilerie'.¹² It has even been suggested that a deviser of the work might be looked for in John of Dunbar, the Douglas engineer who entered royal service after the siege.¹³

An alternative dating, however, for this work at Threave has been favoured in print by two other authorities, Simpson and Stell.¹⁴ This is that the work is likely to be the result of repairs executed in the early 16th century, perhaps by its royal keeper, Lord Maxwell in or soon after 1513. Supporting evidence for this view, archaeological or documentary, is less tangible than that for the fifteenth-century dating but seems to rest principally on the fact that (1) the castle was described as ruinous and in need of repair when Lord Maxwell took over its custody and he was required to take measures for its repair and upkeep,¹⁵ and (2) the features of the work would not be out of place in the early sixteenth century.

The case for a date in the middle of the fifteenth century, in the early sixteenth century, or for that matter at any other time, cannot be taken as proved, but the writer is inclined to believe that the first of these hypotheses is at present more likely. If this hypothesis were indeed true it would not only give Threave / in Scotland as an early example of planning for artillery, but puts it in the forefront of north European fortifications, many of which have gunloops but not such a co-ordinated plan. It does not

11. NPS, ii, 76.

12. ER, vi, 459.

13. This account of Threave Castle owes a great deal to the paper by C.J. Tabraham & G.L. Good, 'The Artillery Fortification at Threave Castle, Galloway', in Scottish Weapons And Fortifications, ed. D.H. Caldwell (Edinburgh, forthcoming).

14. W.D. Simpson, Threave Castle (Ancient Monuments and Historic Buildings Guide Pamphlet, 1967); G. Stell, 'Late Medieval Defences in Scotland', in Scottish Weapons And Fortifications.

15. RMS, iii, no. 391 (actually dated 1526).

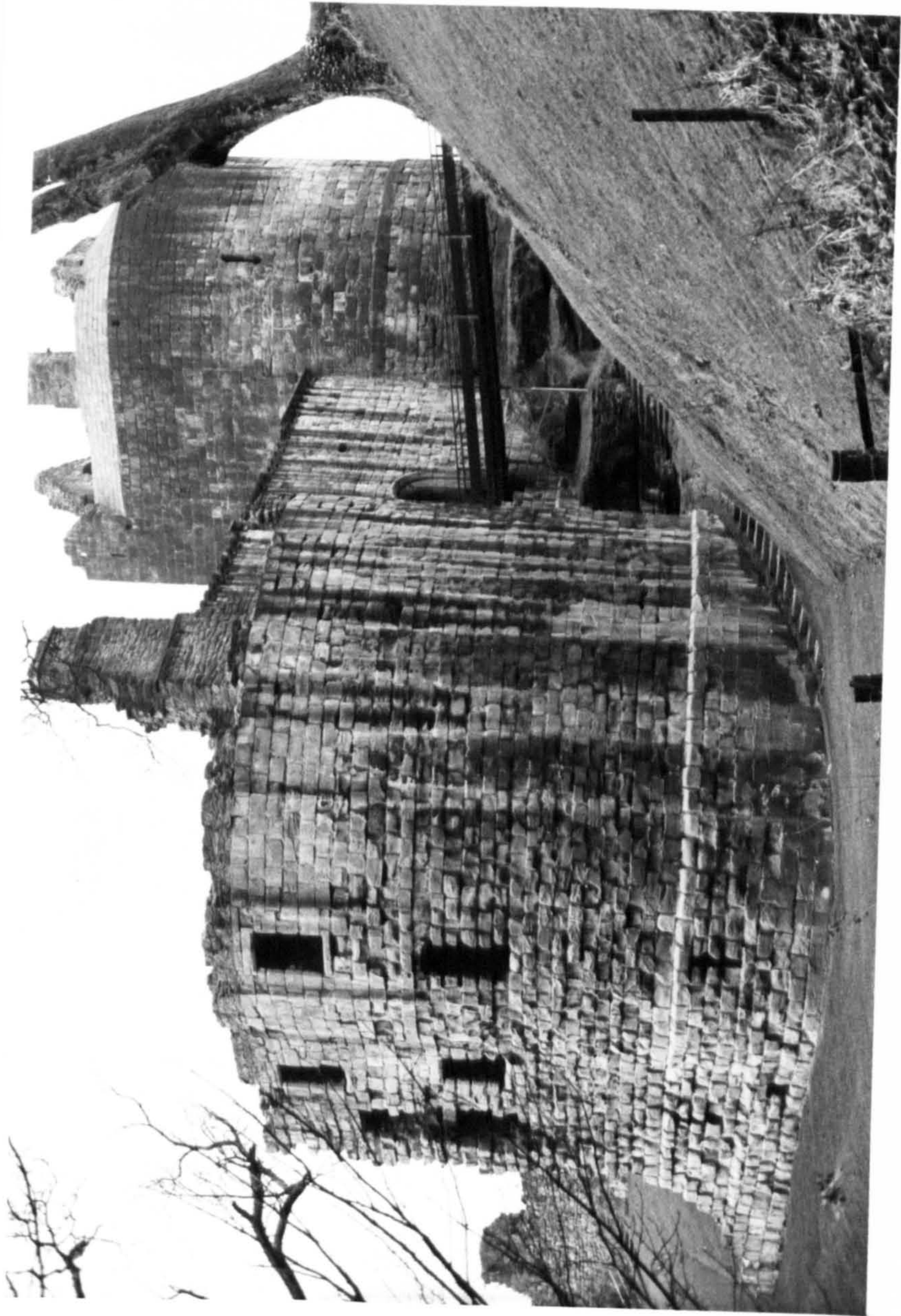
put Threave away out on its own, for we shall now show that the Douglas' rival, King James II, started building a work equally sophisticated a few years later at Ravenscraig in Fife.

Work probably began on Ravenscraig in 1460, just before the king's death, and continued over the next three or four years, perhaps ending at the death of James' widow, Queen Mary of Gueldres, whose dowerhouse it was.¹⁶

The castle is situated on a small precipitous rocky promontory on the edge of the Firth of Forth between Kirkcaldy and Dysart. The sea now scarcely reaches it even at high tide but old painting and local observations suggest that there has been a considerable accumulation of sand round the site in recent times and that it formerly jutted out into the water.¹⁷ A large ditch has been cut across the base of the promontory to separate it from the mainland which rises to a greater height than the site. The entrance to the castle was reached by a bridge across this ditch, now replaced by a modern one apparently on the same line as the original. Its landward end is about two metres higher than the threshold of the castle gate. The main bulk of the castle lines the landward front of the site and consists of two D-shaped towers with a range of buildings containing the entrance in between. The rest of the site has been walled in and contains various buildings now quite ruinous. This type of plan with a great forework built across the neck of a promontory is typical of other Scottish castles like Tantallon and St. Andrews but at Ravenscraig the front is much narrower to the extent that the eastern tower is built off the edge of the site and thus has two stories below the ground level of the rest of the structure. Surprisingly, it sits lower than the land adjacent to it across its ditch.

16. ER, vii, 59ff.

17. Paintings by J. Thomson of Duddingston and Sir J. Clark of Eldin, illustrated in W.D. Simpson, Ravenscraig Castle (Aberdeen, 1938), frontispiece and fig. 5.

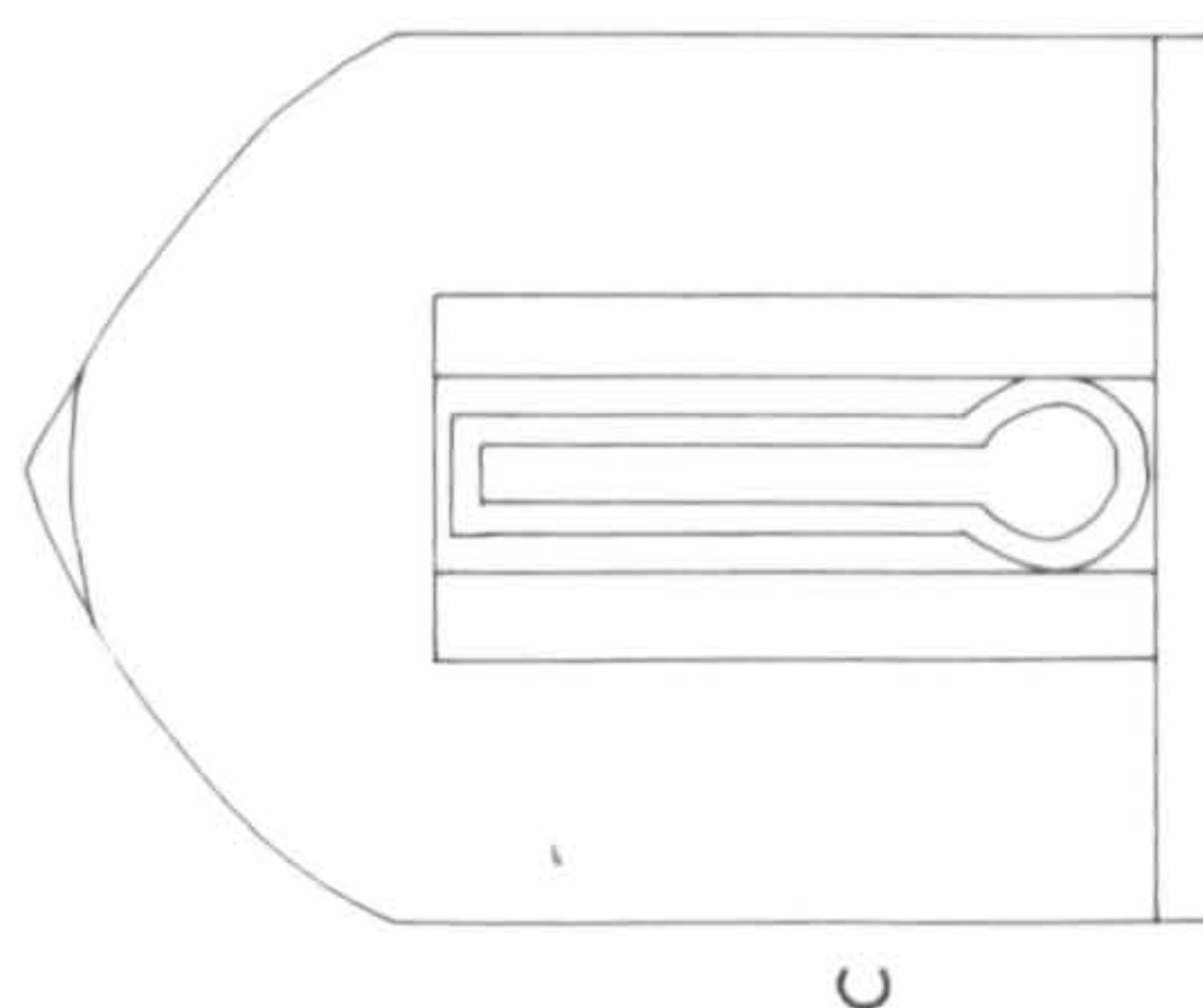
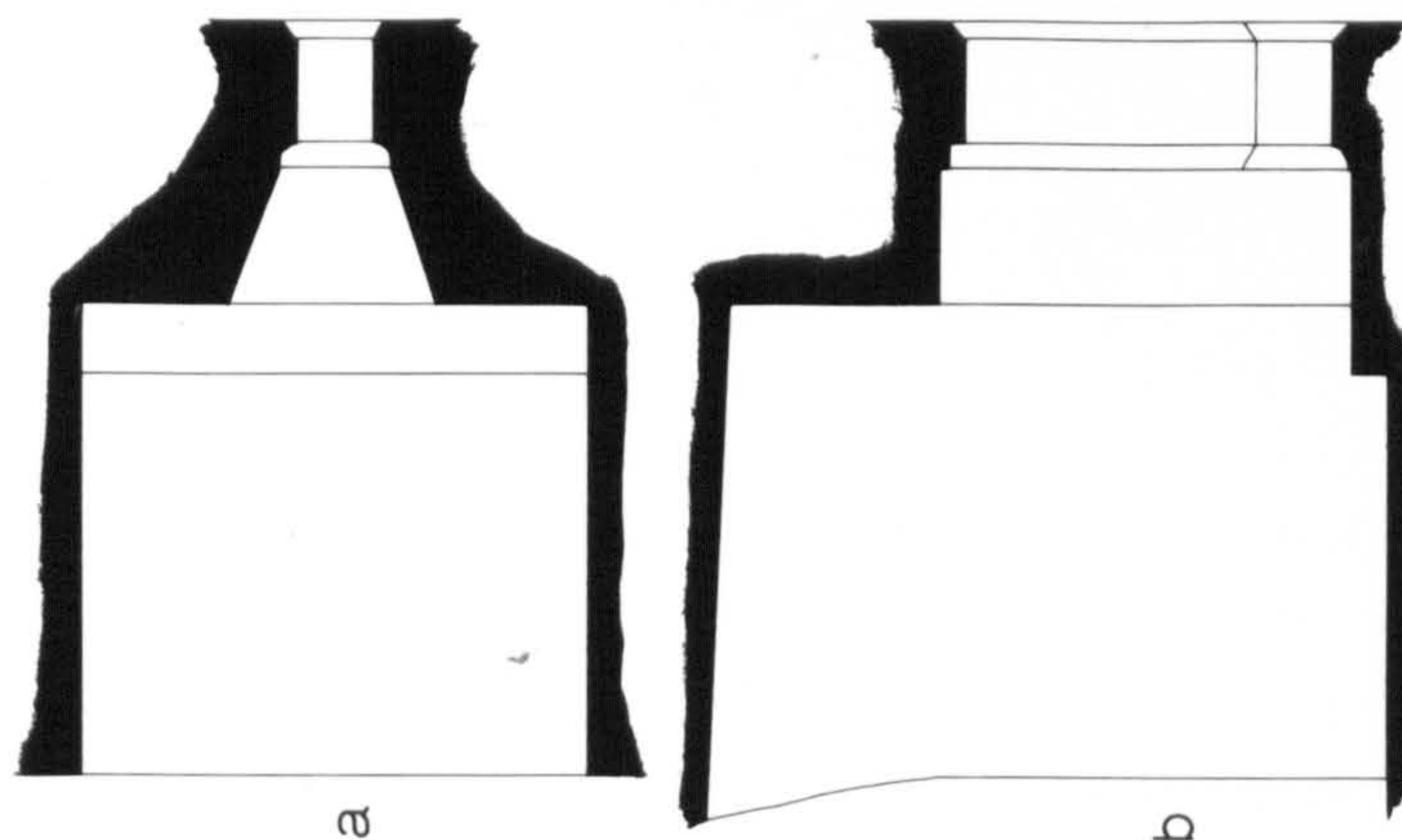
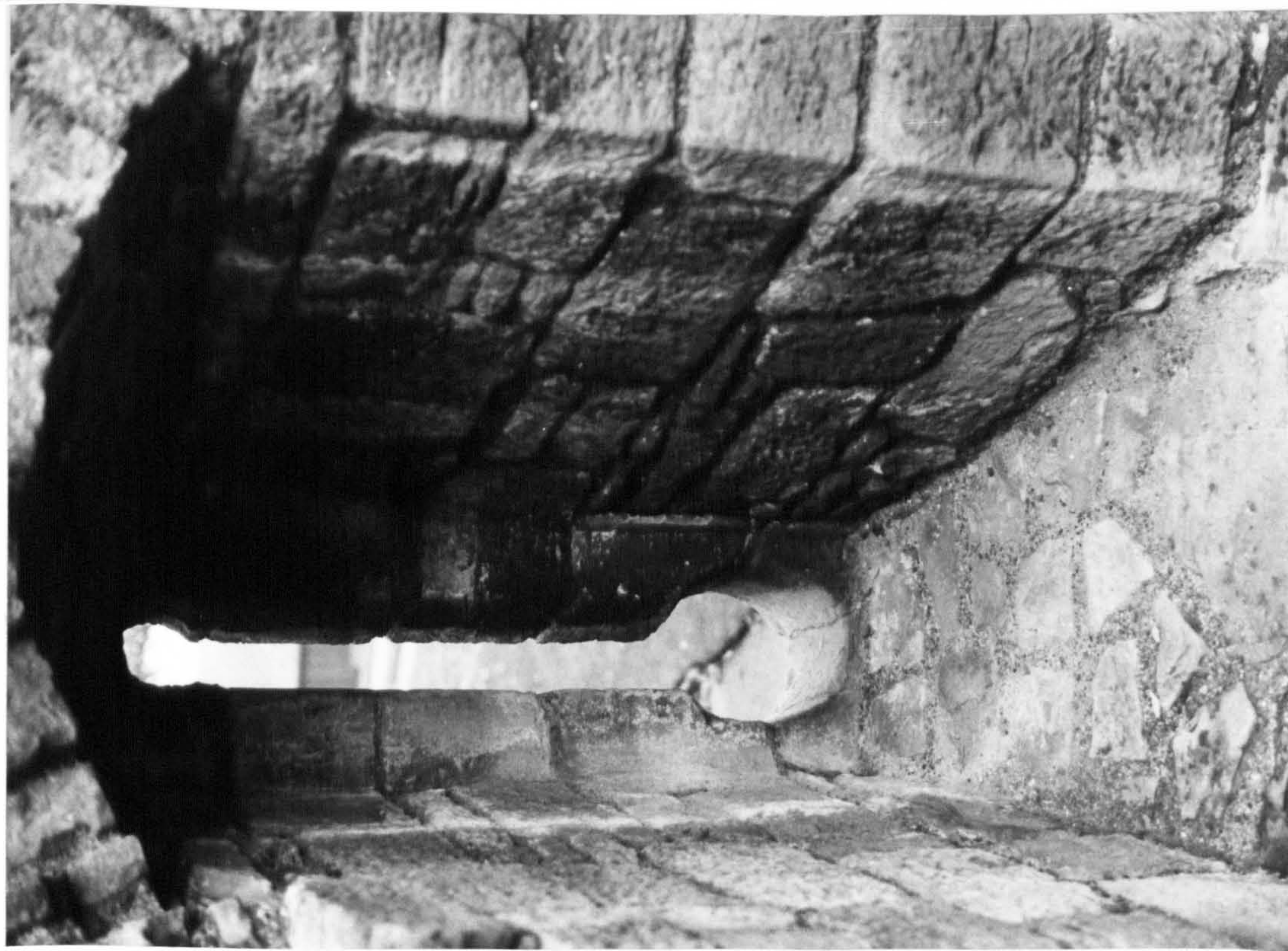


Ravenscraig Castle

Much of the forework of the castle would appear to be the royal work of 1460-3. It is built in ashlar but is not of very competent workmanship. Many of the courses are not laid horizontally and joggling is fairly common. The large western tower was probably commenced first and the mid-range and east-tower then built alongside it. One might suppose it was intended to build this latter tower higher and build a hall at first floor level in the mid-range above the entrance pend and vaulted cellars, but this was never done. In 1470 the castle was given to William, Lord Sinclair, and it was probably he or one of his successors who decided to dispense with the hall, building a thick curtain to shield the top of the mid-range and roofing the east-tower at about the same level. The evidence for this interpretation of the original plan of the castle with a hall is of some importance as we shall see when we come to consider the interpretation of Simpson and Cruden.

Basically we would expect a royal residence of such size to have a hall anyway since it would have been functionally necessary, as at the other royal castles and palaces. The placing of a hall at first floor level above vaulted cellars and adjacent to a tower containing more private apartments generally was a very basic planning arrangement/in the fifteenth and sixteenth centuries.

The only windows in the landward side of the castle are six inverted key-hole loops and two (later) wide-mouth ports in the wall above the entrance. The walls on this face are extremely thick, over three metres, except where hollowed out to take a guard chamber and embrasures. All the loops face the field except two in the towers which flank the mid-building. Two, one in the cellar to the West of the entrance and another in the basement of the west tower, are about 300mm wide at the port, are backed by deep embrasures, and have low sills on which trestles or timber-fast guns XIV could be laid. The other loops, on the other hand, have high, narrow sills,



RAVENS CRAIG

a

b

c



Keyhole loop, Ravenscraig Castle, and dumb-bell loop, Linlithgow Palace

are slightly smaller in diameter, and would have been suitable only for hand-held guns of smaller size. There are, or were, at least two other inverted key-hole loops in the castle. One of the former type in the basement of the west-tower facing west and one flanking a postern gate. The two wide-mouthed ports above the entrance date to the mid-sixteenth century (see below).

Ravenscraig has been claimed by Simpson and Cruden¹⁸ to be an early artillery fortification. Cruden describes the internal layout of the basements as being 'no longer casual and traditional, intended merely for storage, but planned positively for gunnery and gun crews'.¹⁹ Simpson writes:

'How completely the dispositions of Ravenscraig have been subordinated to the need for defence, against and by means of firearms, becomes more and more apparent the more closely we study its details. Consider, for example, the careful and well-thought-out arrangements for enfilading the bridge across the ditch. Its inner end is covered by a gunloop in the basement of the Great Tower; its middle length is raked by another loop at the corresponding level of the East Tower; and the descent to the bridge head from the counterscarp is commanded by the loop, so shrewdly contrived for this special service, on the second floor of the Great Tower. All this, of course, was in addition to the frontal fire from the basement of the Mid Building and the gun platform above, as well as the radiating fire from the battlements of the East Tower.'²⁰

18. Simpson, Ravenscraig Castle; Cruden, The Scottish Castle, 212-15.

19. Ibid., 214.

20. Simpson, Ravenscraig Castle, 29.

It will be convenient here to summarise the military features of the castle that bear some part in this interpretation:²¹

- (1) thick walls to withstand battery
- (2) the low profile of the foreworks of the castle, also for greater security against bombardment
- (3) provision of gun loops, including loops providing flanking fire
- (4) provision of a large gun platform over the entrance.

While the hypothesis of Simpson and Cruden has considerable merit it would seem greatly to overplay the military implications of the design. It is possible that the site at Ravenscraig was favoured for erecting a castle because a good portion of the walls and the entrance could be sunk beneath the reach of artillery but the squat outline of the castle we believe to be the result of failure to complete the original design after the death of Mary of Gueldres.

As will be shown below, we must assume that the wide-mouthed loops in the screen wall are sixteenth-century and they do not have the appearance of being inserted. Simpson in making his case for a gun platform rather than a hall made much of the fact that there is no weather-table or chase and joist-halls in the wall of the west-tower for a roof to the hall as one would have expected. Simpson assumed that the west tower was substantially a work of 1460-63 but a closer look at its stonework suggests that only its east front was built up at this time and that the side next to the supposed site of the hall was built later, hence the noticeable straight join and the slightly different character of the stone-work. We would suggest that this was done by the Sinclairs after they had abandoned any idea of completing the mid-range. One further feature not noted by Simpson and worth pointing

21. We shall not consider the angled form of roof on the east tower as this is a secondary feature, presumably no part of the original design.

out here is the outline of a large window embrasure on the courtyard side of the platform, surely indicating it could not have been intended to remain open. Thus, if the platform was ever conceived of as an artillery platform, it cannot be assumed to have been so from the 1460s.

The provision of gunloops at Ravenscraig was certainly a step forward in military planning, but six loops, only two of which could take guns of moderate size (to which might possibly be added two intended examples above the entrance in the original scheme) could hardly provide adequate fire-power, especially since most of the loops cover only the ditch. Only defence from the battlements on top of the towers would provide adequate defence of this front. Nor is the positioning of the loops suggestive of the planned layout claimed by Cruden. A gunloop on the stair was hardly convenient and there is no evidence for any special provisions for guns and crews - the loops may in some cases rather be characterisæ as difficult of access.

Granted that the space above the entrance in the mid-building was left as an open area it is difficult to conceive of this being employed as a gun platform. The gun-ports as built are clearly for small guns without carriages and it would have been impracticable and undesirable to mount guns facing in the opposite direction to fire out to sea, not least because the ranges of buildings in the courtyard would have got in the way. Ravenscraig is undoubtedly of interest in that it is an early royal attempt to incorporate provisions for guns into a fortification but we should beware of reading too much into it.

The insp^{ir}ation for Threave and Ravenscraig is not immediately apparent. Simpson suggested that the latter might be compared with the great bulwark at Hohk^unigsburg in Alsace, actually erected after 1479 and therefore a good few years later.²² While the comparison in the present writer's eyes is not particularly telling, Simpson may well have been on the right lines in

22. Simpson, Ravenscraig Castle, 29-31.

looking to the Continent for parallels, and more particularly to the Burgundian sphere of interest. After all James II's queen was Burgundian and he had already received military aid from that quarter, notably in the form of Mons Meg. There is also more than the suggestion of a foreign origin in the name of the master mason on the site, Henry Merlyioun.

The artillery work at Threave was possibly the inspiration for the curtain walls of a more conservative nature built round other Scottish towerhouses like Hatton and Dalhousie in Midlothian.²³ The best preserved example is at Craigmillar on the outskirts of Edinburgh. Here a fourteenth century tower built on the edge of a low cliff has had a rectangular enclosure, about 37 by 24 metres, with four round corner towers built round about it. The walls are about one and a half metres thick and eight and a half high, surmounted by a wall walk and parapet built out on machicolations. The towers are of two stories, with key-hole loops at ground level. Some of these may be the result of re-working ordinary ventilation slits. There are small circular apertures in the upper stories - for guns? - and evidently also in every second merlon on the wall walk. Parallels for such apertures can be sought in fifteenth-century English castles like Herstmonceux and Warwick.²⁴ The flat, parapeted roofs of the towers might also have mounted guns.

This curtain wall at Craigmillar has been thought to date to 1427 owing to the supposed reading of this date on an armorial panel above the gate by an earlier antiquary. This date of 1427 has, however, been convincingly shown by Stell to be a misinterpretation of some border decoration on the existing armorial panel²⁵ and it is much more likely that the curtain wall

23. Hatton is now totally destroyed, but had a rectangular enclosure with round corner towers. Dalhousie has only one round tower with simple rectangular slits flanking the curtain walls.

24. O'Neil, Castles And Cannon, pls. 7, 8.

25. Stell, 'Late Medieval Defences in Scotland', 45-46.

and towers were built by Sir Simon Preston whose arms appear above a postern. They may thus date to the late fifteenth or early sixteenth century.

The development of this type of courtyard plan castle with a curtain wall flanked by round-towers enclosing a towerhouse is in marked contrast to what appears to have been the more normal Scottish plan in which the tower, and other ancillary buildings were linked with walls to form roughly rectangular enclosures. Examples of this can be seen at Kilmarnock in Ayrshire, Crichton in Midlothian and Skipness in Argyll (as it was remodelled in the early sixteenth century).

Key-hole and dumb-bell loops made their appearance in some of the towerhouses themselves put up from the late fifteenth century and some survive in the basement of the palace block at Huntly Castle in Aberdeenshire, which was started after the burning of the castle in 1452 by the Earl of Moray.²⁶ The upper floors date to the sixteenth century. Normally they were provided only sparingly in the vaulted ground floor cellars as at Badenheath in Dumbartonshire, Cardoness in Kirkcudbrightshire and Affleck in Angus. At Ravenscraig Castle in Aberdeenshire, a towerhouse licensed in 1491,²⁷ there are loops with a crosslet slit near the top and a circular aperture at the bottom. Pitsligo, also in Aberdeenshire, was similarly provided.

James IV had towerhouses built at Tarbert in Argyll and on Inchgarvie in the Forth, the latter being defended with two serpentines with five chambers between them,²⁸ but at Rothesay in Bute and Dunbar in East Lothian the basic towerhouse form was adapted into a gatehouse. At Rothesay there are two gunloops but the gatehouse at Dunbar seems to have been very much more

26. W.D. Simpson, Huntly Castle (Ancient Monuments Guide, 1954), 4.

27. RMS, ii, no. 2030.

28. TA, v, 24.

businesslike in its provisions for guns with key-hole loops at more than one level, but it is now, unfortunately, in a very poor state of preservation. An earlier Dunbar Castle had been destroyed in 1488²⁹ on the orders of a parliament which had experienced too much trouble from its keepers and withholders. But the advantages of refortifying this rocky site, protecting an important port and burgh, soon became apparent and work was commenced by James IV in 1497. Apart from the gatehouse (forework) it had a tower called Hans Tower which may have been named after James' Danish gunner Hans. This was possibly the round tower at the north-east point of the castle enclosure shown in an early engraving.³⁰ There was also a vaulted hall and a chamber for the king. At least three serpentines were provided for the castle's defence by John Lamb in Leith, each having two chambers, myks and slots.³¹

At Linlithgow Palace and Stirling Castle there is evidence for a more sophisticated approach to the use of guns in the works designed for James IV, with considerable provision being made for flanking fire. Parallel to the east wall of the palace is a section of walling into which three round towers, now greatly ruinous, have been butted. This bulwark seems to have been designed as a support for the palace wall at this point, the towers taking the thrust of three recent flying-buttresses replacing earlier ones.³² The middle tower is smaller than the others and contained a turnpike stair entered by a door at ground level. Access to the other two towers could only have been from above, it must be supposed from the courtyard level of the palace, here considerably higher than the ground outside. The fifteenth-century entrance to the palace is immediately adjacent to the

29. APS, ii, 211.

30. W. Miller, The History of Dunbar (Dunbar, 1830), frontispiece.

31. TA, i, 334.

32. The Royal Commission (W. Lothian Inv., 224) considered there may have been a fourth but the evidence is not altogether satisfactory.

south end of the bulwark which obviously also had a function as a forework and may indeed have supported an approach way to the entrance. The northern-most tower had at least two stories, the lower with a gun-loop facing North-east where the ground slopes away steeply. The chamber in the southernmost tower is most complete. It has an internal diameter of about 2.75 metres and contains three dumb-bell gunloops with gun apertures of about 280 mm, so positioned as to command the other two towers. The sills of their embrasures are right at the level of the floor suggesting they were intended for small pieces of wood-fast artillery. It is likely that the other towers were similarly provided with gunloops. Their date of construction may be c. 1500 when the east entrance to the palace was re-modelled. The work bears a resemblance to that executed on a very much greater scale at Stirling Castle about the same time or shortly afterwards.

XIV

Stirling Castle has from the very earliest times been one of the key fortresses of Scotland. It has also seen considerable use as a residence of the Scottish sovereigns. It is sited on the rocky Western end of a ridge of volcanic origin, the medieval town keeping to the hill eastward from it, and overlooking the River Forth, navigable to this point by medieval craft of no mean size. As in Edinburgh Castle, the main building of the castle and fortifications are grouped towards the town side. Here in the period between c. 1500 and c. 1510³³ an impressive line of defensive work known as the forework was completed, consisting basically of a curtain wall and central gate-house and two rectangular towers at either end. The whole must have been conceived as a show front, with other outworks or barriers protecting it.³⁴

The gate-house group consists of a rectangular mass attached to the front of the curtain wall containing the main entrance passage and two

33. Stirling Inv, ., i, 183, giving dating evidence, from TA, ii, 85, etc.

34. Ibid., 183.

subsidiary ones, all adequately defended with gates and portcullises and originally fronted by a chainbridge. At the two salient corners are round-towers and flanking the gatehouse unit were two D-shaped towers on the curtain wall, now entirely removed. The gatehouse itself is now considerably reduced in height. At present it has a basement, ground and first floor, but probably had at least one storey more in the main block. The round towers are provided with dumb-bell loops in all three surviving stories and a further two in the side walls flanked the adjacent curtain walls. Some of the loops have been altered but all seem to have been contained in simple embrasures, the sills of which are roughly at waist level, with a field of fire of about fifty degrees and gun apertures of about 140mm diameter. These loops are so arranged as to give covering fire to the approaches to the castle and the D-shaped towers. Further gunloops still exist in this scheme of work, in one of the rectangular towers and the kitchen range behind it. The gatehouse group is of particular interest in that it presents a scheme of defence based on gunloops covering all the approaches.

In the years immediately after James IV's death at Flodden other schemes of fortifications were embarked upon by Edinburgh Town Council and the cathedral priory of St. Andrews in which reliance was placed in flanking fire from dumb-bell or key-hole loops. Only fragments of Edinburgh's 'Flodden Wall' remain, a line of defence begun in the panic caused by the defeat of 1513, and only one rectangular flanking tower in the Vennel leading off the Grassmarket. It is open at the back and has been provided with six dumb-bell loops, their gunports decoratively cusped.³⁵ It is probably typical of the other towers on the circuit as originally planned.

35. Edinburgh Inventory, no. 59.

The cathedral church of St. Andrews and the other Augustinian priory associated with it are set within a great, towered, enclosure wall, 1.61 km long, 6.1m high and 0.91, thick, containing an area of about 12.14 hectares. On the evidence of heraldic panels set on it, it was extensively rebuilt and repaired by Prior John Hepburn before his death in 1522. The section with two rounded towers and two rectangular ones along the north side on the cliffs overlooking the sea seems to be totally Prior Hepburn's work. The ground stories of the towers and the walls are provided with inverted key-hole loops. There is a battlement walk, built out on overhanging slabs at the back, owing to the thinness of the wall, which passes through the third uppermost stories of the towers. On the walls, between the towers, there have been turrets corbelled out to the front to provide additional flanking fire. This arrangement is reminiscent of work in the town walls of Newcastle* and at Alnwick Castle in Northumberland, both of fourteenth century date, and without the gunloops. It can also be paralleled at Visby in Gotland, in Sweden.

Some of the rest of the walls and towers have gunloops inserted in them, some of dumb-bell form. Possibly the work continued after the death of Prior Hepburn and some of this ought to be attributed to his successor and nephew, Prior Patrick Hepburn.

In Aberdeen the concern was not so much to refortify the town but to protect the harbour from invasion by sea. To this end the town council of Aberdeen took steps to erect an artillery tower and although this is now entirely gone we are fortunate in having a detailed description of it in the seventeenth century account of Aberdeen by Gordon of Rothiemay:

'Beyond Futtie lyes the fisher boat heavne; and after that, towards the promontorie called the Sandenesse, ther is to be seen a grosse bulk of a building vaulted and fflatted above, (the Block-hous they call it), and begun to be builded anno 1513, for guarding the

*Begun in the 13th century.

entrie of the harborie from pirats and algarads; and cannon wer planted ther for that purpose; or at least that from thence the motions of pirats might be tymouslie foreseen. This rough peece of work was finished anno 1542; in which yer lykewayes the mouthe of the river Dee was locked with cheans of irone and masts of ships crossing the river, not to be opened bot at the citizens pleasur. Over against the Blockhouse, upon the other syde of the river Dee, ther was lykewayes a little watch-tower builded upon the high ground, and a bell hanged up therin (the ruins of this bellhous yit to be seen). It wes appoynted that a centinell should be sett ther at all tymes, who should ring the bell upon the discoverie of any ship approaching; bot this divyce is layde by, long since as useles, and the Block-hous itselff not made use off but in the tyme of great alarms, and when forrayne incursions are feared, at quhich tymes commanded parties of the citizens keepe garde ther by turnes'.³⁶

The blockhouse is also illustrated on three earlier maps or views of Aberdeen, that of Gordon himself, dated 1661, on Slezer's map of 1693 and Gregory Sharpe's map of 1732. The first and last of these show a low, broad D-shaped tower with a flat roof. Slezer's view, however, seems to show a low circular tower with loop-holes and a cap-house on top.

There are also various mentions of the block-house in the Council Register of Aberdeen. The desirability of building one seems first to have surfaced in June 1497 when fear of an English invasion from the sea caused the council to order the building of 'fossis and bastalye' from the south to the north haven, with a blockhouse at the haven mouth.³⁷ The blockhouse was probably at least started at this time as there was one in

36. J. Gordon, Aberdoniae Vtriusque Descriptio (Spalding Club, 1842), 17-18.

37. Counc. Reg. Aberdeen, 60-61.

Text cut off in original

1513 which could be 'biggin and vpmakin' in the March following Flodden, and at this time a gunner was feed by the town for six months presumably to operate the guns in it.³⁸ Work continued on it in 1514.³⁹ Even then work may not have progressed very far or satisfactorily as in February 1532/3 a contract was drawn up between the town and two masons, Peter French and Sanders Monypenny, to build 'ane blokhousē... on the sand ness of stane and lyme, contening xxxvi fuit of lynth, xviiij fuit of breid, and vj fuit thik in the wall: of heicht, as beis thocht expedient be the maisteris of vark, with gunhollis and diuris of aistlar'.⁴⁰ Thus it may be that the tower shown on the early plans of Aberdeen dates essentially from this time.

It next received the attention of the council in September 1542 when it was ordered 'to heid the blokhousē with faill, and put any fulse rief thairon, thykit with faill' - which presumably means that it was provided with a parapet of turf and a covering of turf on its roof to deaden the effect of enemy artillery shot. It was at this time that the harbour mouth was closed with chains and masts as described by Gordon of Rothiemay. A 'commound hailis' (?) was also ordered to be built on the high ground belonging to the town in the Rotten Row.⁴¹ Two years later, however, in April 1544, the council was still ordering some of this work to be done, or at least done again. The top of the blockhouse was now to be defended with a 'dyk', twelve foot thick. A 'stark bastalye' was also to be erected, made of rafters or dales with sand piled up behind as a defence against artillery. Passages for issuing forth of this fortification - which was presumably that mentioned before connecting the two havens - were to be provided every thirty feet.⁴²

38. Ibid., 84.

39. Ibid., 92-93.

40. Ibid., 145.

41. Ibid., 184, 185-6.

42. Ibid., 197.

This blockhouse at Aberdeen, as built, may have been essentially a platform on which to mount large guns. It would thus have been rather different from the other fortifications hitherto considered, with their towers and high curtain walls and gunloops designed only to take guns of small size. Unfortunately we cannot be sure that this blockhouse was built or conceived in such a way as early as 1497 or even 1513.

We are on much surer ground when we come to consider the blockhouse erected by the Regent Albany at Dunbar Castle about 1520 since much of it survives to this day. There can be no doubting that it was considerably in advance of anything in Scotland up to that time.

Dunbar Castle was given to the Duke of Albany on his becoming governor of the realm and was delivered to de la Bastie late in 1514.⁴³ Albany himself did not arrive in Scotland for another few weeks but from the beginning he evidently intended that Dunbar should be his principal base in Scotland and set to improving its defences and facilities. There can be no doubt about what Albany's major contribution to the castle was, the great 'blockhouse'. It is situated on a steep-sided, almost inaccessible rock, separated from the main part of the castle by an inlet of the sea, and detached from the mainland by a deep chasm, presumably not altogether natural. On this Albany had a stout polygonal stone rampart constructed, measuring as much as 28.5 by 23 metres. The walls, themselves 6.5m thick, were scarped and pierced with seven large gun-loops covering the neighbouring land and the castle, gunloops of a totally different kind from those seen hitherto in Scotland.

The gunloops in the Dunbar blockhouse are of the type called by modern writers 'wide-mouthed' - that is they have horizontal slits with rounded ends to the outside. These converge in the thickness of the wall to form a

43. ADCP, 27.



The blockhouse, Dunbar Castle, and the outer gateway,
Tantallon Castle

circular aperture or throat in the inside wall of the blockhouse (in one case) or in the depth of a casemate in the others. The slits are up to 1.75 by 0.75m while the throats are from 300 to 380mm. Thus the field of fire from each individual loop was fairly limited. The embrasures for these gunloops are deep and vaulted, two with one gunloop each and two with two. The soffits of two of the casemates are pierced with vents to help disperse the smoke from firing the guns and there are also at least two recesses in the side walls, original features, perhaps intended as expense magazines.

There are remains of a massive masonry parapet above the level of the casemates and there are vague signs of gun emplacements within it. The interior of the blockhouse was unroofed and open to the rear, facing the castle to which it was connected across an inlet of the sea by a traverse wall containing a passage-way.⁴⁴

The exact date of the Dunbar blockhouse is not certain. Pitscottie suggests that it was built after the siege of Wark Castle in 1523 but in a letter from Lord Dacre to Cardinal Wolsey, written a few months before this siege a description of the 'new bolwerk' devised by Albany⁴⁵ - undoubtedly the blockhouse, is given. Dacre claims to have seen it, and, as pointed out by MacIvor, this may well have been about January 1521/2 rather than later. It is not improbable that work on it was begun shortly after Albany's first arrival in Scotland.

This blockhouse in its size, shape, profile and, most important, its function, was markedly different from the - in comparison - puny round towers with gunloops favoured by James IV at Linlithgow and in the gatehouse

44. This description owes much to the study of the castle by I. MacIvor in 'Artillery and Major Places of Strength in the Lothians and the East Border, 1513-1542' in Scottish Weapons And Fortifications, ed. D.H. Caldwell (Edinburgh, forthcoming).

45. Pitscottie, Historie, i, 303.

at Stirling Castle, or the towerhouses and works with gunloops already described. Its low but massive scarped walls, aggressively angled towards the neighbouring mainland, were built to deflect the shot of large siege guns, or at least withstand their battering.

Functionally, the significant point to grasp is that it was intended to mount guns, probably not just in its casemates but also at parapet level, which would have been effective against enemy siege earthworks and in dismounting enemy guns. How the guns in the casemates were mounted is not known, but presumably not on field carriages as other guns in fortifications are known to have been mounted at this time. MacIvor has pointed out that while there was undoubtedly enough room to run such guns back for loading it would have been difficult to aim them owing to the very slight elevation and depression feasible in the vertical section between gun-hole throat and external aperture. He further suggests that breech-loading guns mounted on trestles may have been the most likely armament.⁴⁶

MacIvor is very probably right in suggesting that breech loading guns were used but he possibly makes too much of the supposed difficulty of sighting guns on field carriages in the casemates. Although there is no evidence from Scotland for them at this time it is also possible that the guns were mounted on special garrison carriages, rather like those used on shipboard as late as the nineteenth century, with small wooden wheels known as trucks. The guns on top of the walls of the blockhouse might also have been so mounted.

The blockhouse owed a lot to contemporary thinking in fortifications elsewhere,ⁱⁿ Europe, particularly as practised by the Italians,⁴⁷ and Albany

46. MacIvor, 'Artillery and Major Places of Strength'.

47. MacIvor (ibid) suggests that the design of the blockhouse may have been by a Frenchman (?), Moyse Martin.

had, of course, served with the French in Italy prior to coming to Scotland. There are, however, no very obviously close contemporary parallels to the Dunbar blockhouse in Italy, France or elsewhere, known to the writer, possibly because the limitations of the rock on which it is built has strongly influenced its plan.

Whatever the precise date of the Dunbar blockhouse it is likely that its gunloops were the first of the wide-mouthed variety to be constructed in Scotland. The immediate inspiration for them was likely to be French, similarly shaped loops with rounded ends occurring in the Porte des Allemands at Metz and the Chateau de Lafauche in Haute-Marne.⁴⁸ In general, rectangular, horizontal loops were favoured in Europe (but not England) at this time. In Scotland this particular wide-mouthed variety with rounded ends dominated all other types and was used extensively in houses great and small throughout the sixteenth century and in the seventeenth century as well, although, as we shall show, there was more variety in the arrangements for mounting the guns inside, and most were for small guns, or hand firearms.

In England larger loops for artillery appear as early as 1481 at Dartmouth Castle. They have rectangular openings, rebated externally for shutters, hinged on one side or the other. The openings splay internally. Later loops in the fortifications erected by Henry VIII have loops which splay externally as well and have arched openings.⁴⁹ Wide-mouthed gunloops of the Scottish type did not penetrate south of the border, nor did English types spread to Scotland.

The Dunbar blockhouse also had a more immediate influence on works of fortification erected or modernised by James V at Tantallon and Blackness,

48. P. Truttmann, 'Ces Forteresses Autour Desquelles S'Est Batie La France: Embrasures de Tir', Archeologia, xviii (1967), fig. 3b. Dunbar's smoke vents are also paralleled in early 16th century French fortifications, *ibid*, 75.

49. B.H. St J. O'Neil, 'Dartmouth Castle and other defences of Dartmouth Haven', Archaeologia, lxxxv (1936), 140-1; *Idem*, Castles And Cannon, (Oxford, 1960), 41-63.

but before we consider this it is necessary to consider the earthworks at Tantallon which appear to pre-date the siege of 1528 and may have been built with artillery in mind.⁵⁰

The major Douglas stronghold of Tantallon stands on the coast of East Lothian near North Berwick. Its site is a promontory jutting into the Firth of Forth and its main architectural element is a massive late-fourteenth-century curtain wall, a bit less than four metres thick and seventeen and a half metres high to the top of its present sixteenth-century parapet. At either end is a round tower rising above the level of the curtain wall and in the centre, a rectangular gate-tower. The whole is fronted by a broad and deep ditch across the neck of the site. A further massive bank and ditch crosses the promontory from side to side, enclosing an extensive horn-shaped outer bailey in front of the curtain wall. The approach to the castle is channelled along the outside of this, between it and a burn, until it turns to cross the ditch not far from the cliff-edge. The date of this rampart and ditch is not known, but that in some form or other it pre-dates the siege of 1528 seems likely. MacIvor has pointed out that the masonry traverse and tower (described further below) guarding the entrance through this outer defence, show evidence of repair to damage which is most readily interpreted as being caused by bombardment, and this work is largely executed in the greenish stone found in most repairs carried out in the decade after the siege of 1528.⁵¹ It may be that this earthwork ought merely to be interpreted as the defensive boundary of an outer ward but in its present form at least, it has all the appearance of a work calculatedly erected to keep siege guns at a distance from the main curtain wall and shield it from gun shot.

50. MacIvor, 'Artillery and Major Places of Strength'.

51. No consideration is made here of the ravelin, shown for instance in J.S. Richardson, Tantallon Castle (HMSO, 1960). It presumably dates to the 17th century.

Tantallon is not the only Scottish stronghold with outer earthworks which may have served the purpose of keeping guns at bay. Unfortunately, in the lack of documentary information and dating from archaeological excavations it is difficult to put a date on most of them. We shall turn to them later on in this chapter.

If we accept MacIvor's hypothesis that the repair work on the tower and traverse defending the entrance through this outer work are indicative of a post-1528 building operation it follows that these works are likely to have been erected by the Douglasses. If we also accept that in their use of wide-mouthed gunports they are copying the blockhouse at Dunbar they can be dated approximately to the years from 1515 to 1528 at the outside.

The traverse wall has six wide-mouths and the tower three in its vaulted ground floor and three in the parapet wall round its flat roof. xv These are like the loops in the Dunbar blockhouse but of very much smaller size. Their throats, varying from about 19 to 23mm in diameter are about waist height in the tower and at different heights in the wall, and are not set in embrasures. This suggests that they were for firing small pieces of artillery, like hagbuts of crok, the stocks of which could be held in the hands while the fore-ends were positioned in the throat.

Pitscottie tells us that James V had the walls of Tantallon repaired and had 'transses and throw passagis maid all massie wark'.⁵² The great curtain wall contains stairs, passages and chambers, and some of these still retain the evidence of this filling, designed to give strength against bombardment. Other work was done in this period of royal control and payments for this are to be found in the Treasurer's accounts as late as 1539.⁵³ The work may well have been unfinished on the death of James V in 1542 for not long after the restoration of Angus the English agent Sadler

52. Pitscottie, *Historie*, i, 330-3.

53. *TA*, vii, 256, etc.

could write that 'I could perceyve the Erle of Anguisshe had no greate good will to lett me lye in house of Temptallon, because the same be unfurnished and almoste all the lodginges taken downe to be newe buyldyd'.⁵⁴ The work that was completed for James V is almost certainly the remodelling of the mid-tower and east-tower with large gun-loops for artillery. It is more than likely that the Douglas tower was similarly provided but it is now too ruinous to say.

The mid-tower has a barbican projecting into the ditch, built, perhaps, sometime in the early fifteenth century. Over this, and bonded on to the front of the mid-tower a flat D-shaped forework was erected with an entrance doorway much reduced in size from that originally in use in the mid-tower as built. A wide mouthed gunloop was inserted in one wall of the barbican to fire along the ditch, and above it, in either end of the new fore-tower, two large wide mouthed loops were positioned to cover the entire frontage of the castle. These loops have circular throats at least 380mm in diameter. The vaulted ground of the east-tower was converted into a casemate with a similar but smaller loop with a throat 270mm in diameter only about a foot off the floor, probably intended for a wrought iron breech-loading gun bound to a wooden stock laid across the floor. In the storey above there are two further large loops, 410 and 460mm in diameter, which could have had carriage mounted pieces. Unlike the casemates at Dunbar there are no elaborate arrangements for the dispersal of smoke through vents in the thickness of the wall.

Finally, the remodelled parapets should probably also be attributed to James V. They are of great thickness, with long, low merlons with sloping top surfaces, obviously intended to deflect enemy shot up and away from doing damage inside. Battlements similar in character and provided

54. Sadler, State Papers, i, 321.

with wide mouth gunports are to be found on the mid-sixteenth-century towerhouse at Carberry, not so many miles away, and also at Mains Castle near Dundee. At Ravenscraig Castle the caphouse of the west tower is set in a talus of about 45° which is probably also sixteenth century workmanship.

XIII

Tantallon again came into crown hands on the death of the fifth Earl of Angus in 1556. It was placed in the care of Simon Preston, Laird of Craigmillar as Keeper, and the inventory of its munitions (see above pp. 71-73) made at this time is of great interest in showing how this important fortress was defended at that time. Unfortunately not all the locations of the guns can now be identified with certainty, but what is apparent is that the main guns were mounted on top of the towers rather than in the gunloops down below, with the possible exception of a cutthroat 'in the entries of the yet'. The east-tower head had two culverin moyens and a falcon, the Douglas towerhead two falcons and two slangs and the top of the forework ('above the brig') two single and a double cutthroat. The gunloops were mostly only capable of providing flanking fire and were thus meant for close range work. These guns on the tower tops, on the other hand, could fire out over the outer earthwork to the countryside beyond, and if we are to believe the boast by Sir George Douglas to the Earl of Suffolk in 1543, could shoot two miles.⁵⁵ A similar arrangement of large guns placed high on towers to fire over outworks was to be found at Edinburgh Castle and probably also at the Hamilton Castle of Cragneithan, both described below.

The other castle modernised for artillery by James V was Blackness, situated in a commanding position at the end of a little rocky headland jutting out into the Firth of Forth at a point where it is only about half

55. Hamilton Papers, ii, no. 103.

a mile wide. From earliest times until the eighteenth century Blackness was the harbour for the royal burgh of Linlithgow, only three miles inland. The castle at first belonged to the Livingstons, only passing into royal hands in the reign of James III. It became one of the main fortresses of the realm, seeing much use as a prison.

The plan of the castle has obviously been largely determined by the nature of the site, its walls rising from the margins of the rocky peninsula and separated from the landward side by a water filled ditch.⁵⁶ It is shaped like a ship with a central tower, a smaller one at the 'prow' and a large grouping of buildings at the 'stern'. Some of this work belongs to the period before the castle passed under royal control, in particular some of the curtain wall and the central tower.⁵⁷ The large block at the 'stern' or landward end of the castle, with a high central vaulted passage at ground floor level flanked by lower vaulted chambers is probably royal work of the reign of James III or even James IV. Although careful scrutiny of the rubble exterior face of this work has failed to reveal any sign of a gateway it seems most likely that this work was originally a gatehouse not unlike the one at Crichton Castle in Midlothian.

The Treasurer's accounts for 1538-1542 preserve some record of not inconsiderable building at Blackness Castle, work probably starting in 1536 or 1537.⁵⁸ Specific mention is made of the 'dungeoun' and 'kecheing tour', which may have been the central tower and the remodelled gatehouse (?), respectively. It was probably at this time that the castle assumed

56. There has been recent land reclamation to the west and the ditch is now filled in. The strength of its original disposition can be seen from early plans, e.g. one of 1725 in the British Library: WLD/6/1 (a) & (b) (copy in the Nat. Monuments Record, Edinburgh).

57. It is to be noted that the interpretation which follows differs substantially from that in the W. Lothian Inv, 192-5.

58. TA, vii, 91, 302, 474; viii, 73; ADCP, 453.

the overall form familiar to us today. Some more building activity is recorded for 1567-1569 but here we shall describe all the sixteenth century work together as it is not at present possible to assign all of it with absolute confidence to the one building phase or the other.

The battlements of the central tower were re-structured and wide mouthed gun-loops for hand-guns provided in the parapets.⁵⁹ A new entrance to the castle was initially made in the east face which now, significantly, seems to have become the show front of the castle, with a centrally placed panel in the battlements containing a much weathered heraldic beast. The supposed gatehouse was converted on the ground floor into an artillery blockhouse with five widely splayed, deep embrasured gun-loops in its thickened walls. These most probably belong to the 1538-1542 building phase. Three vaulted and windowless chambers immediately above these gun positions, communicating directly with the ground floor by means of a hatch, may have been used for storing powder and shot. The gunloops were altered not very long after being built, their embrasures being partially filled in to form long splayed openings of greater strength,⁶⁰ probably at the same time as the east curtain was thickened and provided with two (most probably three) similar ones. Above was a broad platform for mounting guns, presumably the 'bak platfurme' mentioned in 1580-1.⁶¹ An earlier battlement level visible in the external walls of the blockhouse seems to point to the fact that the upper stories, themselves considerably remodelled, are no earlier than the 1536-1542 building phase. Apart from the addition of upper stories - not necessarily

59. The battlements and parapet at present are a 20th century reconstruction, but the 16th century arrangements can be seen in an old drawing copied by MacGibbon & Ross, Castellated And Domestic Architecture, iii, 226, fig. 162.

60. The loop in the S. face may have been like this all along, or may only date to this time. The wall behind the two E. facing loops was almost entirely removed to aid in manoeuvring the guns.

61. RPC, iii, 364.

part of the original plan - this structure is not so very far removed in character from the blockhouse at Dunbar, and, indeed, it may have been designed by the same person, Moyse Martin, the former master mason of Dunbar, appointed to the royal service in 1536.⁶²

When the east wall was thickened the entrance was blocked up and a new one made in the west side of the castle. This was protected by a gallery containing small gunloops for hand guns, entered from a tunnel dug from the casemates of the neighbouring blockhouse. The triangular tower at the 'prow' of the castle - perhaps originally with an artillery platform - and a block up against the gatehouse/blockhouse also both belong to the sixteenth century.

It might be thought that the strategic importance of the castle lay in its ability to command the Firth of Forth, but although some allowance must be made for the failure to complete sixteenth-century building plans, it is a curious fact that neither the artillery loops or platform (with the possible exception of the 'stern' tower) in any way covers the river. The guns which they presuppose were either directed towards the landward approach or the bay to the East. Here at low tide there is visible in the mud beside the castle a long curved line of stones enclosing a sizeable area, and another row at right angles, coming out to join up with it from the headland. It is likely that these are the remains of the medieval harbour of Blackness,⁶³ sheltered by the headland from the prevailing south-westerly winds, and it is precisely this area that the bulk of the castle's guns commanded.

Further remodelling was done at Linlithgow Palace, 1534-5, including the erection of an outer gatehouse and a new entrance in the south side.⁶⁴

Both gate and entrance are flanked by towers containing wide-mouthed loops

62. AMW, i, p. xxxiv.

63. A. Graham, 'Archaeological Notes on Some Harbours in Eastern Scotland', Proc. Soc. Antiq. Scot., ci (1968-9), 217, inexplicably denies this.

64. AMW, i, 115-31.

but since the towers were too small to contain space for a gunner as well as his gun there are only small recesses in the thickness of the walling which could take hagbuts of crok or small breech-loading guns mounted on trestles.

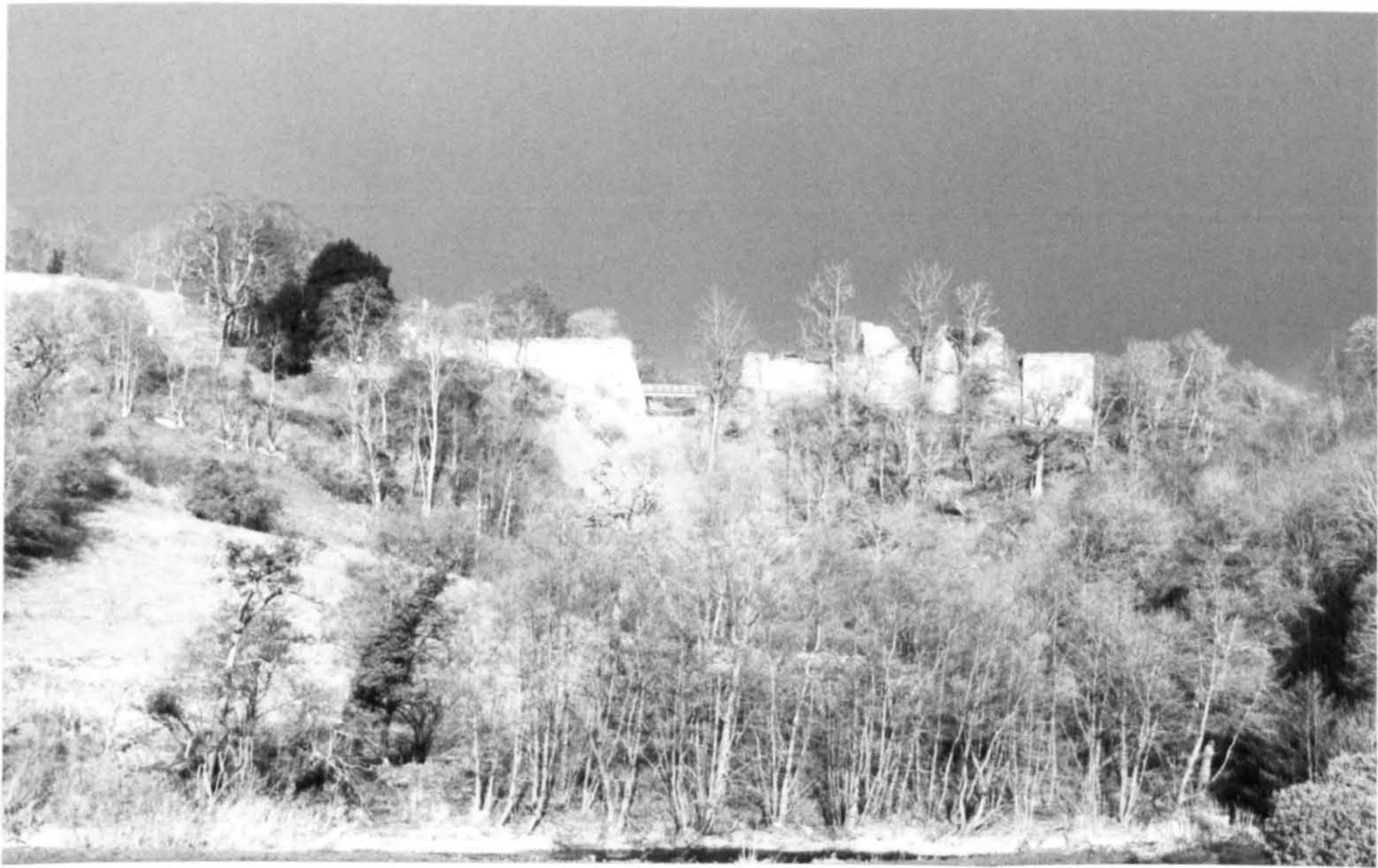
Sir James Hamilton of Finnart appears in the master of works' accounts in charge of this building at Linlithgow Palace and it is likely he had some involvement in the royal work at Blackness and Tantallon as well. In 1539 he was appointed principal master of work.⁶⁵ Even if this position was largely honorific and the actual work was done by people like John Scrymgeour of Myres and Sir Thomas Johnson, Hamilton must have been very much aware of the work being done. It is therefore of some significance that the most completely designed, and certainly one of the most sophisticated castles of the sixteenth century was one begun by him at Cragneithan (also called Draffen or Nethan) in Lanarkshire. It is probably still unfinished when he was executed in 1540 but must have been brought to completion, presumably to his plans, by the Earl of Arran who acquired it after the death of James V. It is unlikely to have been started much before 1532 and was complete before 1579 when it was dismantled.⁶⁶

The castle stands on a spur of land sloping off steeply to the Water of Nethan and the Cragneithan Burn which bound it. It was not without cause that the Earl of Sussex described it in 1570 as being 'situate in a hole, so that is commanded on every part'⁶⁷ as the site lies low in relation to the land round about, especially that at the neck of the site. It consists of XVI a large, impressively designed towerhouse set within a rectangular, towered

65. Ibid., pp. xxiv-xxv.

66. See I. MacIvor, 'Cragneithan Castle, Lanarkshire: an Experiment in Artillery Fortification', in Ancient Monuments And Their Interpretation, Essays presented to A.J. Taylor, ed. M.R. Apter, R. Gilyard-Beer & A.D. Saunders (London, 1979), for resume of dating evidence.

67. Cal. Scot. Papers, iii, no. 250.



Craignethan Castle. View from the South with outer courtyard to the left. The caponier

enclosure, separated from an outer enclosure by a massive ditch. Only the towerhouse and inner courtyard are thought to be the work of Hamilton of Finnart, but the outer one can hardly date much later than his death in 1540 and was probably part of his original scheme.

Only one of the six flanking towers on the curtain wall of the inner courtyard survives almost complete and it is provided with wide-mouthed loops for hand guns or small pieces of artillery just below parapet level. The other towers have gunloops at ground level. The main defensive feature of the castle was a massive forework rising straight out of the ditch separating the inner from the outer courtyard. It consisted of a great wall five metres thick continuing the line of the west faces of the two western towers. It would have risen to a height sufficient enough to screen the interior from guns placed on the neighbouring high ground, and its battlements, together with the towers at either end, were wide enough to mount large guns to retaliate with. At the present day it is reduced to ground level as a result of the slighting executed on government orders in 1579 but clearance of the rubble from the ditch suggests that it also had large gunloops with throats about 300 to 450mm in size.⁶⁸ What is more, other guns could probably be mounted on the broad walkway on top of the towerhouse to fire over the top of the curtain wall.

The inner castle is approached through the outer courtyard. It is defined by a three sided curtain wall of no great height or breadth, complete with battlements and flanking towers at the front through one of which it is entered from the outside. The towers are provided with wide-mouthed gunloops for hand guns or small pieces of artillery. The outer courtyard is presently completely open to the inner castle and was probably always intended to be like this. A wooden bridge crossed from it just to the

68. Ibid., 251.

North of the forework of the inner castle whence the approach road passed between the edge of the ravine and the north curtain wall, and through a door in the west flank of the mid-tower on this side. It then turned a right angle inside the tower to pass into the castle close.⁶⁹

The stone revetted ditch is crossed from side to side by a vaulted caponier, entered from a stair in the thickness of the forework. Six wide-mouthed gunloops, three on each side, are positioned to defend the ditch XVI bottom from attack. A secondary traverse wall, originally with a timber roof and open to the rear (North) was also built, perhaps not long afterwards. Its more open construction was no doubt influenced by the severe ventilation problems which must have arisen when guns were fired in the confined space of the caponier.

Craignethan Castle is a fascinating sixteenth-century essay in fortification design, a castle built de novo with the requirements of guns very much in mind. Although in toto it is a new and sophisticated design, some the elements of it may rather be rooted in the Scottish building tradition rather than be transplants from abroad.

Hamilton of Finnart was content, it seems, to oppose a strong wall to possible bombardment by artillery. The lie of the land made it difficult for guns to search out its base and the ditch before it considerably lessened the risk of minning. Hamilton was well aware how a similarly massive curtain wall at Tantallon had failed to succumb to the artillery of James V in 1528 and may already have been responsible for the thickening of the curtain wall at Blackness. Possibly the positioning of Ravenscraig Castle was influential in deciding Hamilton to build his castle 'in a hole'. We cannot, however, ignore the possibility that this, like other features of its design, was more influenced by ideas current in the rest of Europe which

69. The significance and date of a blocked up gateway in the south curtain is not known.

Hamilton may have picked up in his travels. A desire to hide masonry walls beyond deep ditches was only one of several related ideas in planning artillery works seen, for instance, in an extreme form at the fortress of Salces in the Pyrenees, built at the beginning of the century.

The elaborate approach to the castle and the ditch defences are much more definitely foreign in inspiration. The entrances of Ravenscraig and Tantallon must have considerably weakened their otherwise massive curtain walls, but this problem was ingeniously solved at Caignethan with a flank approach and bent angle gateway. Such expedients were well known around the Mediterranean throughout the medieval period. In Scotland, for a most improbable source of inspiration we can only look back to the great thirteenth-century donjon at Bothwell Castle with its door tucked in a flank beyond a ditch.

Caponiers and ditch defences of a similar sort were first devised by Italian engineers in the late fifteenth century and are figured in the 1527 work on fortifications by the German artist Albrecht Dürer. The caponier at Caignethan may well be the earliest example of such a work in Britain. There is little evidence that it had any immediate effect on planning elsewhere in Scotland, apart from at Blackness, where the gallery defending the new west entrance is perhaps reminiscent of it. It is worth pointing out that the barbican at Tantallon, certainly provided with at least one gunport, is not so very different either.⁷⁰

Also, we can only guess, of importance in the early history of artillery fortifications in this country was the castle of Hamilton itself. Unfortunately, like Caignethan, this castle was thoroughly dismantled in 1579 and only some overgrown ruins, not without the suspicion of later

70. There is a 16th century caponier at Visby in Gotland. See E. Eckhoff & O. Janse, Visby Stadsmur (Stockholm, 1936), 239-41, and others at Metz and Loches in France. See Truttmann, 'Ces Forteresses Autour Desquelles S'Est Batie La France', 73, 75.

landscaping or reorganisation, remain. It must be hoped that a programme of excavation and consolidation will be undertaken some time soon.

There is a charter by James V dated October 1542 to the master of Hamilton of the lands and barony of Hamilton of which the castle now built, or to be built, should be the principal message.⁷¹ This Hamilton Castle, now known as Cadzow, is not to be confused with the later Hamilton Palace. It is sited on the edge of the deep ravine formed by the Avon Water about two miles to the south-east of the town of Hamilton. There are the remains of a fortified house with key-hole loops which may date substantially to the late fifteenth or early sixteenth century. Beside it are the overgrown ruins of the castle which may have been begun by 1542 and was building in the 1540s. There are several references to the work in the Treasurer's accounts for 1546.⁷²

At present all that is left is a rectangular mass containing vaulted cellars, perhaps the base of a tower like structure, set in a three-sided rock-cut ditch, the fourth side being formed by the ravine. The two landward corners were flanked by round towers, one of which survives, with wide-mouthed loops covering the ditch bottom. It appears to be finished off at ground level with a coped roof and the gun chamber inside was reached through a hatch from above. The ditch is crossed by a recent bridge on the site of an earlier one, giving access to a doorway not only protected from gunfire by being below the level of the surrounding ground but by being recessed at an angle to the approach from the bridge. Both this fortification and the earlier house are contained within a ditched enclosure of larger size and unknown date.

71. Hist. MSS. Comm., 11th report, App. part 6 (1887), 21, no. 29.

72. TA, ix, 28, etc.

Apart from these fortifications erected by the Hamiltons and various royal works there was very little building of any importance in Scotland until after 1560.⁷³ The only other non-royal work of significance done in the first half of the sixteenth century was at St. Andrews Castle in Fife, the seat of the archbishops. The castle stands on the top of a cliff by the edge of the sea, cut off from the land by a large, deep, ditch. Much of the walling belongs to a fourteenth-century reconstruction but in the sixteenth century a new scheme of fortification to strengthen the south, or landward, side was begun, probably by Archbishop James Beaton (1523-39). This front already had a projecting mid-tower with the main entrance in the curtain wall to the West. It was now decided to build two massive round towers or blockhouses, one at each end of the facade, creating a grouping which must have been reminiscent of Tantallon.

Owing to the siege and subsequent slighting of the castle in 1547 nothing remains of these blockhouses but the stub of a segment of the western one, indicating that it was over sixteen metres in diameter. The east blockhouse, over which the body of Cardinal Beaton was hung in 1546,⁷⁴ was presumably of similar size but nothing at all remains of it today. In the surviving segment of the west blockhouse there is a large wide-mouthed loop for artillery, flanking the fourteenth-century curtain wall.

It was decided, however, not long after it was put up to build a much sturdier curtain wall, about 1.7m thick, in front of the earlier one, at least to the West of the mid-tower, with one surviving wide-mouthed loop for artillery covering the entrance. It is known that James Beaton's nephew David, Cardinal of St. Andrews 1539-46 was engaged in building

73. A point noted by Cruden, The Scottish Castle, 144-5.

74. Knox, History, i, 78.

operations at the castle from 1543 onwards⁷⁵ and no doubt this wall, if not the blockhouses, were included in the work. That it pre-dates the siege is indicated by the fact that the trial shafts dug by the protestants in the castle to counter the mine being dug by the besiegers lie behind it.

There is tantalisingly little to go on but it is probable that both blockhouses at St. Andrews were of a similar size, with large gunloops at ground level and, perhaps, living accommodation above. How they related - if at all - to the contemporary (?) blockhouse at Aberdeen will never be known but we might guess that at Aberdeen and St. Andrews we are dealing with Scottish versions of the artillery towers which crop up in many places in Northern Europe in the first half of the sixteenth century. Typically they are large, round, thick-walled, rather squatter than earlier medieval towers and have provision for guns at least at ground level. Their influence can be traced in a group of Scottish towers built in the mid and late sixteenth century, described below.

The interest of the Hamiltons in artillery and fortification has by now been demonstrated. In the years after James V's death in 1542 government was in the hands of the head of that house, the Earl of Arran, and not surprisingly the fortifications undertaken under his administration at the royal castles of Edinburgh and Stirling incorporate the most advanced design features yet to appear in Scotland.

Edinburgh Castle was rather different in the early sixteenth century from the way it is now. A good idea of its appearance then is provided by an English bird's-eye view of the castle probably executed in May 1544. It shows the castle defended from the rest of the town by a great curtain wall flanked by the great rectangular mass of David II's tower, the stub of which is now enclosed in the Half-Moon Battery,⁷⁶ and the Constable's

75. Rent. S. Andree, 176, 198, 224.

76. For the discovery of this see W.T. Oldrieve, 'Remains of David's Tower at Edinburgh Castle', Proc. Soc. Antiq. Scot., xlviii (1913-14), 230-70.

Tower, a round tower which contained, or stood next to the main entrance, where the Regent Morton's Portcullis Gate now stands. Between them there is a forework or barbican. Behind this curtain wall can be seen the great hall and St. Mary's Church on the highest point of the rock, now Crown Square, and another building possibly the gunfoundry (see above), tucked in behind them. There are no signs of any outerworks or ditches.

In the English invasion of 1544 the Earl of Hertford burned Edinburgh and Holyrood but considering the castle too strong to be reduced in a short space of time made no serious effort to win it. Nevertheless, this invasion right to the nerve centre of the kingdom undoubtedly precipitated a strengthening of Edinburgh Castle's defences. Work was well underway by the summer of 1546 when mention is made in the Treasurer's accounts of sixty pieces of stone for the 'goun holl'.⁷⁷ This is most likely to be the gunloop which now points through the Half Moon Battery directly down the High Street. It was only rediscovered and its outer face exposed in 1912. Built up against the north wall of David's Tower is a massive vaulted casemate containing this loop, which has a single-splayed opening sloping downwards slightly and formed of good quality ashlar. Its throat is about 50mm in diameter and the wall it pierces is a good four metres thick. There would have been an open battlement above and by February 1546/7 ditches were being cut, possibly just in front of this forewall.⁷⁸

Thus far the work is very much in the tradition of other royal or Hamilton fortifications, but later in 1547 we first hear of something rather different, representing an entirely new phase in the building or perhaps a change of plan. It is normally called the blockhouse, fort or spur and work was already started on it in April, continuing apace after the battle of Pinkie. The expenses of its Italian designer are recorded⁷⁹

77. TA, viii, 463.

78. Ibid., ix, 56.

79. Cal. Scot. Papers, i, no. 10, p. 71; TA, ix, 163.

- possibly Captain Ubaldini who was sent to Scotland by Henry II of France⁸⁰ - and payments were still being made as late as September 1552.⁸¹

Although there are no traces of this work visible today it is possible to form some impression of its original appearance. It is shown in an English bird's-eye view of the siege of Leith in 1560 and in another English view of the siege of the castle in 1573. The former does not inspire great confidence for its accuracy where it can be checked with the known appearance of features and buildings, for example Arthur's Seat and Holyrood Palace. The blockhouse is depicted in it as a masonry structure with windows or loopholes high up, and connected by a lower wall with the rest of the castle. The 1573 drawing depicts a great solid triangular forework or bastion with battered - stone faced (?) - sides. That it was also considerably higher than the ground before it is suggested by a statement in Bannatyne's Memoriales that a workman who fell over it in April 1571 while filling gabions with earth, died as a result of the fall.⁸² Mary of Guise had a 'flank' made beside the entrance in 1560⁸³ and Kirkcaldy of Grange did further work in the early 1570s to prepare it for the great siege including the digging of a 'sewche' (ditch) and 'pairing away the greine grasse, and making all thingis smwthe and sliddrie from clymming of the wallis'.⁸⁴ It seems that the ground between the spur and the Lawnmarket, that is the area now occupied by the Esplanade, was turned into a glacis to give no cover to an attacker. Great quantities of earth and turf were taken into the castle to deaden the blows of enemy artillery and early in 1573 the Englishman, Nicholas Errington, reported to his government that the garrison had cut off the fore-part of the spur, which was formerly of timber and

80. Cal. State Papers, Spanish, ix, 246.

81. ADCP, 617.

82. Bannatyne's Memoriales, 112.

83. Cal. Scot. Papers, i, no. 762.

84. Bannatyne's Memoriales, 112.

boards, and had now replaced it by a high wall of stone and lime.⁸⁵

This may refer to a parapet round its top.

A further plan of a forework at the castle, dating to the middle of the seventeenth century, can be used as evidence for the form of the spur on the supposition that it represents the sixteenth-century work as rebuilt after the siege of 1573. It consists of a raised V-shaped outwork, the parapet of which is pierced with numerous loops, attached to the rest of the castle by walls at both sides. The outer entrance to the castle passes through the southern flank wall, and both sides could be flanked by fire from the rest of the castle.⁸⁶ This is the outwork in the well-known mid-seventeenth-century view of the castle by Gordon of Rothiemay. Plan and view correspond remarkably closely with each other.

The spur was not just a walled enclosure. It is important to grasp that it was rather a great earthwork, the stone walls being merely to retain the great bulk of earth within and give greater stability. Its solid, platform-like nature is made clear by the view of the 1573 siege in Holinshed's Chronicles. It was meant to give bulk and depth to the castle defences and to be a platform on which to position guns.

Although none of the illustrations show that the spur had flanks or orillons as was the custom for Italianate bastions of its day, it relates more to the angle bastions perfected by Italian engineers like the San Gallo and Sanmicheli in the early sixteenth century rather than the ravelins of similar shape and size, for example at Sarzanello, a hill-top fortification in Northern Italy, built in 1483.⁸⁷ Ravelins are detached structures, separated from the mainwork by a ditch, whereas the spur at Edinburgh Castle

85. Cal. Scot. Papers, iv, no. 598.

86. See J.G. Dunbar, 'Three Little-Known Early Drawings of Edinburgh Castle', Book of the Old Edinburgh Club, xxxiii (1969), 10-12.

87. Hale, 'The Development of the Bastion', 484, pls. 21, 22.

was clearly based on the outer line of fortification. The nature of the site with negligible threat of heavy bombardment or escalade from below the ridge from North or South perhaps conditioned its flankless form, rather than complete ignorance of more developed bastions elsewhere. It pointed aggressively down towards the town, providing but one of three or four platforms at different levels on which guns could be mounted, for behind it was the forewall with the gunloop in it, and above that the top of David's Tower.

The inventory of artillery and munitions in the castle in March 1566/7 gives some idea of how the castle was defended. On the forewall there were four new French cannons and two grose culverins, all mounted on carriages. On top of David's Tower there was a carriage mounted moyen. On the hill at the back of the munition house (Hawk Hill ?) were two bastards, and below the hill two cannons. At either end of the chapel (St. Mary's Church) were two cannons and two moyens and at the postern, at the western end of the rock, there was a saker and a falcon. Between the butts (at the western end) there was a double cannon, a culverin, a saker, two moyens and a double falcon, and finally at the gunhouse gable (near present site of Argyle Battery ?) there was a grose culverin and a moyen.⁸⁸ There is no mention of guns in the blockhouse, possibly because they were only positioned there when the castle was under threat.

While this spur was being built at Edinburgh Castle, another, apparently very similar, was also being put up in front of James IV's great forework at Stirling Castle.⁸⁹ A seventeenth-century plan of the castle by John Slezer and another early-eighteenth-century one by Theodore Dury show an angle-pointed work called the 'spur'. It is flanked on one side by another angle-pointed work of smaller size with the entrance into the castle formed

88. Wardrobe Inventories, 166-7.

89. Cal. Scot. Papers, i, no. 10.

at the juncture of it and the spur, and on the other side by a demi-bastion, wrapped round the eastern tower of James IV's forework, having a pronounced orillon and flanker with loops for two guns. Possibly the 'tua bumbartis of irne for flancouris lyand on their bred syde' mentioned in an inventory of the castle drawn up in 1585 were positioned here.⁹⁰ This is called the 'French Spur' on both plans, and the name in this case is thought to refer to an occupation of the castle by French troops in support of the Queen-Dowager, Mary of Guise, in 1559. It is of some significance that there is a fleur-de-lis carved in relief on its face.⁹¹ In any case, these fortifications are likely to be a mid-sixteenth century strengthening of the castle.

It was assumed that all traces of these works were swept away in the great remodelling of the castle's defences between 1708 and 1714, but recent excavations undertaken by Gordon Ewart on behalf of the Inspectorate of Ancient Monuments have revealed traces of them and helped to confirm the accuracy of Slezer's and Drury's representations.⁹² The excavation, done in advance of pipe-laying was in the supposed area of the French Spur, now occupied by the Spur Battery. Evidence was found of its flanker which had a single tier of guns at parapet level and was not casemated. Its frontal wall appeared to have a composite parapet, about 2.6m thick, probably with the two embrasures, shown in the early plans, as an original feature. It follows from all this that some of the walling, perhaps a considerable quantity, of the spur is likely to be incorporated in the Queen Anne forework, below the Over Port Battery. Unfortunately, no exact date for the French Spur with its orillon and flanker can be given. It should probably be considered as later than the spur, if only by a few years

90. SRO E96/4.

91. Stirling Inventory, i, 184.

92. The writer is most grateful to Mr. Ewart for making available to him his excavation report in advance of publication (now published in Post-Med. Archaeol., xiv (1980), 23-51).

ENGLISH AND FRENCH ARTILLERY FORTS IN SCOTLAND

The Scots with the aid of at least one Italian architect were on the threshold of developing trace Italienne fortification in the 1540s as evidenced by these foreworks at Edinburgh and Stirling Castle, but in the succeeding years they stood on the side lines as English and French engineers erected forts in competition with each other on Scottish soil. These forts, built in the years from 1547 to 1560 were amongst the most sophisticated of the time anywhere in the world. Despite their crucial place at the beginning of 'modern' fortification in Europe they are little known and even less studied. It has even been possible for an authority on artillery fortifications in recent years to publish a survey of such fortresses in the years 1494-1660 without making mention of them.⁹³ This ignorance will, however, soon be remedied to a considerable extent by the appearance of a further volume of The History of the King's Works with a chapter on the English forts by Dr. Marcus Merriman.⁹⁴ Here, it must be emphasised yet again, it is not our task to consider English or French involvement in Scotland in any great detail. The following brief account of the English and French fortifications is merely to provide a context for Scottish work and explain what influences the Scots were open to.

In the first half of the sixteenth century the development of artillery fortifications in England had followed distinctly different lines from those in Scotland. There was nothing in England to compare with the Dunbar

93. C. Duffy, Siege Warfare (London, 1979).

94. I am indebted to Dr. Merriman for allowing me to see a version of his chapter on 'The Fortresses in Scotland, 1547-50', prior to publication.

blockhouse and nothing in Scotland remotely like the concentrically planned coastal defence castles erected in the South by Henry VIII. Even in such a simple matter as gunloops there were differences, the wide-mouthed varieties not penetrating into England or English types, like the small rectangular embrasures at Norham Castle on the Tweed or the great arched openings for large artillery elsewhere being adopted north of the border.

There are no hints of an awareness of Italianate angle-bastions in English fortifications until the 1540s, immediately prior to the building of the forts in Scotland. At that time there was much work for English engineers and masons in the north of France, engaged in a desperate attempt to hold on to the English foothold in Boulogne, captured in 1544. In that year, the military engineer John Rogers, who had previously worked for Henry VIII at Guines in France and at Hull, was appointed surveyor of all the fortifications and works at Boulogne.⁹⁵ At Guines and Hull Rogers had been working on fortifications with squat masonry bastions, some of them of trefoil shape and, unlike the slightly earlier coastal forts at Deal, Walmer and elsewhere, well provided with flankers. Now at Boulogne and nearby Ambleteuse, from the evidence of contemporary plans, Rogers made a complete change from such tower bastions and connecting masonry curtain walls to fully fledged Italianate earthwork schemes with angular bastions, the flanks of which were protected by orillons, and surrounding ditches. It is not clear what brought this change in English practice, but it does seem to have been sudden and in the two or three years immediately prior to Somerset's Scottish expedition of 1547.

Rogers himself did not have anything to do with the design or execution of the forts in Scotland but some of the personnel who did - Sir Richard Lee, Lord Grey of Wilton and Sir Thomas Palmer - had also seen service in the

95. L.R. Shelby, John Rogers. Tudor Military Engineer (Oxford, 1967), 143.

North of France. The Italianate plans developed there were also put into practice in Scotland, particularly at Eyemouth, Lauder, Haddington, Broughty and Dunglass. At Roxburgh the design of the fort was strongly influenced by the remains of the earlier castle and by the limitations of the site. Elsewhere, for example, at Castlemilk and Fast Castle, existing Scottish fortifications were occupied and modified little or not at all.

The fort at Eyemouth was the first erected by the English in Scotland in 1547. It is the best preserved of the group, having been practically untouched since the sixteenth century, and in this respect is almost unique as an example of a sixteenth-century trace Italienne fort. Eyemouth lies about seven miles along the coast from the great border stronghold of Berwick and is the only port between it and Dunbar, twenty miles further along the coast. It also lies on the main east coast route (in the sixteenth century) into Scotland and was of importance to the English not only as a centre from which to dominate the surrounding countryside but as a staging post in the supply of food, munitions and men to their main Scottish stronghold at Haddington.

The fort is situated on top of a promontory which juts out into the sea to the North of the harbour and was planned by Sir Richard Lee, surveyor of the king's works in the North.⁹⁶ Lee's design consisted simply of a massive earthwork rampart across the neck of the promontory, with ditch and counterscarp and a centrally placed bastion with flankers on both sides. The rampart XVII returned at both ends along the sides of the promontory for a short distance. An area of nearer 1000 square metres was thus enclosed with great economy of effort and it is known that by October 1547 the fortification was well advanced.⁹⁷ Its normal garrison seems to have consisted of its captain - at

96. Cal. Scot. Papers, i, no. 62.

97. Ibid., no. 58.



Eyemouth Fort. The English defences from the West

first Thomas Gower - several lieutenants, a master gunner, two porters, a drummer, a surgeon, an ensign and a clerk plus ten light horsemen and thirty four hagbutters.⁹⁸

Excavations at Eyemouth conducted by the writer and Mr. Gordon Ewart over the last two years (1980-1) on behalf of the Scottish Development Department have helped enormously in understanding this fort. The main thrust of the work was to dig some of the buildings within the fort which are under grave threat from coastal erosion, and the information gained from this has still to be fully evaluated. It was also possible, however, to dig a section through the English rampart, ditch and counterscarp which revealed that there was no stone facing nor any trace of a wooden one. The rampart itself was made up of three hard packed, stepped rafts of clay and it was also shown that the profiles of the earthworks today are essentially as built in the middle of the sixteenth century. This was surprising as it was thought before excavation that the rounded profile of the ditch and gentle slope of the rampart were the result of deliberate slighting of the site and subsequent slippage and erosion. Theoretical considerations seemed to demand that the ditch should be broad and flat bottomed and that the counterscarp and rampart should be as near vertical as feasible.

An explanation for the construction of the Eyemouth defence can, however, be found in a little book entitled The Practise of Fortification published by an Englishman, Paul Ive in 1589. Ive explains how to lay out and build the most up-to-date artillery fortifications, supported by useful illustrations, and discusses features more advanced than anything at Eyemouth; but there is one section of his book which seems totally relevant to Eyemouth and is worth quoting here:

98. Merriman 'The Fortresses in Scotland', 703.

e / 'The manner of fortifying with earth ... the turffe must be cut like a wedge, of 12. or 14. inches long, and 5. or 6. inches broade equisistant, the one ende 4. or 5. inches thicke, and the other sharpe, and these turffes ... must be carved and handled without breaking, and layde in the worke, the great ende outward, and the grassy side downward, and scarping, one in 5. or 6. foote, the rampire behinde the turffe rising with the earth that is throwne out of the ditch, as fast as the face of the worke riseth. (And when the face is raised the heigh of five turffes, and the earth behinde it layd even, and spread almost as broade as the rampier is pretended (which may be 20. 30. or 40. foote, and more or lesse, ...) stretch a lyne and pare the turffe even with a sharpe Spade, but scarping, according to the first scarpe you layde them at, and then lay a rowe of faggots ... which being done, rayse againe the face of the worke five turffes higher ... raysing the earth behinde them ... and another rowe of faggots, and thus continue the worke, untill it riseth some twelve foote, above the foote it standeth uppon ... Where wood is scarce, there use none but in the bulwarke only ... and raise the face of the curtine with turffes only, giving them somewhat the more scarpe, or for a neede use no wood at all, and where turffe would fall out scant, so that the ditch would be well watered, use none but in the bilwarks, and rayse the courtine with earth onely, making every way a vertue of necessitie'.⁹⁹

We would suggest that the rampart at Eyemouth is an example of this type of earthwork construction described by Ive. The rafts in the Eyemouth rampart would thus have been the result of packing material behind a turf

99. P. Ive, The Practise of Fortification (London, 1589), 29-34.

face, step by step. There is no evidence for the use of faggots though they were certainly used by the English elsewhere, for instance at Broughty.¹⁰⁰ There was little tree cover about Eyemouth in the sixteenth century and faggots would only have been gathered with great difficulty. Besides, the clay subsoil was solid enough for rampart building without the addition of wood, as time has shown.

The gentle gradients presented by counterscarp and rampart made it imperative that the crest of the latter be defended by a timber work of some sort to hinder a sudden rush by a determined enemy. Excavation revealed series - perhaps three rows - of large iron nails set into the rampart material just under the turf. They probably held together a palisade of some sort but just what cannot at present be guessed at.

While the rampart was not stone ^cglad the bastion and flankers were, the latter each containing loops for two guns - if we can rely on an English plan of about 1549 at Belvoir Castle - which could scour the ditches. The outer faces of the bastion were covered by guns mounted in casemates in the thickness of the rampart. Some of the stonework on the bastion and in the flankers can still be traced in position but most of it seems to have been removed in the slighting after the English surrender and dumped in the interior of the fort.

The fort was defended by a saker and a falcon, both mounted on (field) carriages, and four iron breech-loading fowlers on garrison carriages with truckles.¹⁰¹ These guns may have had a calibre in the region of four inches.¹⁰² Another fowler, a falconet and two iron demy culverins were

100. Cal. Scot. Papers, i, no. 126.

101. Soc. Antiq. London MS 129. I am grateful to J.R. Kenyon of the National Museum of Wales for giving me a transcript of this MS.

102. 'Papers Relating to the Navy during the Spanish War', ed. J.S. Corbett, Navy Records Soc., xi (1898), 318, 332.

added by late 1549.¹⁰³

It was perhaps fortunate that the English fort was never seriously tested by the enemy as, sophisticated though its design was, its economy of planning created major weaknesses. Even as it was being built there was controversy over how the defences were dangerously outflanked by a small rocky peninsula to the North.¹⁰⁴ The not altogether satisfactory answer to this problem was to continue the rampart round the north side of the promontory as a protection from bombardment from this quarter. It would still have been possible, however, for an enemy to position guns to fire into the north flanker of the bastion. By opting for one central bastion instead of at least two so that one could cover the other, Lee had to hollow out the main rampart with casemates to cover the outer faces of the bastion. This was an obvious weakness that an experienced enemy could readily exploit by picking off the guns mounted there and collapsing the rampart above.

Of the other forts built by the English on virgin sites at Dunglass, Lauder and the hill overlooking Broughty Castle, only substantial remains of the first remain, largely obscured by trees. It is clear, however, from contemporary plans that while all necessarily had larger and more complicated circuits of fortification than Eyemouth all had weaknesses of design, perhaps as much occasioned by a desire for economy as a lack of understanding of the full potential of the trace Italienne. Dunglass had one large bastion at one corner of a rectangular/^{fort}, defending the most vulnerable approach, but it is likely the bastions at the other corners were works of no great size or strength. At Lauder and the fort beside

103. Merriman, 'The Fortresses in Scotland', 703n. Much more should be known about the provisioning and equipping of Eyemouth and the other English forts since documents relating to this (briefly listed in Hist. MSS Comm.) are still preserved at Belvoir Castle. The writer, to the best of his knowledge, is by no means unique in having been refused access to study them.

104. Cal. Scot. Papers, i, nos. 58, 62.

Broughty we know from sixteenth-century plans¹⁰⁵ that the logic of being able to flank all the exterior faces of the fort defences was not rigorously pursued. At Lauder the two largest bastions, defending the most exposed (west) side, only had flankers covering that side and not the adjacent ones. Three of the corners of the rectangular fort at Broughty, instead of being defended by large pointed bastions, each have two small demi-bastions at right angles to each other - an unnecessarily complicated and cramped arrangement. Furthermore, both the last two forts have extensive poorly fortified base-courts, the one at Lauder containing the stables which must have considerably weakened them.

It is unfortunate that there is no contemporary plan of Haddington or any trace of the English fortifications surviving today. Haddington was the most important English fort and the largest artillery fortification in these Isles until the refortification of Berwick-upon-Tweed later in the sixteenth century. The most complete description of it is that given by Beaugue in his History of the war in Scotland.¹⁰⁶ From it and other contemporary references it seems that most of the town with the notable exception of St. Mary's Church, was enclosed in a squarish fort with bastions at each corner. That at the exposed South West corner was larger than the others while at the South East corner there was only a half-bastion. There seem to have been cavaliers (mounts) on top of the ramparts and bastions for guns, and a base court - as at Lauder and Broughty - enclosing an area between the main fortifications and the River Tyne to the East, taking in the approach to the bridge. Within the main fortifications was

105. Contemporary English plans of the forts at Broughty, Dunglass, Eyemouth, Lauder and Roxburgh, and of another unidentified fort and Fast Castle are preserved at Belvoir Castle, the home of the Duke of Rutland. There are copies in the SRO (RHP 6075).

106. Beaugue, Histoire, 22-23. See also Selve, Correspondance, 366, 376-9; Cal. Scot. Papers, i, especially no 270, and Knox, History, i, 106. Merriman, 'The Fortresses in Scotland', 717-22, summarises all the evidence convincingly.

another, based on the Tolbooth in the middle of the town, from which guns could fire out over the outer works.

Although these forts may have had to a greater or lesser extent weaknesses in design they were still a vast improvement on old-fashioned castles with towers and walls of masonry and lime. It must be said that only one of them fell by assault and that was Broughty in February 1549/50,¹⁰⁷ but there the commander, Sir John Luttrell, had had much trouble with the earth of the ramparts sliding into the ditches.¹⁰⁸

Of the early French forts in Scotland even less is known than the English since we do not have the benefit of contemporary plans. Nothing survives at Leith and Inveresk and only vestigial traces at Luffness, Aberlady, suggesting it was rectangular with bastions at the corners.¹⁰⁹ The fort erected before the castle at Dunbar has also entirely disappeared. It cannot be doubted however, that the French fortifications were every bit as sophisticated as the English, if not more so, even the fortifications erected by them at Home Castle some time before September 1545.¹¹⁰

There are, however, substantial remains of two French forts, dating to the late 1550s at Eyemouth and on the Island of Inchkeith in the Firth of Forth. The French had captured Inchkeith from the English in 1549 only weeks after they had started to build a fort on it.¹¹¹ The French continued to garrison it in the years after the Treaty of Boulogne and accounts survive dated 1555 and 1556 for its repair and refortification.¹¹² It is likely that the masonry which survives to this day dates substantially from these years. There is a plan of the fort dated 1778¹¹³ which shows it

107. Diurnal of Occurrents, 49.

108. Cal. Scot. Papers, i, no 231. See Merriman, 'The Fortresses in Scotland', 711-13, 713nl.

109. East Lothian Inventory, no. 3.

110. Henry VIII. Letters & Papers, XX, ii, 347.

111. Beaugue, Histoire, 140-1.

112. SRO E34/21/2-3.

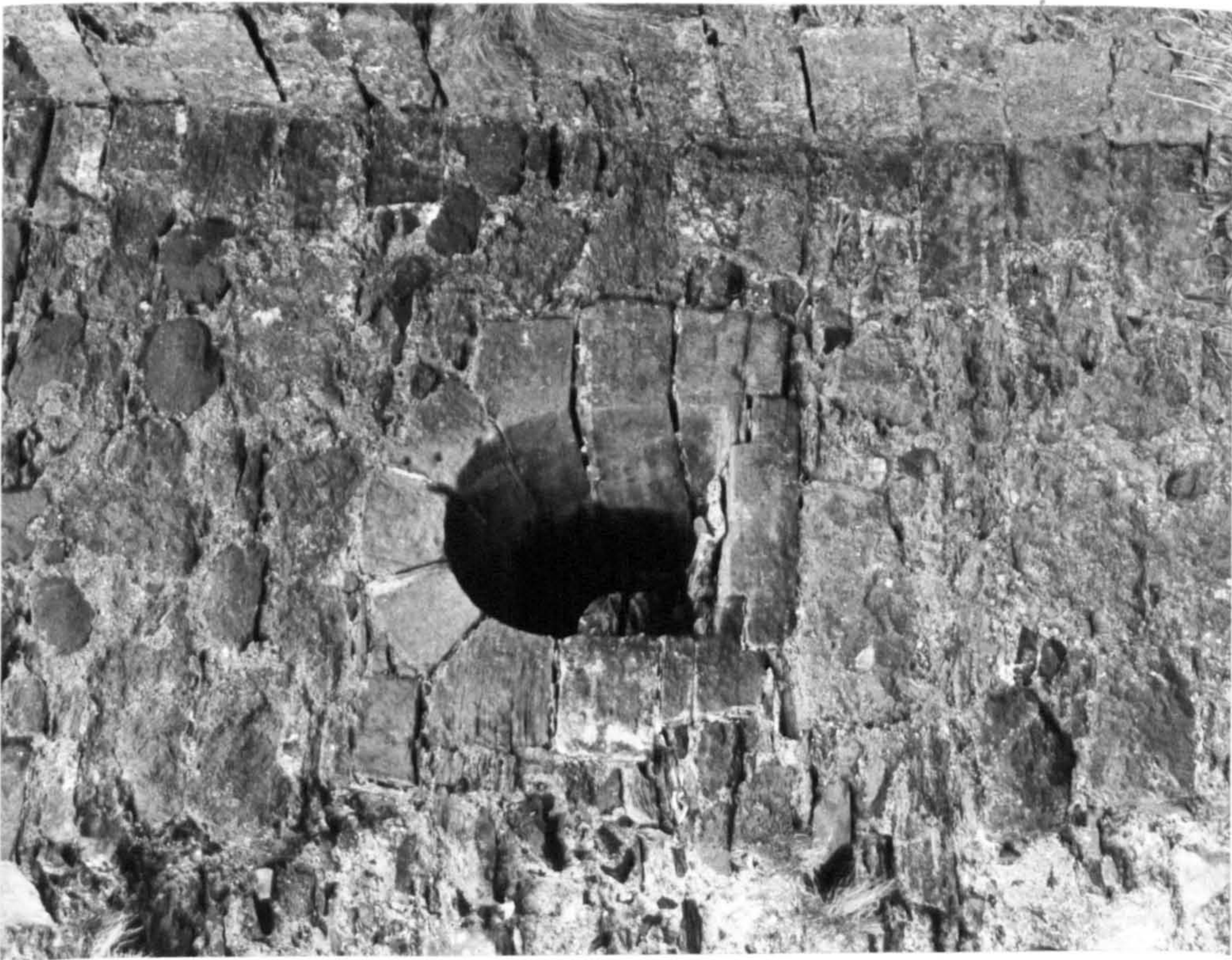
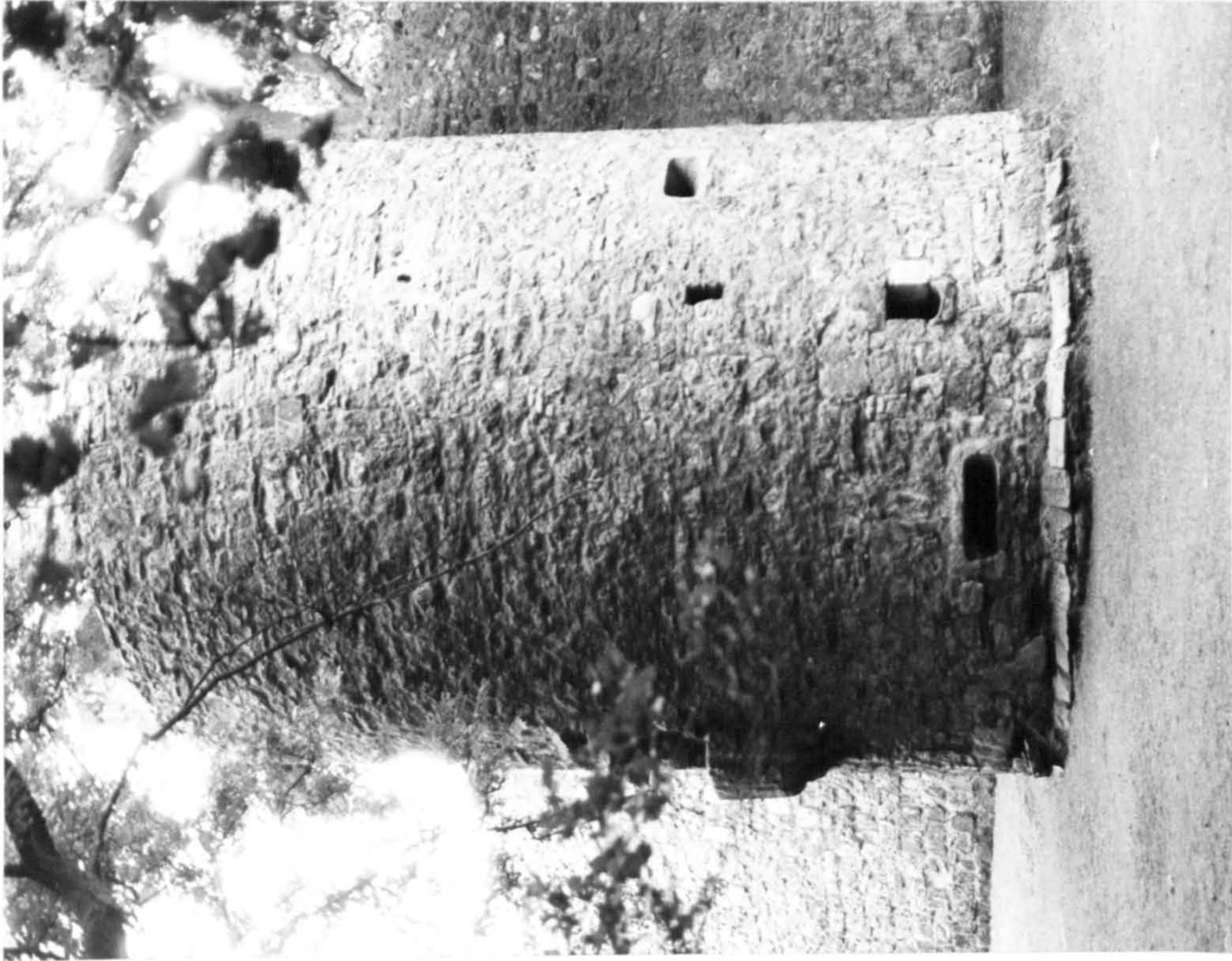
113. R.S. Mylne, The Master Masons to the Crown of Scotland (Edinburgh, 1893), 54.

complete with a star-shaped outline. Its main entrance was to the North between two bastions, and there was also a sally-port. In the interior there was a rectangular building which contained the guard-house and officers' room.

The site of the fort is the highest point of the island and is now covered over with the nineteenth-century lighthouse and ancillary buildings. Long sections of walling were, however, retained, basically all of the east side. Some of this wall, only 1.7 metres thick and essentially a reveting for the earth behind, survives to a height of over three metres. It is built with a pronounced batter about 10° off vertical, and the limitations of its site have apparently meant that there were no ditches. The revetment wall where it survives rises from the edges of the hill-top. Unlike the English forts Inchkeith's bastions do not seem to have had recessed flanks with guns hidden in flankers behind orillons. Instead the flanks of the bastions were pierced by gunloops. One gunloop survives in situ and it is markedly different from other Scottish sixteenth-century ones. XVIII Externally it has an opening 0.65 metres wide with a semi-circular arch, contracting in the wall thickness to a similarly-shaped throat, 0.22 metres across. The royal arms with crown and unicorn supporters and the date 1564 are now built into a nineteenth-century gateway next to the lighthouse but according to the eighteenth-century plan mentioned above were originally positioned in the north-east bastion.

The English fort at Eyemouth was reoccupied by the French in 1557. Beyond the line of the English fortifications is another system with rampart and ditch and two bastions, one at either end, taking in the small promontory which was such a threat to the English work. The bastions appear to have flankers and the bastions at least, to be stone clad. This is presumably the work for which building accounts dated 1557 survive.¹¹⁴ An English plan

114. SRO E34/21/4.



Gunloop, Inchkeith, and the round tower, Lochleven Castle

of the same year suggests that the French intended to use the old English fortifications as well, the English bastion having the function of a cavalier or gun mount from which guns could be fired out into the countryside beyond the fort.¹¹⁵ This new fort was dismantled by agreement with the English in the summer of 1559, the houses, flankers, vamuers (? bastions) and outer brinks of the ditches being pulled down and nothing left standing but the very rampart itself.¹¹⁶ The English however, continued to be nervous about the possible reoccupation of the site and the consequent threat to Berwick.¹¹⁷

Finally, although nothing remains of the French fortifications of Leith there are two sixteenth century plans which show what they were like at the time of the siege in 1559-1560. The first plan, dated 1560, is a bird's eye view of the siege, showing the town and the English siege works. It is preserved at Petworth House in Sussex. Although its accuracy is not beyond question it is the more reliable of the two.¹¹⁸ The second is the illustration of the 1573 siege of Edinburgh Castle contained in Holinshed's Chronicles. It has a stylised rendering of Leith and the siege works in the background, but the main outlines of the town correspond only vaguely with the 1560 map, the most noticeable difference being the representation of the bastions with recessed flanks whereas in the earlier plan they return from the angles of the bastions to form a right angle with the curtains. We might also make mention of a nineteenth-century plan, 'compiled from various sources', first published in 1851.¹¹⁹ In some details it is no doubt correct but there seems to be so much confusion with seventeenth-

115. The plan is in the British Library (P 85/9734). I am grateful to Dr. Marcus Merriman for allowing me to see a copy of it.

116. Cal. Scot. Papers, i, nos. 472, 480, 487, 497, 504.

117. Ibid., nos. 593, 594, 635, 746, 803, 812, 906.

118. Cf. G. Donaldson, 'Map of the Siege of Leith, 1560', Bk Old Edinburgh Club, xxxii (1966), 1-7.

119. D.H. Robertson, The Sculptured Stones of Leith (Leith, 1851), plan, pp. 118.

century fortifications that it is best for our present purposes to ignore it.

If we follow the evidence of the 1560 plan it can be seen that the fortifications were five-sided, enclosing both South and North Leith on both sides of the Water of Leith. At the north-west corner was a large bastion which acted as a citadel for the French garrison who numbered as many as 4000 men. It also flanked the weak spot in the defences caused by the Water of Leith, here defended by a palisade. The main approach to the town from Edinburgh was protected on either side by bastions, that to the east probably being the one known as St. Anthony's, that at the south-west corner being Bartholomew's (or Logan's ?). Two other bastions were positioned on the sea front at the north-west (St. Nicholas' bastion) and the north-east (Little London). According to one English report the sea defences consisted only of a row of boards with sand piled up against the back of it. The rampart along the south front where the English made their disastrous assault also had guns mounted on cavaliers. Ramparts and bastions were fronted by a deep wide ditch on the outer edge of which tucked in behind the counter-scarp, was a covered way.¹²⁰ Leith was undoubtedly the most sophisticated fortification yet seen in these islands and it was to be a long time before it was to be rivalled.

SCOTTISH EARTHWORKS AND LATER ARTILLERY WORKS

The solid bastions or spurs at Edinburgh and Stirling were foreign inspired and did not have any direct antecedents in Scotland. Earthwork fortifications, built with a view to hindering the destructive power of enemy guns were by no means unknown beforehand but there has been very

120. Information on the plan of the fortifications has been filled in from contemporary English sources, in particular, Cal. Scot. Papers, i, nos. 749, 772, 797, 832, 856, 881.

little research done on these and the date of most is either totally unknown or a matter of speculation. Even the function of many is open to varying interpretations.

Earthwork defences might be very simple indeed. In sixteenth-century documents mention is sometimes made of walls vamuired with earth or turf, as was the case with Cessford, a strong towerhouse in Roxburghshire. It was besieged in 1523 by an English force under the Earl of Surrey with a curtow, a culverin, a demi-culverin, four lizards and four falcons, which were positioned before the castle at seven o'clock on the morning of 19 May. Surrey describes the castle as 'vawmewred with earth of the best sort that I have seen', with a barbican and a false barbican inside it, to defend the gate of the tower. This barbican and inner barbican can be recognised today though it is not clear if the almost levelled ditch and rampart around the site are the remains of the vamuring, or whether this was around the tower itself.

The English guns made little impression on the 'vawmewre' and Surrey was soon in difficulties since his largest gun, the curtow, broke one axle and was likely to break another. Attempts to scale the tower with ladders and blow it up with powder failed miserably. At this point, however, the owner, Sir Andrew Ker, who was not inside the castle, sent word to Surrey that he would surrender it to him on being allowed to depart with bag and baggage. Surrey wrote that he did not see how he could have taken it if Ker had not surrendered it, although we need not take too seriously his exaggerated claim for the benefit of his royal master, Henry VIII, that it was esteemed the strongest place in Scotland after Dunbar and Fast Castle.¹²¹

121. Henry VIII. Letters & Papers, III, ii, no. 3039.

The 'stone house' at Littledean in Roxburghshire, presumably the towerhouse without the semi-circular gunlooped addition (see below), was attacked by the English in 1544 but escaped because it was mured with earth.¹²² The tower of Annan church in Dumfriesshire was 'rampered with earthe' when defended by a Scottish garrison against Wharton and Lennox in September 1547.¹²³ There are no signs of these or similar defences now but they were probably once common, especially in the Borders. Perhaps they were normally only erected when danger threatened and then dismantled soon afterwards.

We have mentioned above the possibility that the ditch and rampart bounding the outer ward of Tantallon date to before the siege of 1528. It seems reasonable to interpret them as a device to keep enemy guns at a distance and shield the curtain wall of the castle from being battered by cannonballs. If this was so it would not have been unique at such an early date. In the winter months immediately following the battle of Flodden the Lords of Council ordered de la Bastie and Robert Borthwick to inspect Edinburgh Castle. As a result they 'devisit bulwerkis and trinchis to be made before the place and siclike within the castle to be stuffit with men and artalyhery'.¹²⁴ Possibly this would have been an outwork not dissimilar to that at Tantallon. At Tantallon, at some unknown date, a start has been made on cladding the outer slope of the rampart with a masonry skin and there are two traverses in the ditch - the latter associated with a ravelin on the outer edge of the ditch which is presumably of seventeenth-century date.

Large outer enclosures bounded by earthworks are to be found at other important castles like Lochmaben, Lochleven and Cadzow. To what extent

122. J. Morton, The Monastic Annals of Teviotdale (Edinburgh, 1832), 100.

123. Cal. Scot. Papers, i, no. 42.

124. ADCP, ii.

these were intended as outer defences against artillery or merely as the boundaries of outer courtyards - the earthwork equivalents of the stone enclosure walls of castles like Craigmillar and Craignethan - is difficult to say. Lochmaben, Cadzow and Tantallon were castles of national importance which could, and did, act as staging posts in the transmission of artillery, equipment and men on military expeditions.

At Caerlaverock Castle on the shore of the Solway Firth the triangular, towered castle, a much rebuilt thirteenth-century foundation, is surrounded by a broad water-filled moat retained by a massive broad mound with an outer rampart. This is evidently designed to protect the lower part of the castle walls from gun fire. The great twin-towered gatehouse of the castle was also remodelled in the sixteenth century to incorporate wide-mouth loops for small pieces of artillery at three different levels. O'Neil has suggested that these may date to about 1593 when Lord Maxwell was making 'great fortifications and has many men working at his house five miles from Dumfries'.¹²⁵ The earthwork could date to this time too, or could be earlier. Recent excavations failed to produce any close dating evidence.¹²⁶

Similar in many respects to this earthwork at Caerlaverock is another of unknown date at Dundarg Castle in Aberdeenshire, occupied at least since the early fourteenth century. The castle stands on a rocky promontory jutting out into the North Sea and is formed of a narrow oval enclosure with a broad outer courtyard in front. It is bounded on the land side by a system of two ditches and ramparts, there now being practically no trace of the outer ditch on the ground. Behind the inner rampart is a low platform about 7.6m wide separated from the outer curtain wall of the castle by another ditch or moat. This rampart and platform may have had a similar function to that at Caerlaverock.

125. B.H. St J. O'Neil, Caerlaverock Castle (HMSO guide book, 1952), 11.

126. I am grateful to Iain MacIvor for this information.

Excavations were conducted at Dundarg in 1950 and 1951 by Dr W.D. Simpson and Dr F.T. Wainwright.¹²⁷ Simpson was of the opinion that the castle had remained deserted between its siege in 1334 and the middle of the sixteenth century. He believed it was then rehabilitated, perhaps largely owing to an increased awareness of a need for coastal defences.

Dr. Wainwright's section through the earthworks showed that the two outer ditches and ramparts were erected some time before the inner ditch (moat), some of the spoil from which was used to build up the platform behind the inner rampart, 300mm or so above the old ground level. The inner ditch might have been water filled in earlier times though the mounds at either end to retain water are known to date to the early twentieth century. No dating evidence was got for any of these earthworks - with the exception of these two twentieth-century mounds - and it must remain open to considerable doubt just how early the two outer ramparts and ditches are. They very probably pre-date the castle. The platform and moat, on the other hand, must certainly go with the castle and may date to Simpson's supposed rehabilitation of the site in the sixteenth century.

At Hermitage in Liddesdale, about five miles from the English Border, the stone castle is set within a complex of earthworks of uncertain date and function, but on the exposed west front there is a great pointed bastion of earth fronted by a ditch, guarding the approach to the castle. The ditch runs round the castle and connects up at both ends with the Hermitage Water which flows along the south side. At the North-east there is a salient corner raised above the level of the courtyard inside which may be the remains of a smaller bastion from which the north and east sides of the enclosure could be flanked. If so, it is ^{an} exceptional example of such an earthwork in a Scottish Castle. The large bastion itself is very unlikely to have been

127. W.D. Simpson, Dundarg Castle (Aberdeen, 1954).

a platform for guns but merely a protection for the walls of the castle. A possible date for the construction of these earthworks is 1562 when the castle's owner, James Hepburn, fourth earl of Bothwell, was reported to be fortifying it.¹²⁸

At Huntly Castle, Aberdeenshire, there is a smaller pointed bastion guarding the entrance, but it is perhaps most likely to be a ravelin of the mid-seventeenth century. Some at least of the earthworks at Dunnottar, on a rock girt site - almost an island - on the Kincardineshire coast, are likely to be sixteenth-century, including the massive earthworks crowning the west side of the rock where it is overlooked by the adjacent mainland. Other earthwork ramparts to North and East with gun positions traceable in them perhaps date to the time of the great siege of 1652. In their present form the earthworks on the west side consist of a massive rampart, rather than a bastion, bowed at the front where it follows the rock edge,¹²⁹ and through it is cut and tunnelled the roadway into the castle. It is presumably the 'mount heid abowe the pend' which had two iron guns mounted on it in 1612.¹³⁰

All the Scottish earthworks described so far are additions to stone built castles. Only one completely earth built fortification is known for the early sixteenth century and that is the encapment on Flodden Hill in north Northumberland. Whereas the fortification occupied by the English on Carberry Hill in 1547 is likely to have been Iron Age in origin there is no mistaking the Flodden entrenchment for anything of that sort. The summit of the hill is surrounded by three concentric ramparts enclosing a rectangular area, about 60 by 40 metres, divided into two by another rampart. To one

128. Cal. Scot. Papers, i, no. 1138.

129. W.D. Simpson (Dunnottar Castle (Aberdeen, 1976), 4), thought he could detect in this earthwork the remains of an early motte but this must be considered doubtful until put to the test by excavation.

130. J.C. Watt, 'Dunnottar And Its Barons', Scot. Hist. Rev., ii (1904-5), 404.

side of this camp is attached another egg-shaped enclosure, some 130 metres in greatest length, surrounded by a single rampart. These two enclosures could in no way have contained the whole Scottish army before Flodden but may have been for the baggage, artillery train and commanders. Interesting though this fortification is as a rare medieval survival its relevance to the development of artillery fortifications would seem to be limited.

Only one earthwork fort is known to have been erected by the Scots in the war years before 1550, and that by the laird of Dun to defend the haven at Montrose, in 1548. Even with Haddington and the rest to inspire him Dun, one of the foremost Scottish captains, failed to incorporate any bastions to provide flanking fire.¹³¹

The most substantial piece of military engineering undertaken by the Scots in the period after the intervention of English and French forces in the mid-sixteenth century was the reconstruction of Edinburgh Castle after the siege of 1573. The Regent Morton was responsible for it, work starting in the year after the siege.¹³² The most obvious feature of it is the Half Moon Battery which encloses the ruined stub of David's Tower and part of the adjacent forewall. As its name suggests, it presents a great crescentic breastwall to the outside, 24 metres high, faced with rubble in four tiers which recede as they rise. The interior was packed with rubble and levelled off at the top with vaulting. The parapet and gunloops on it now date to an eighteenth-century reconstruction but the seventeenth-century view of the castle by James Gordon of Rothiemay¹³³ indicates that it was topped with a parapet on a row of corbels and well provided with open embrasures for large pieces of artillery. A small section of this original parapet still survives round the Fore Wall Tower. From the top of the Half Moon

131. Beaugue, Histoire, 86.

132. TA, xiii, 23, 69, 140, 187.

133. Engraved by W. Penny, 1833, 'The Castle of Edinburgh, from the South West'.

Battery the town and the adjacent outer walls of the palace block and the Forewall Battery could be flanked.

Seventeenth-century drawings, as we have mentioned above, indicate that the spur survived, even if with a considerable amount of remodelling, and that the main entrance was positioned in its flank. From here a roadway led to the right round the bottom of the Half Moon Battery through an Inner Barrier Gateway to the Portcullis Gate - a replacement for the Constable's Tower.

It might seem curious that with the bastioned systems of the English and French fortifications of the preceding two or three decades to inspire him Morton should have opted for a reconstruction like the Half Moon Battery, rather than a trace Italienne line of fortification. The rocky nature of the site, however, still encumbered with substantial ruins of the earlier towers and the great spur before them would have made it difficult and expensive to plan something totally different. The Half Moon Battery is really a rather clever adaptation of the earlier remains.

The influence of the Half Moon Battery may be discernible in an exceptional little tower at Littledean near St. Boswells in Roxburghshire. There a semi-circular artillery work has been added to one end of a small rectangular towerhouse. Unlike the Half Moon Battery, however, it is not just a gun platform, but a residence as well. It is four stories and a garret in height, the bottom two being provided with six wide-mouthed gunloops each, and there was a parapet and wall-walk at roof level. The north and south walls of the earlier tower are flanked by gunloops in it and a new entrance was contrived in the re-entrant angle where it overlaps the old tower's south wall, protected by a gunloop in the old tower's blocked up entrance.

Only at the remote MacDonald stronghold of Dunyveg in Islay is there any inkling - with the possible exception of Hermitage Castle, already

noted - of an attempt by the Scots to build a trace Italienne system, prior to the Civil Wars of the mid-seventeenth century. A terminus ante quem for the work at Dunyveg is provided by the siege of 1615 and it is likely it was erected in haste in anticipation of this event. The castle stands on top of a detached rock on the south-east coast of Islay and consists of a polygonal curtain walled enclosure with a towerhouse to the back of it, on the highest point of the rock overlooking the sea. The entrance to the castle is placed centrally in the longest side of the enclosure which faces the rest of the island, and at both ends of this face masonry bastions have been added. Both seem to present three sides to the field and flank the adjacent walls of the castle but not each other. It is obvious that the designer of them, if indeed influenced by Italianate pointed bastions, has sadly misunderstood the concept behind them.¹³⁴

Small gun platforms added to one or two other small castles in the late sixteenth or early seventeenth century are more akin to Edinburgh's Half Moon Battery. At Breachacha in Coll a towerhouse with barmkin and round angle-tower has a gun platform about sixteen metres broad, dated by its excavators to the early seventeenth century.¹³⁵ It is a wedge-shaped, polygonal structure built out from corner of the towerhouse and has a thick clay-bonded wall with a mortared facing, topped by a low parapet about 0.6 metres high. Behind it was built up an earth platform, capped with a rough layer of boulders, interrupted by a shallow ditch. The excavators remarked that a gunner standing in this would only have had his head and shoulders above the battery parapet.¹³⁶ This battery is partially built on the ruins of an earlier building and it is likely that it was intended

134. The writer is indebted to Mr G. Stell of the RCAHMS for information on these bastions at Dunyveg, only recently discovered in fieldwork.

135. D.J. Turner & J.G. Dunbar, 'Breachacha Castle, Coll : Excavations and Field Survey, 1965-8', Proc. Soc. Antiq. Scot., cii (1969-70), 177.

136. Ibid., 171.

to include a vaulted chamber based on the south end of this building.

Comparable to this gun platform at Breachacha are two others, one at Brodick Castle in Arran, the other at Whittinghame Castle in East Lothian. That at Brodick is wedge-shaped like Breachacha and built out at one end of the castle. In this case, however, it is entirely built of masonry with a vaulted chamber at ground level. The platform on top is surrounded by a low parapet wall with embrasures for pieces of artillery but has been altered in more recent times. The date of this work is not known but it was presumably put up before the Comwellian occupation of the castle in 1652. The gun platform at Whittinghame, a small L-plan tower of the first half of the sixteenth century, is long and rectangular, about three metres high and twenty-four long. It is faced with stone and has a low parapet.

At Eilean Donnan Castle in Wester Ross there is a work possibly of similar type. The castle stands on a small island at the junction of three lochs and consists of a towerhouse at one corner of a rectangular courtyard with other secondary buildings. To the East, overlooking the nearby land, and connected to the courtyard by two flanking walls, is a low heptagonal tower, about six metres across internally. It was interpreted by MacGibbon and Ross¹³⁷ as a well or water cistern since it was open to the sky and had water lying in it. It may be of significance that when the castle was restored earlier this century two hagbuts of crok were found it.

HOUSES AND GUNS, c. 1550 - c. 1625

It is surprising that there is so little evidence of elements of trace Italienne fortification being incorporated in castles or other schemes of fortifications in the second half of the sixteenth century. As we have

136. Ibid., 171.

137. MacGibbon & Ross, Castellated & Domestic Architecture, iii, 83-84.

remarked at the beginning of this chapter the Scots were wary of fortifications and the threat they posed when in the wrong hands. Most probably had no desire to see the English and French forts retained and garrisoned by their own people, even if the political conditions of the time had been favourable to this happening. Individually, however, they were concerned with the aggrandisement of their own houses and making them secure against their neighbours, if not greater powers, and, judging by the results, most were more concerned with the stately or noble appearance of their houses than their utility in defence.

It may be suspected with good reason that many castles and towerhouses were provided with gunloops more for show than intended use. Their positioning often seems to be arbitrary and ineffective, and in almost all cases no significant rate of fire could be achieved through lack of gunloops, even supposing the house to have sufficient men and guns for the available loops. The loops in most houses of the mid-sixteenth century onwards are of a small size suitable only for the smallest pieces of hand-held artillery, hand guns or pistols. With the reduction and suppression of rampart walks all round tower tops as the century progressed it must be considered doubtful if an active defence from on high was seriously considered. The castle-owner fearing a major attack would probably prefer not to be caught at home in the first place, and if surprised there would trust more to his house's stout walls and the wrought iron yett barring his doorway rather than an effective defence with guns.

It was normal for the lesser towerhouses and houses of the mid-sixteenth century onwards to have wide-mouthed loops in their basements just as earlier towers had key-hole and dumb-bell loops. This is not to say that these two latter types died out. They occur sporadically as late as the seventeenth century - for instance the key-hole loop defending the entrance door of the small T-plan house of Monk's Castle near Kilwinning in Ayrshire. It was also relatively easy to knock out gunloops in walls not already provided,

or adapt earlier ventilation slits for the purpose, which was the case at Amisfield Tower in Dumfriesshire, a towerhouse possibly erected in the early sixteenth century and remodelled about 1600.¹³⁸ James Stewart of Cardonald reckoned that the English could hold the tower of Langholm against Arran in 1547 provided the garrison secured the gate and windows and broke two holes in every quarter to shoot out with cutthroats.¹³⁹

Most of the wide-mouthed loops in the lesser sixteenth-century towerhouses and houses do not have their throats set flush with the inner wall surface or embrasure as in the larger artillery loops at Dunbar, Tantallon and elsewhere, and the smaller loops at Craignethan, but set in the thickness of the wall. To the outside of the throat the loop splays out to form the usual, rounded end, horizontal, wide-mouth opening while to the inside there is a small embrasure, sometimes with splayed sides, but not open to the floor.¹⁴⁰ Their sills, unlike most key-hole and dumb-bell loops, are normally a good few centimetres below the bottom of the throat. The gunner could thus support the muzzle of his gun in the throat of the loop and aim and hold the stock in his hands. The throats range from about 100 to 200 mm which was just right for hagbuts of crok. Field-of-fire varies considerably from about 30° to 60°,¹⁴¹ but much depended on the size of the gun as well as the width and splay of the loop.

Law Castle in Ayrshire is a classic example of a well-planned mid-sixteenth-century towerhouse with vaulted ground floor cellars and open battlement walk with rounds at the corners. It has five wide-mouthed

XIX

138. A.M.T. Maxwell-Irving, 'Early Firearms and their influence on the military and domestic architecture of the Borders', Proc. Soc. Antiq. Scot., ciii (1970-71), 212-14.

139. Henry VIII. Letters & Papers, XXI, ii, no. 695.

140. These loops have sometimes been described as 'double-splayed' by architectural historians since in plan they appear to splay out in both directions from the centrally placed throat.

141. Maxwell-Irving, 'Early Firearms and their influence', 209, gives the field of fire of several Border towerhouses.



Law Castle

loops in the cellars. Lochhouse Tower in Dumfriesshire is another good example of similar date, and also the tower in Castle Semple Loch, Renfrewshire, the house 'in the lough' captured by the Earl of Arran after a siege in 1560.¹⁴² It formerly stood on a small island in the loch but is now well nigh inaccessible, surrounded by marshes. The vaulted ground floor, all that survives, has massive walls over two and a half metres thick, pierced by four double-splayed wide-mouthed loops, each with a small cupboard in the ingoing of their embrasures. The throats of these at over 200mm in diameter are bigger than average.¹⁴³ Wide-mouthed loops of similar type also appear in castles built as late as the seventeenth century, like Dalcross in Inverness-shire, a towerhouse consisting of two wings built by the eighth Lord Lovat in 1621, and Fairbairn in Ross-shire, a rectangular towerhouse of the Mackenzies with three gunloops in each side of its vaulted ground-floor cellar.

Gunloops were by no means confined to the ground floor of towerhouses and castles of the mid and late sixteenth century. Some towers like Corbet in Roxburghshire and Cakemuir in Midlothian also have wide-mouthed loops in their upper stories. Carberry in Midlothian has them in the battlements surrounding its rampart walk.

Variations on the basic wide-mouthed type of gunloop appear in several houses. Sometimes the mouths are triple, as at Tolquhoun, or double as at Boyne and Edzell. At Drochil and Castle Stewart, and much later (1661) at Leslie the mouths are redented, that is stepped, to make it more difficult for enemy gunfire to be funnelled in through the throat. Redented gunports also occur in France.¹⁴⁴ Other wide-mouthed types of loop appear in upper

142. Cal. Scot. Papers, i, 489. It is marked as Peel on the Ordnance Survey maps.

143. It is described and illustrated in Archaeol. & Hist. Colls. Co. Renfrew, i (1885), pls. I-vII; ii (1890), 205-7.

144. Truttmann, 'Ces Forteresses Autour Desquelles S'Est Batie La France', 73, fig. 6.

stories beneath windows, in the little pepper-pot angle turrets that often replaced open rounds and parapets in the last quarter of the century, and in parapets protecting battlement walks. Many of these loops have small circular, often decorative, openings flush with the external wall surfaces. They are reminiscent of the loops in the upper floors of the towers and in the battlements of the Craigmillar curtain wall. Sometimes they are the only defensive feature, except, perhaps, for a small loop covering the front door, as at Auchans in Ayrshire. Good examples are those beneath the windows at the Earl's Palace, Kirkwall of c. 1600 (described more fully below), mostly carved as the centres of quatrefoils which are only about 90mm in diameter. There are also several in the east block of Roslin XXII Castle, Midlothian, dated 1597. Others have been inserted in the towerhouse at Edzell Castle in Angus and occur in the turrets of the late towerhouses at Lauriston near Edinburgh, and Crathes in Ayrshire. Most would only have been suitable for pistols.

There has been some confusion in the minds of recent scholars about such small loops in turrets or below windows, whether they were really intended primarily for guns or merely for ventilation. The problem appears to go back to Sir Walter Scott who more than once in his novels used the term 'shot-window' or the like apparently in the sense of a gunloop - for example, in chapter five of The Pirate, first published in 1822, when Triptolemus Yellowley and his sister Baby are disturbed by a wild knocking at their door. Triptolemus instructs his sister to 'Go to the shot-window instantly, and see how many there are of them, while I load the old Spanish-barrelled duck-gun'. Scott, however, misunderstood the meaning of the word shot, which, as used here, was not to do with firearms but shutters. The definition of the term shot given by the Scottish National Dictionary is as follows:

'... A small opening in the wall of a house, frequently on a staircase, acting as a window but closed by hinged wooden shutters, sometimes with small panes of glass at the top, a kind of small casement. Hence combinations: (1) shot-hole, the opening for such a window ... (2) shot-window the same as shot-hole, frequently in ballads'.

This meaning is well supported by references to Scottish writings of the seventeenth century and further examples for the sixteenth century have been collected by the Dictionary of the Older Scottish Tongue.¹⁴⁵

A variant meaning for shot-window was given by Chambers in 1829.¹⁴⁶ He defined one as 'a certain species of aperture, generally circular, which used to be common on the stair-cases of old wooden houses in Scotland and some specimens of which are yet to be seen in the Old Town of Edinburgh. It was calculated to save glass in those parts of the house where light was required but where there was no necessity for the exclusion of air'. Although this extends the meaning of the word beyond windows which were at least partially shuttered Chambers does not seem to have been describing gunloops as we understand them today.

In 1927 W. Mackay Mackenzie¹⁴⁷ reinforced the by now well established fact that shot-holes or shot-windows in sixteenth and seventeenth-century writings were shuttered windows and not gunloops. Since then an erroneous view has grown up, perhaps founded on a misunderstanding of Mackenzie's writing, that the small apertures under windows are not gunloops but shot-holes in the sixteenth and seventeenth-century sense and therefore for ventilation and not guns. It can only be said here that there is no basis for such an idea in the documentary evidence, and in the present writer's view it is most

145. I am grateful to Dr J. Stevenson of the Dictionary for allowing me access to unpublished material.

146. R. Chambers, Scottish Ballads (Edinburgh, 1829), 242.

147. Mackenzie, The Mediaeval Castle in Scotland, 105.

unlikely. Given that the main windows themselves were partially shuttered and could readily be opened there was no need to supply other openings for such a purpose. Besides, these openings have all the characteristics of the larger gunloops and reason demands that they should have served likewise.

If a gunloop was not denoted by the terms 'shot-hole' or 'shot-window', what word was used for this feature? The term which appears in sixteenth- and seventeenth-century documents is gunhole. For example, in the contract between the burgh of Aberdeen and two masons, Peter French and Sanders Monnypenny in February 1532/3 for the building of a blockhouse 'gunhollis and diuris of aistlar' are specified.¹⁴⁸ The term crops up as late as 1699 in the contract for new works at Cawdor Castle in Nairnshire. The masons

'are lykwise to build two kirnalls or rounds settled over the wall, that the gun holl may clenge the futt thereof two wayes, and the rounds to be so finished, that they may need no roof, but may be made watertights in common forme either with timber or lead'.¹⁴⁹

One such turret can still be seen at Cawdor, a rectangular structure corbelled out on a corner, with a small pistol loop through the salient corner, below the level of the turret windows.

Towerhouses with or without gunloops of their own were often defended by a barmkin or courtyard wall with flanking towers and gunloops, like Threave and Craigmillar at an earlier date. A good example of the mid-sixteenth century is Newark in Selkirkshire. Here a large, oblong towerhouse of the early fifteenth century stands on a small flattish hill at the edge of the River Yarrow, the ground sloping away steeply on the north and east sides towards the river. The four-sided barmkin wall has been built round about, one and a half metres thick and originally more than three high. Much of it now stands little higher than its foundations but

148. Aberdeen Council Register, 145.

149. Cawdor Bk, 391-4.

it seems to have been provided at regular intervals with small wide-mouth gunloops.¹⁵⁰ There are seven in the south wall which is nearly forty-two metres long. Projecting from the south and east walls are small rectangular towers also provided with gunloops flanking the walls. There was also a tower on the west, now almost entirely disappeared, and it contained the entrance gate. No tower, or perhaps even loops, was considered necessary for the north face owing to its inaccessibility from the river below.

Elsewhere stone walled barmkins have not survived well, but we might note examples of mid-to late sixteenth-century date with wide-mouthed loops at MacDuff's Castle in Fife and Boghall in Lanark, where there were angle-towers with loops as well. Even unpretentious towers like one at East Kersland in Ayrshire (now incorporated in a farm standing) could have stone barmkin walls. Here a round angle tower survives with a wide-mouthed loop.

Different in length rather than strength from these barmkin walls were the few mid-sixteenth century to early seventeenth-century town defences of which there is any evidence. Most Scottish towns remained unfortified but for the ditches or dykes and walls bounding the ends of the burgess tenements which had police and customs functions rather than any serious defensive roll. Lauder, Dundee, Stirling and Peebles all embarked on programmes of wall building but significant portions only survive at the latter two burghs. Although in the case of Stirling at least the impetus to build came initially from fear of English invasion in the aftermath of Pinkie,¹⁵¹ its defences could not have been expected to present a serious check to a determined army. An element of civic pride, as in the town ports of Edinburgh, St. Andrews and Dundee, cannot be discounted.

150. There is one inverted key-hole loop.

151. Stirling Burgh Recs., 50.

Stirling's circuit of walls was apparently never completed. There survive today considerable stretches on the crest of the ridge stretching down from the castle along the west side of the burgh, including two circular towers which date to the late sixteenth century. The wall itself is only about one and a half metres thick with a maximum height of about seven metres, sparingly supplied, like the towers, with small wide-mouthed loops suitable for hand firearms.

At Peebles only one round tower with small crudely formed loops, similar to those at Stirling, survives, but the contract made between the burgh and Thomas Lauder, mason, March 1569/70, stipulates that Lauder was to build the circuit within four years according to an agreed plan, the walls being three and a half feet broad (1.07m) and four and a half ells high (4.23m), 'with blok houssis as efferis in places convenient'.¹⁵²

Much of the town wall of Edinburgh, now destroyed but known from early views, probably dated to the mid and late sixteenth century rather than the years immediately after Flodden as traditionally claimed. It was also provided with blockhouses which appear to have been similar to those at Stirling and Peebles. It is known that pieces of artillery were mounted on top of them, presumably on wooden platforms, as a defence against Cromwell in August 1650,¹⁵³ and this was presumably what they were intended for from the beginning.

A fine example of a late-sixteenth-century town gate survives at St. Andrews. The contract for building it, the West Port, is dated 1589, and in it Thomas Robertson, mason in Blebo, undertook to build it after the fashion of the Netherbow of Edinburgh. It has two semi-octagonal towers flanking the entrance archway, both with a key-hole loop facing forward. Both towers and the space above the arch are battlemented with eight rectangular loops for gunfire.

¹⁵³. Edinburgh Burgh Recs (1642-55), 253.

¹⁵². Peebles Burgh Recs, 316.

The barmkin walls at Newark, Boghall and elsewhere, and the town defences show some concern with an elementary provision of horizontal flanking fire by guns positioned in small towers projecting from the main walls. The provision of flanking fire was an important consideration in the building of a group of larger towers, all circular and standing at the corner of a building or barmkin, with fairly spacious living accommodation on the upper floors but vaulted ground floors with gunloops, some of a large size. Although we know so little about the blockhouses at St. Andrews Castle we might guess that they were the inspiration, even if only indirectly, for them.

The finest is the Tower in the Bishop's Palace, Kirkwall in Orkney. Reid was bishop of Orkney from 1541 to 1558 and a now obliterated coat-of-arms on the tower is said to have been his. The tower is round externally with four stories internally, each chamber, one to each floor, being quadrilateral in shape, and there are a further two stories in the caphouse. It is built on to the corner of an earlier rectangular hall block with communications at different levels. It measures over eight metres in diameter with walls as much as 2.1 metres thick.

The vaulted ground floor contains three gunloops with throats about 390mm wide set in splayed embrasures open from ground level upwards, possibly to accommodate carriage-mounted pieces. Two of the loops show signs of XVI having been altered but all were probably built with circular openings about 0.37m across with short sighting slits above, set flush with the outer wall surface. The first floor is lit by three windows, each with gunloops below, each with rectangular apertures about 0.64 by 0.45m and there are a further four similar loops in the upper stories. Those set below windows were XVI hidden behind shutters when not in use. Although their mouths are quite large the narrowness of their throats would preclude the use of large guns. They are staggered in the different stories to give maximum cover, not only

of the surrounding area but also along the outer walls of the adjacent palace block. Round the top there is a business-like parapeted walkway.

Another tower inspired by the St. Andrews blockhouses may be that added to the curtain wall of the castle in Lochleven, Kinross-shire.

XVIII

It is possibly the 'new house' mentioned in 1567¹⁵⁴ and is traditionally the quarters of Mary Queen of Scots during her imprisonment. The lowest storey is below the level of the courtyard and contains three wide-mouthed loops for sizeable guns, possibly carriage-mounted. There are four further loops for small arms in the first floor and two in the floor above with a loop for pistols.

At Balvenie Castle in Banffshire there is a circular tower included as part of a sixteenth-century rebuilding of one corner of this thirteenth century rectangular courtyard castle by John Stewart, fourth earl of Atholl (1542-79).¹⁵⁵ Two of the three wide-mouthed loops in the vaulted ground floor flank the north-east and south-east walls of the castle, including the entrance.

At Burleigh Castle in Kinross-shire there is a round tower dated 1582 at one corner of the barmkin wall flanking the entrance which is further defended by two wide-mouthed loops. It has a vaulted basement containing three gunloops for hagbuts of crok or hand guns and the upper two stories are provided with small-arm loops with circular redented mouths. Finally, we might consider a round tower at Tolquhon Castle in Aberdeenshire, built 1584-9, with vaulted ground floor containing gun loops.

All the above towers apart from the one at Burleigh have wide-mouth loops with embrasures open to ground level, and were suitable for large guns mounted on trestles or even on carriages. Such loops only occur

154. Melville Memoirs (Donaldson), 71.

155. W.D. Simpson, 'The Development of Balvenie Castle', Proc. Soc. Antiq. Scot., lx (1925-6), 132-48; J.S. Richardson & M.E. Root, Balvenie Castle (Ancient Monuments Guide, 1974).

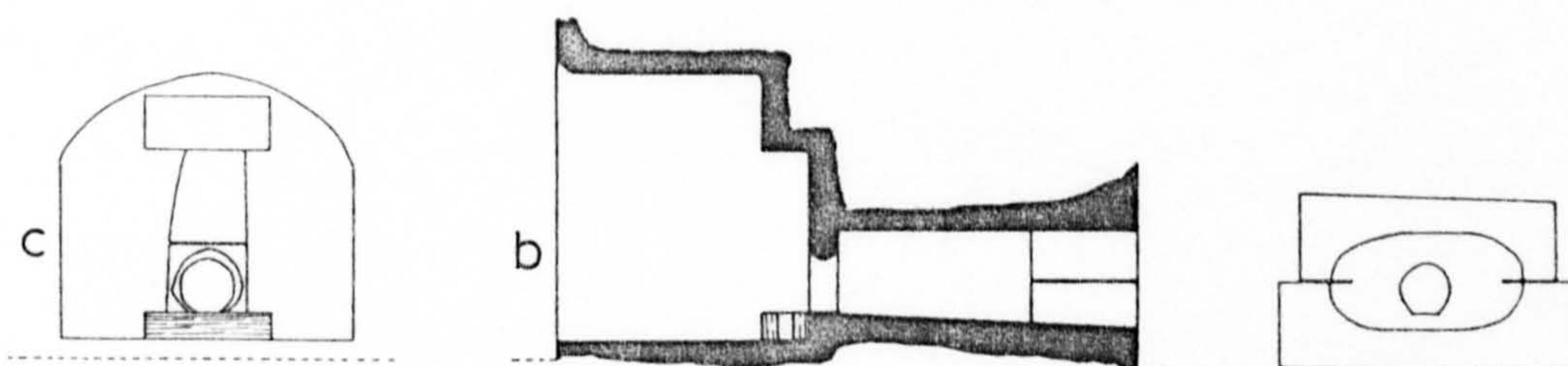
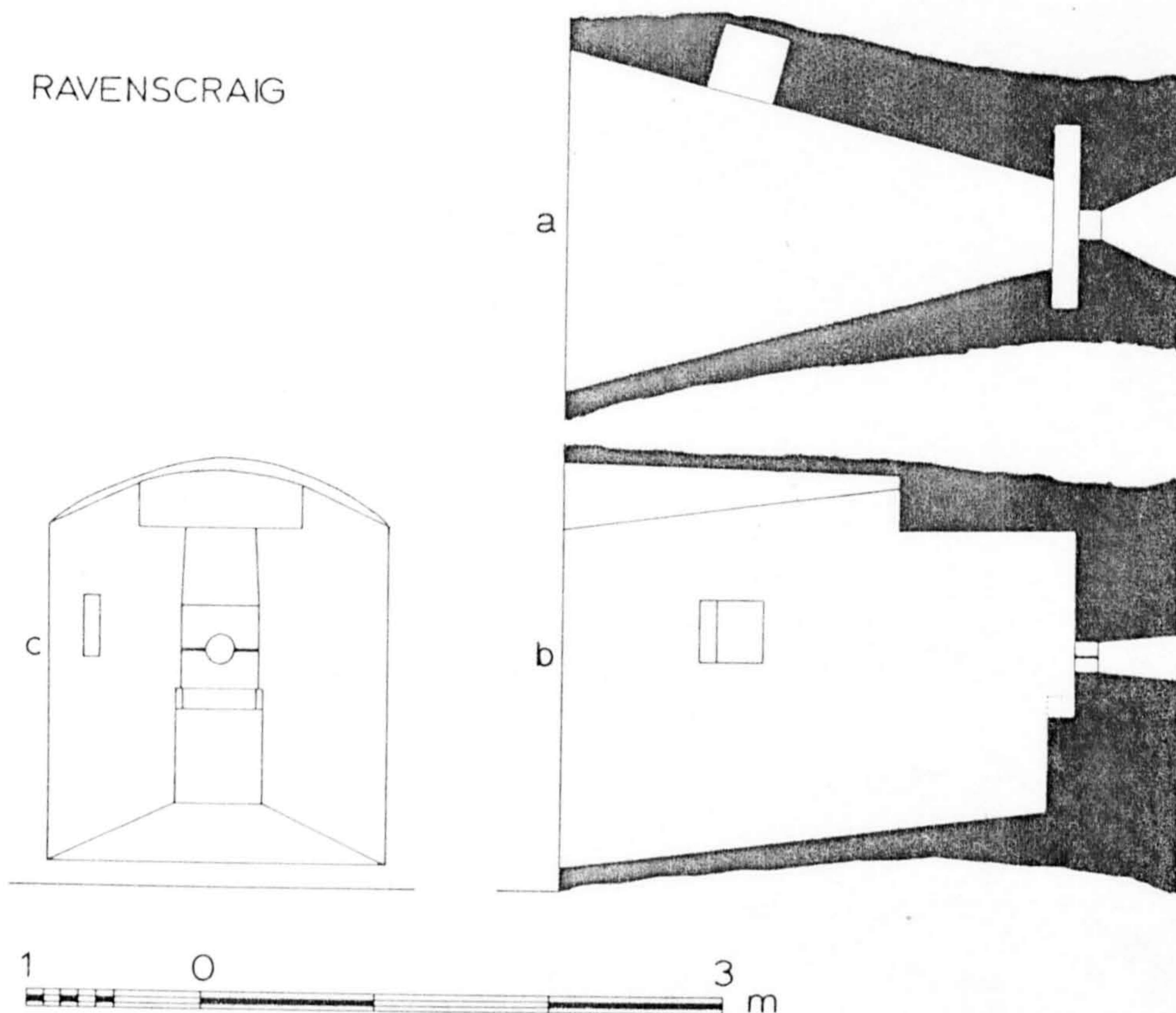
rarely in non-royal work elsewhere, a notable example being Crichton Castle, a house of the Earls of Bothwell in Midlothian. The castle forms a compact quadrangular unit built round a late fourteenth-century towerhouse on a level platform overlooking the marshy valley at the head of the River Tyne. Along the north side Francis Stewart, Earl of Bothwell built the new wing with the famous diamonti Italianate facade, sometime between 1581 when he acquired the castle, and 1594 when he left Scotland for good. This, however, is not the work, as might be thought, of an Italian architect. Rather it is a piece of Scottish work, perhaps designed by the earl himself who had spent some time in Italy.

The eastern end of the wing projects northwards to form a separate block with a small rectangular tower at the north west angle, containing two vaulted cellars at ground floor level, with three wide-mouthed loops facing North having no sills in their embrasures and unusually wide fields of fire, about 65° . Another flanks the rest of the north wall of the wing and two smaller loops are accommodated in the sills of two windows looking to the East. The first floor has one large well-appointed room with two small turret chambers off it, provided with small arms loops.

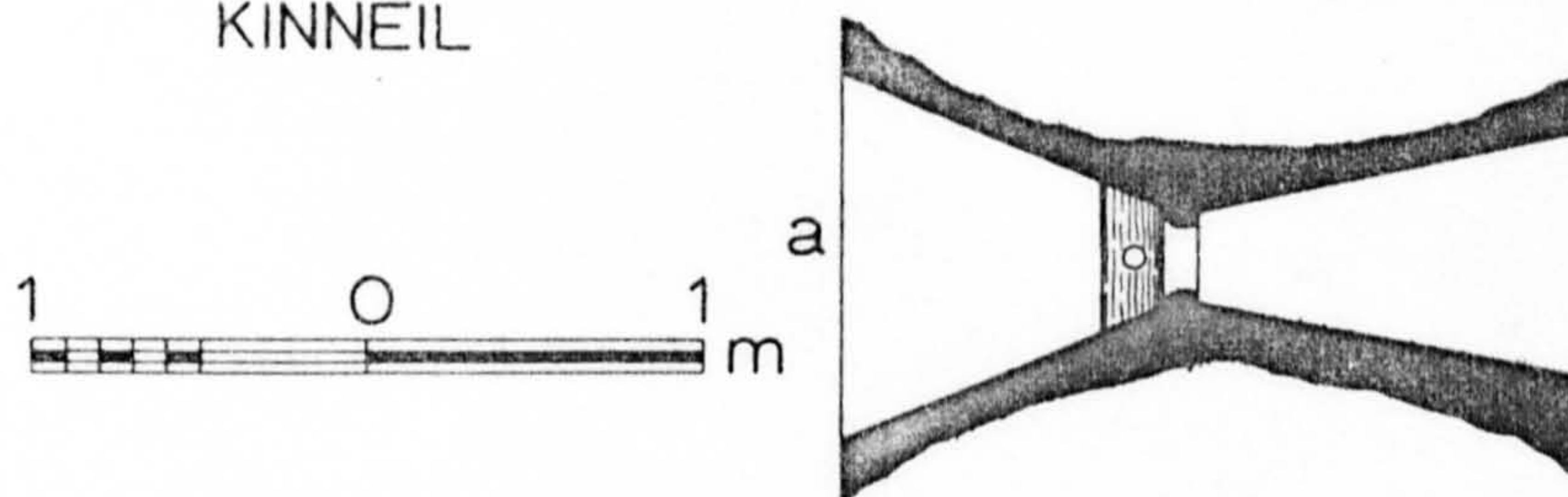
Another group of mid to late sixteenth-century buildings in which defence by guns was taken quite seriously have wide mouthed loops with wooden mountings in the embrasures for the guns. It will be remembered that some of the loops in the curtain wall at Threave had slots for wooden mounts but Threave appears to be an isolated early exception. The two wide-mouthed ports above the entrance at Ravenscraig Castle, which probably date to a reconstruction some time in the middle of the sixteenth century, have deep, splayed embrasures in which more freedom has been created for gun movement by doing away with a sill just behind the throat. Instead there are slots for a beam to rest the rear end of a gun or to house its myk. The embrasures are also fitted with small cupboards for equipment.

XX

RAVENS CRAIG



KINNEIL



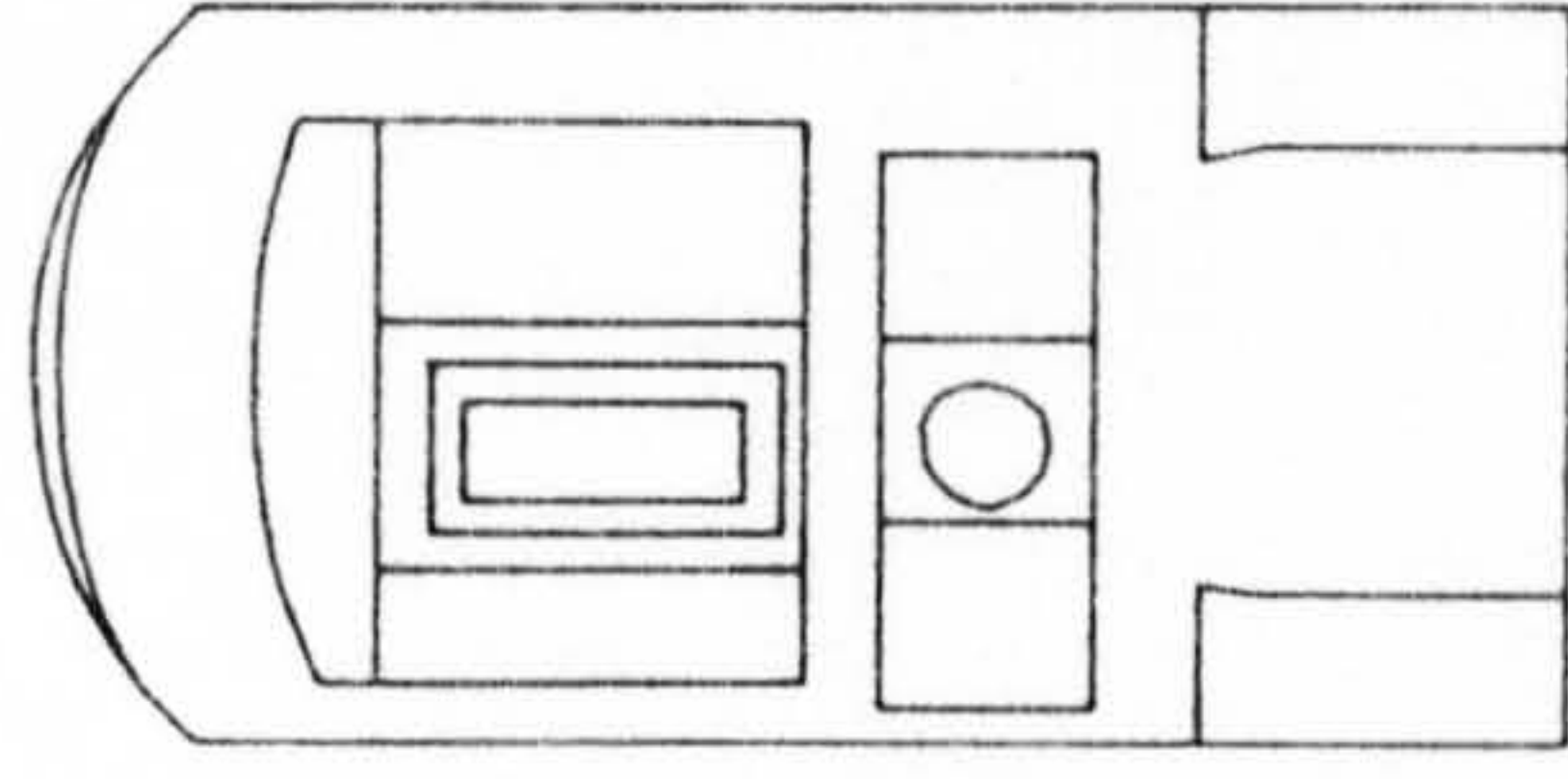
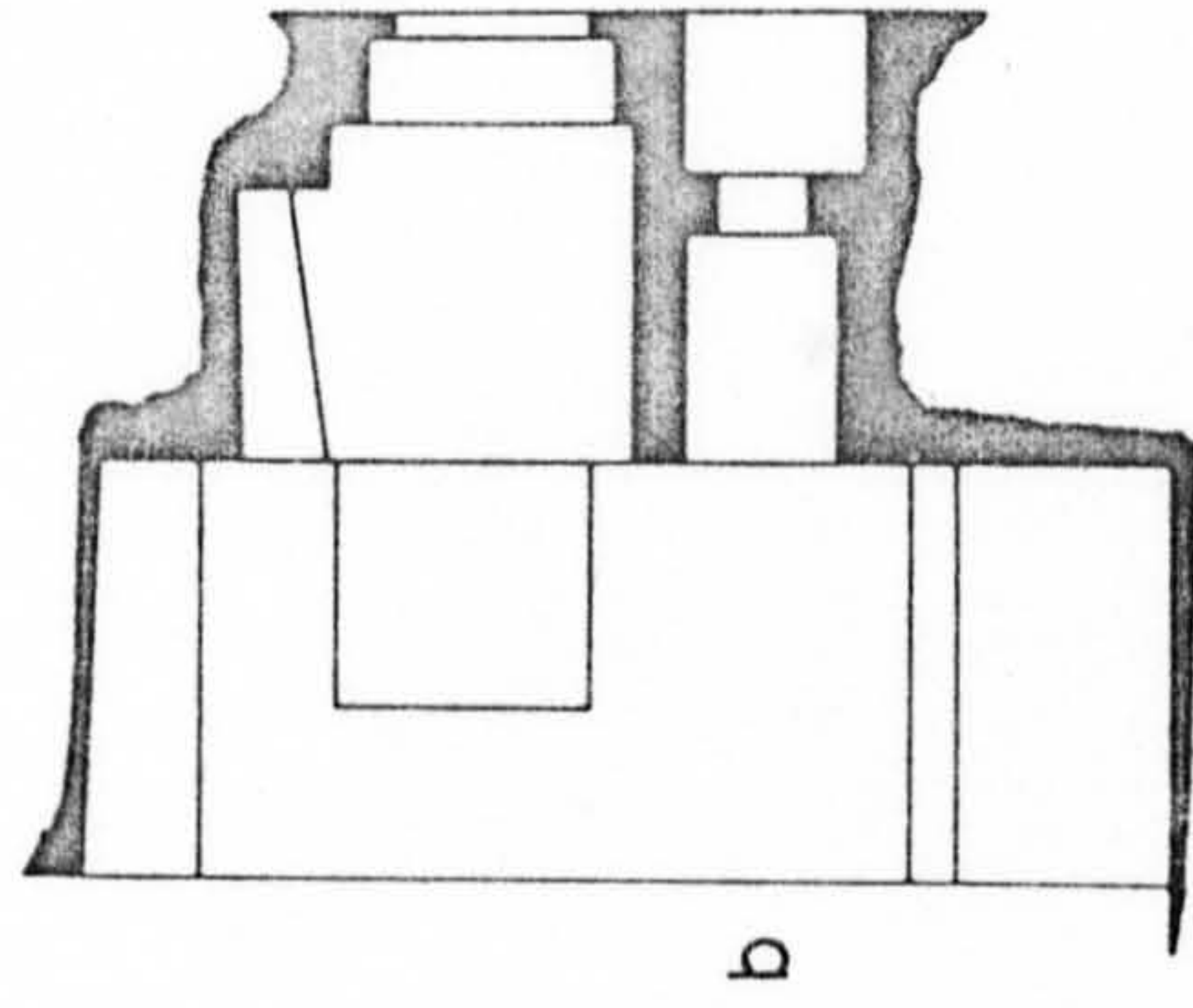
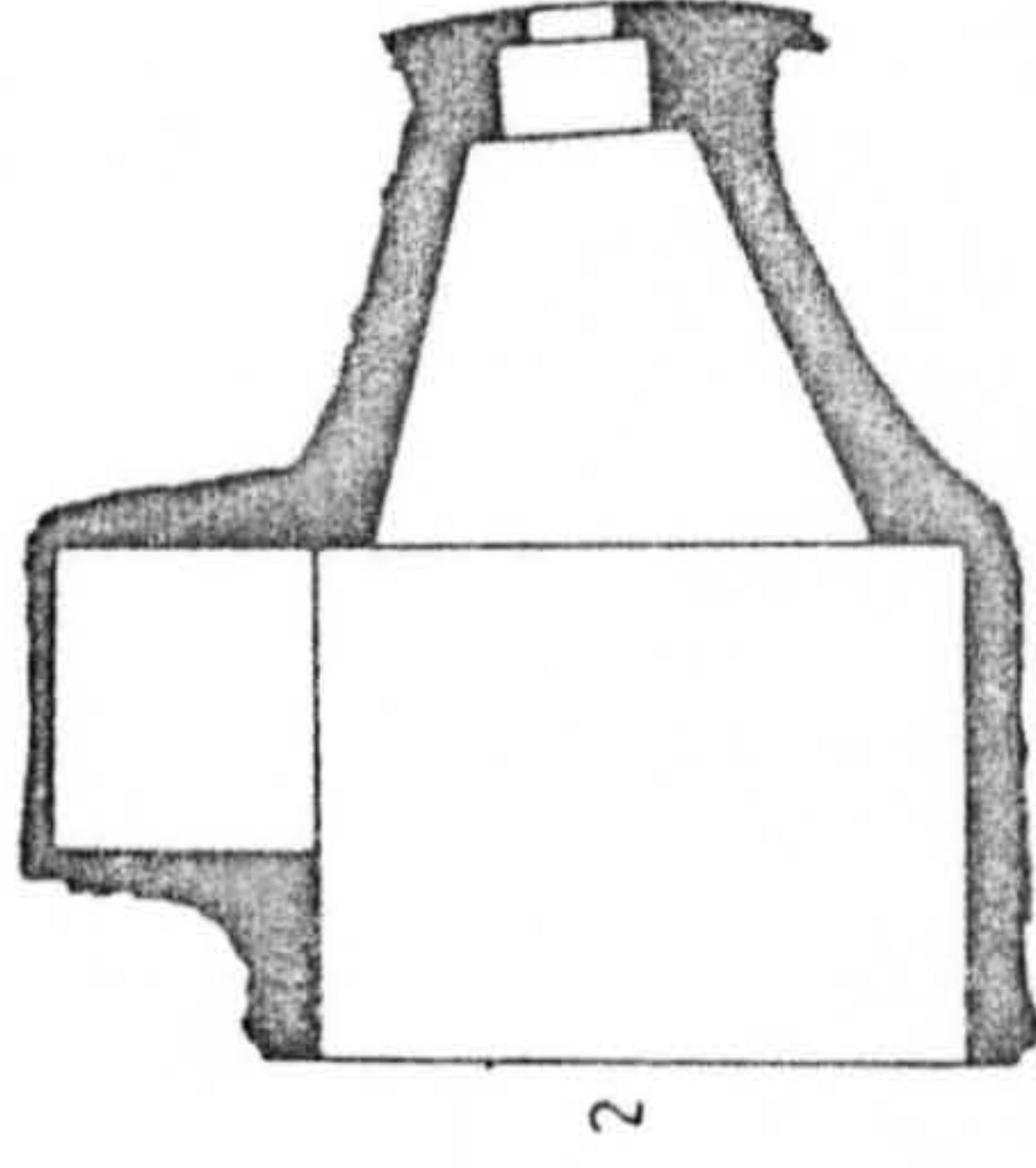
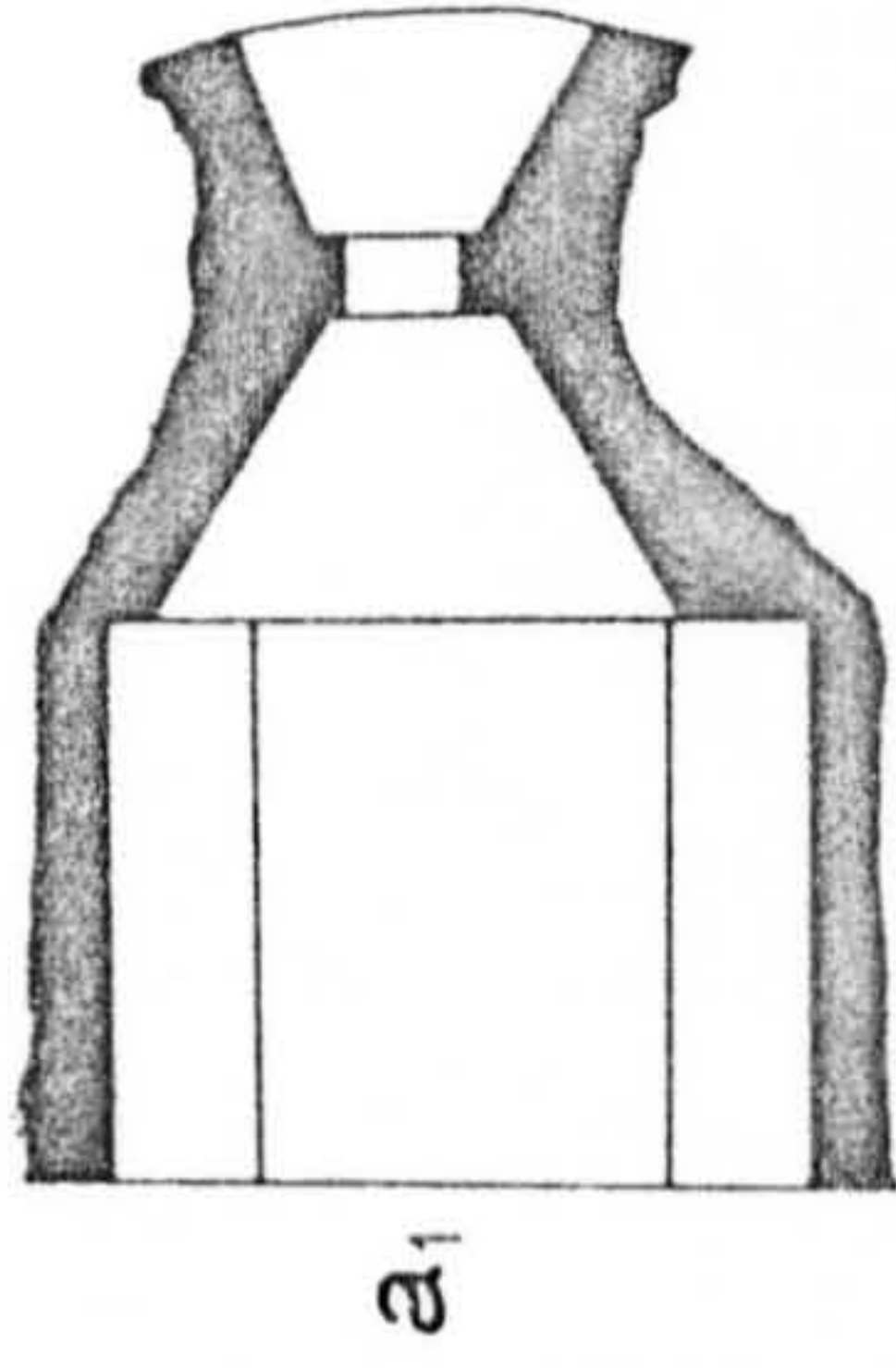
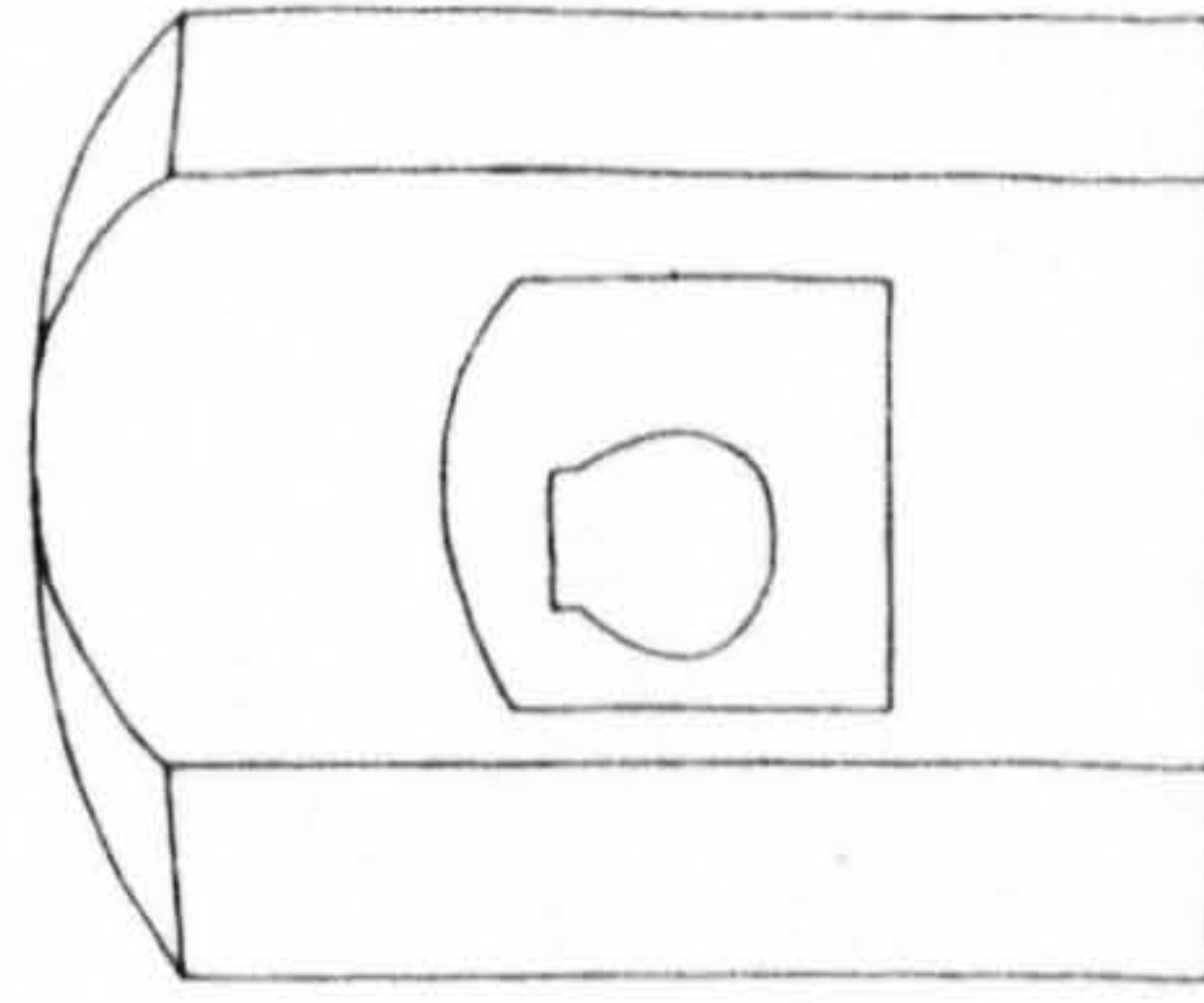
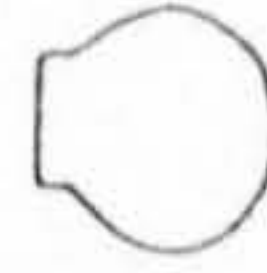
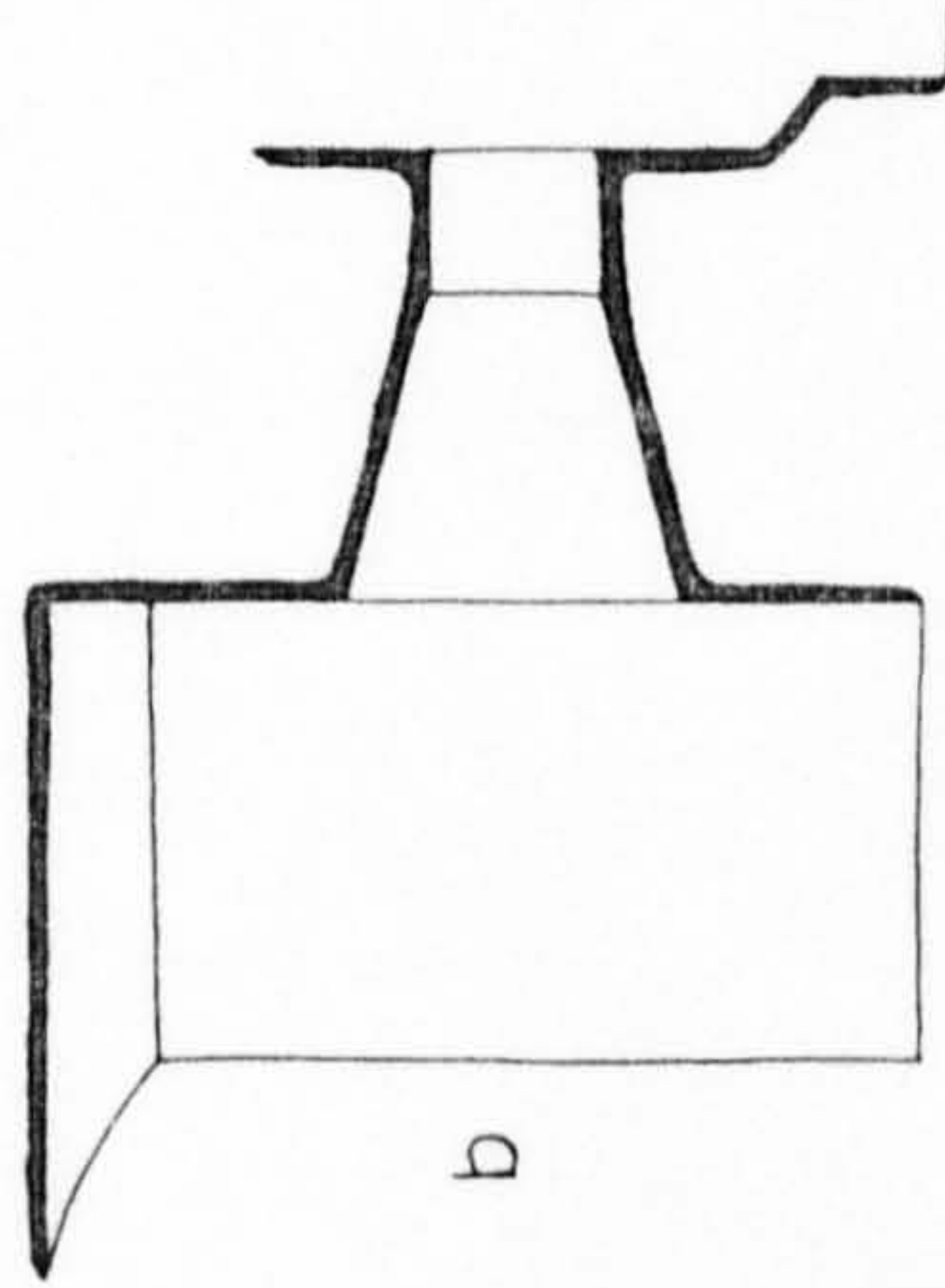
Similar loops are to be found in Benholm's Lodging, Dunnottar Castle, a five-storeyed, late-sixteenth-century building flanking the entrance gateway to the castle and cut partly out of the rock itself. The ground and first storey have four and three gunports respectively, and the second storey a further one, all covering the entrance and the road leading to it. The two tiers of gunports are set in deep, splayed embrasures pierced in the traverses by rectangular holes through which a beam, or beams, could be passed, to support the breech or stock of small guns whose muzzles would rest in the gunloop throats, as at Ravenscraig. The ground floor is divided into two vaulted cellars with no windows besides the gunloops but there is a flue in the ceiling of the inner one which may have been intended to help with the dispersal of smoke when the guns were fired. These gunloops in Benholm's Lodging were not the only ones confronting the unwelcome visitor as he entered the castle. Once through the castle gate he was in line with a remarkable quatrefoil of wide-mouthed loops with a rectangular sighting slot placed centrally. In an inventory of 1612 four little brass pieces are said to have been placed here.¹⁵⁶

Although other gunloops with slots for wooden beams were built in other Scottish castles the closest parallels for those at Ravenscraig and Dunnottar are to be found in Scandinavia, for instance at Nyborg Slöt in Sweden, built by Christian III of Denmark in the mid-sixteenth century.¹⁵⁷ The other Scottish loops all have sills with the beams immediately behind and level with the bottom of the throat. They occur earliest in the 'blockhouse' erected by the Duke of Châtelherault at Kinneil in West Lothian, the XX fragmentary remains of which, much altered, are incorporated in a house of

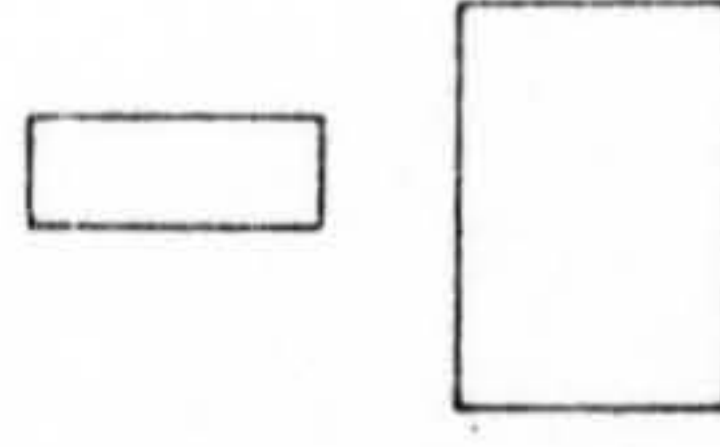
156. J.C. Watt, 'Dunnottar and its Barons', Scot. Hist. Rev., ii (1904-5), 404. The fullest account of the castle is by D.G. Barron, The Castle of Dunnottar and its History (Edinburgh, 1925).

157. O. Norn, Christian III's Borge, vol 1 (Copenhagen, 1949), fig. 31.

KIRKWALL
BISHOP'S
PALACE



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KIRKWALL

THE BISHOP'S PALACE

DHC



later date. Entries in the Treasurer's accounts indicate that it was being built in the years from 1549 to 1553.¹⁵⁸ It was a rectangular structure measuring 17.2 by 9.6 metres with walls about 1.8 metres thick, standing on the edge of a ravine overlooking the Firth of Forth. The ground floor was vaulted and has three wide-mouthed loops, still with their wooden beams in place, and it is reasonable to infer that similar loops were positioned in the other walls as well. The beams are about 180mm wide by 100mm high and are pierced vertically by round holes 60mm in diameter. Parallels for loops of this kind can also be found in Sweden, for example at Stubberkøbing Kirketaarn.¹⁵⁹

The most likely explanation of these is that they were to accommodate the myks of small breech-loading guns which could be swivelled from side to side. The throats of the loops, some 190mm, wide could not have allowed for guns of any size, and the field of fire would have been rather limited since the pivot point of the guns lay about 90mm behind the throat. There would, however, have been no risk of a bold assailant pulling the guns out through the loops. The English recovered a gun from Edinburgh's Netherbow Gate in this way when they attacked the town in 1544.¹⁶⁰

An alternative explanation for these beams is that they are the housings for revolving wooden cylinders cut with a narrow slot for hand firearms. The gun barrel could be passed through the slot and used as a lever to revolve the cylinder, and the cylinder could also be turned to completely close the throat of the loop. Such a device would have given greater protection from enemy shot drawn into the mouth of the loop. Gunloops of this type are known on the Continent in sixteenth-century fortifications,

158. TA, ix, 325, etc; x, 206, 207.

159. Norn, Christian III's Borge, i, fig. 18.

160. Hamilton Papers, ii, 367.

either with wooden or stone cylinders,¹⁶¹ and the Scots could have got the idea from there. But a sine qua non of such an arrangement must surely have been a method of securing the cylinder in an upright position at the top, and, as yet, no evidence of any mountings or other provisions for doing this have been recognised in any Scottish loops.

Similar loops to the ones at Kinneil, some also with wooden beams still in situ, occur at Castle Menzies and Elcho, both described below. A variation of the type is to be noted in the round tower at Burleigh, (see above) with three wide-mouthed loops in its vaulted ground floor. One still retains a wooden beam but it is cut with a rectangular slot rather than a circular hole and must surely have been meant for the hook of a hagbut. It would, however, have meant that the gun could not be aimed and would be difficult to remove for loading.

Towers with gunloops at the corners of buildings led to the development of a characteristically Scottish type of plan - the so-called Z-plan house or castle in which two flanking towers are placed at diagonally opposite corners of a rectangular block to provide economical covering fire of the four sides of the main structure.

It has been suggested by Cruden, and more recently by Slade,¹⁶² that the palace block of Huntly Castle in Aberdeenshire is an early example of such a plan, dating to the 1450s. It is rectangular with a large circular tower at one corner and a small round turret at the opposite one, and while much of the building in its present form is sixteenth or early seventeenth century in date there is no reason to doubt that it owes this plan form to

161. Eg. E. Viollet-le-Duc, Dictionnaire d'Architecture (Paris, 1879), iv, 388, fig. 16 (Bale, porte Saint-Paul); Truttman, 'Ces Fortresses Autour Desquelles s'est Batie la France, fig. 10 (Goussaincourt); D. Menclova, Ceske Hrad (Praha, 1972), ii, fig. 559 (Prazsky Hrad).

162. Cruden, The Scottish Castle, 155; H.G. Slade, 'Druminnor, Formerly Castle Forbes', Proc. Soc. Antiq. Scot., xcix (1966-7), 153.

the structure erected in the fifteenth century. It is thus technically a Z-plan building in design, but not in spirit since it lacks gunloops (of the fifteenth century) in the towers and the smaller of the two hardly flanks the main block since its projection is so slight. There are key-hole loops in the south wall of the basement of the main block but the only loops in the fifteenth-century base of the large circular tower are of the wide-mouthed variety obviously sixteenth-century insertions.

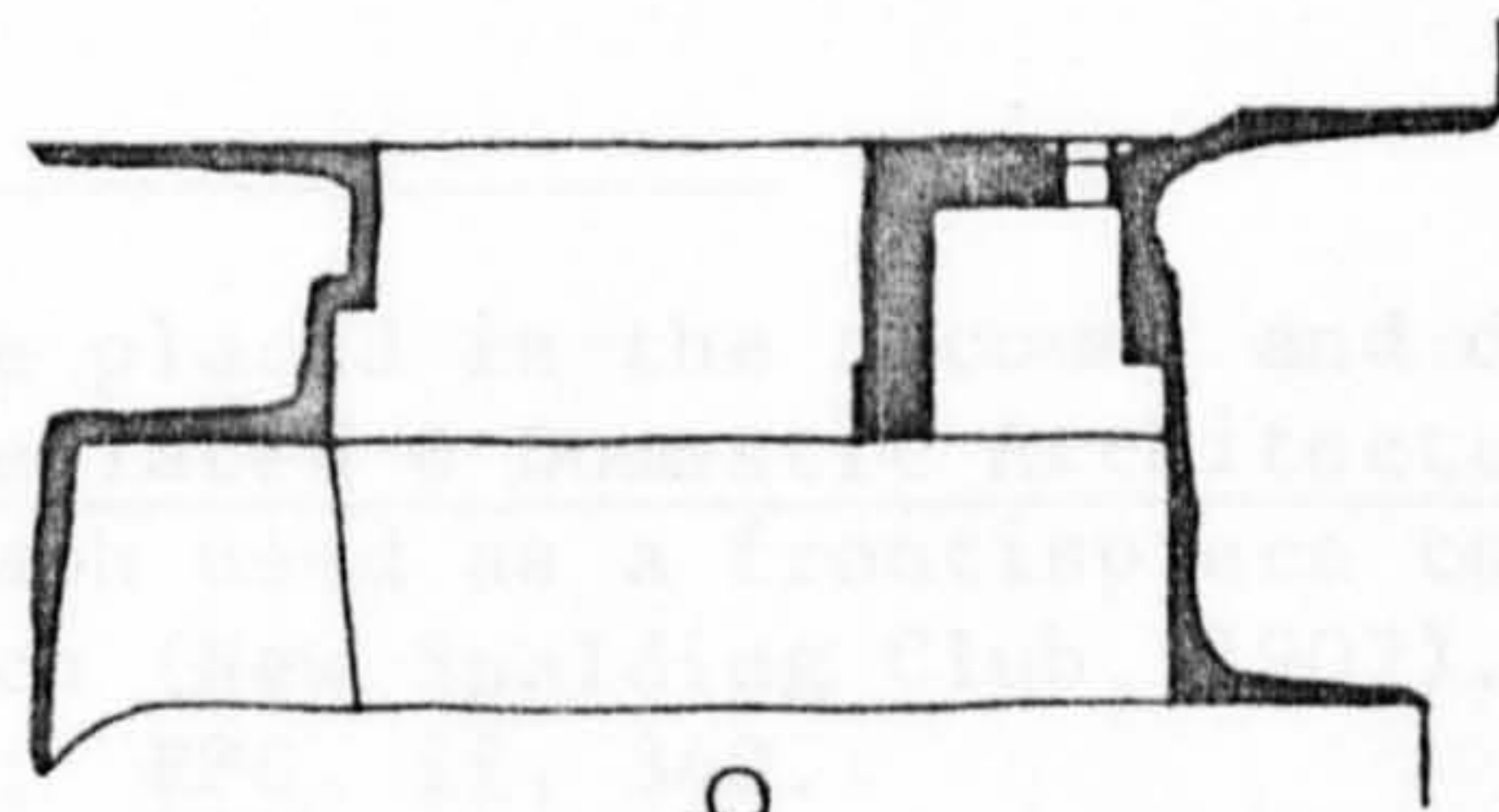
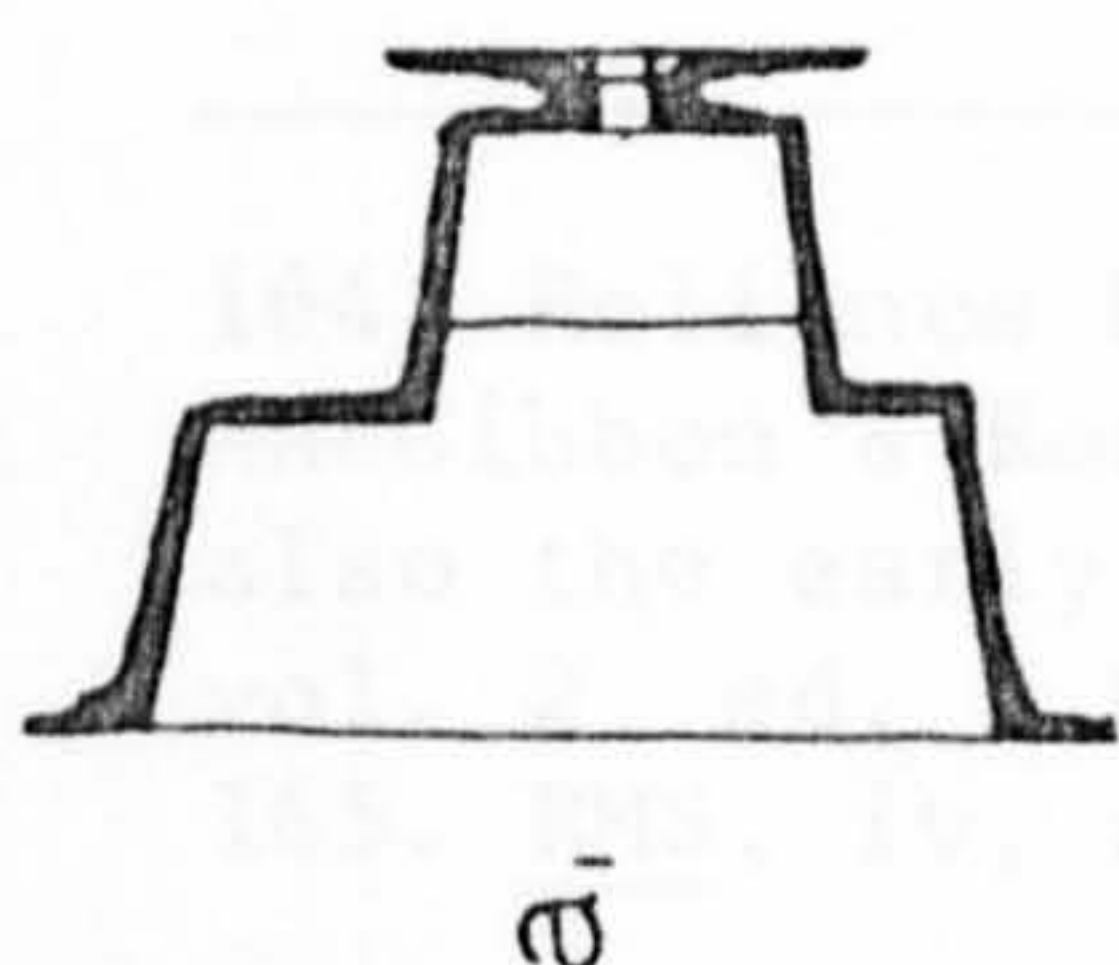
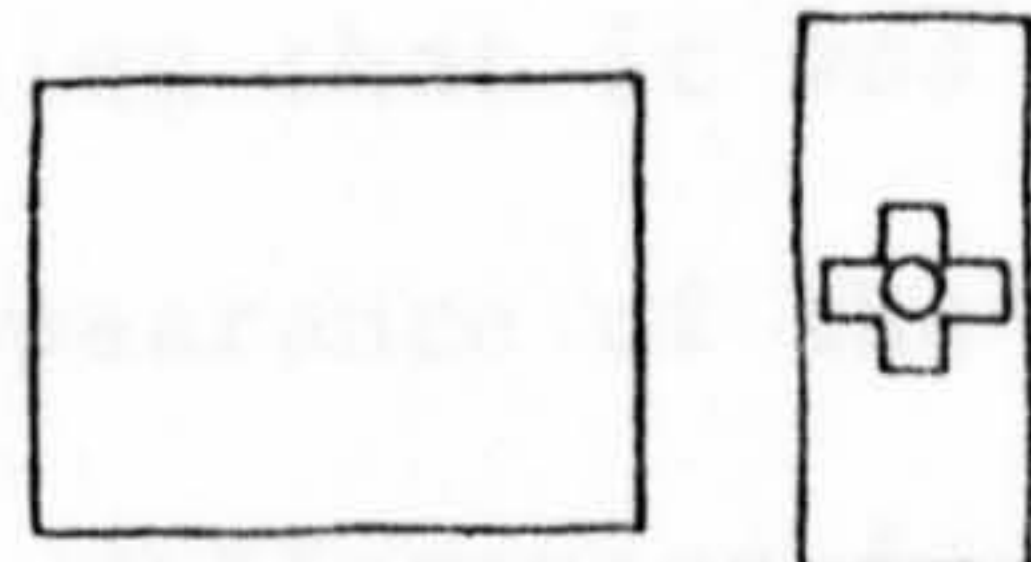
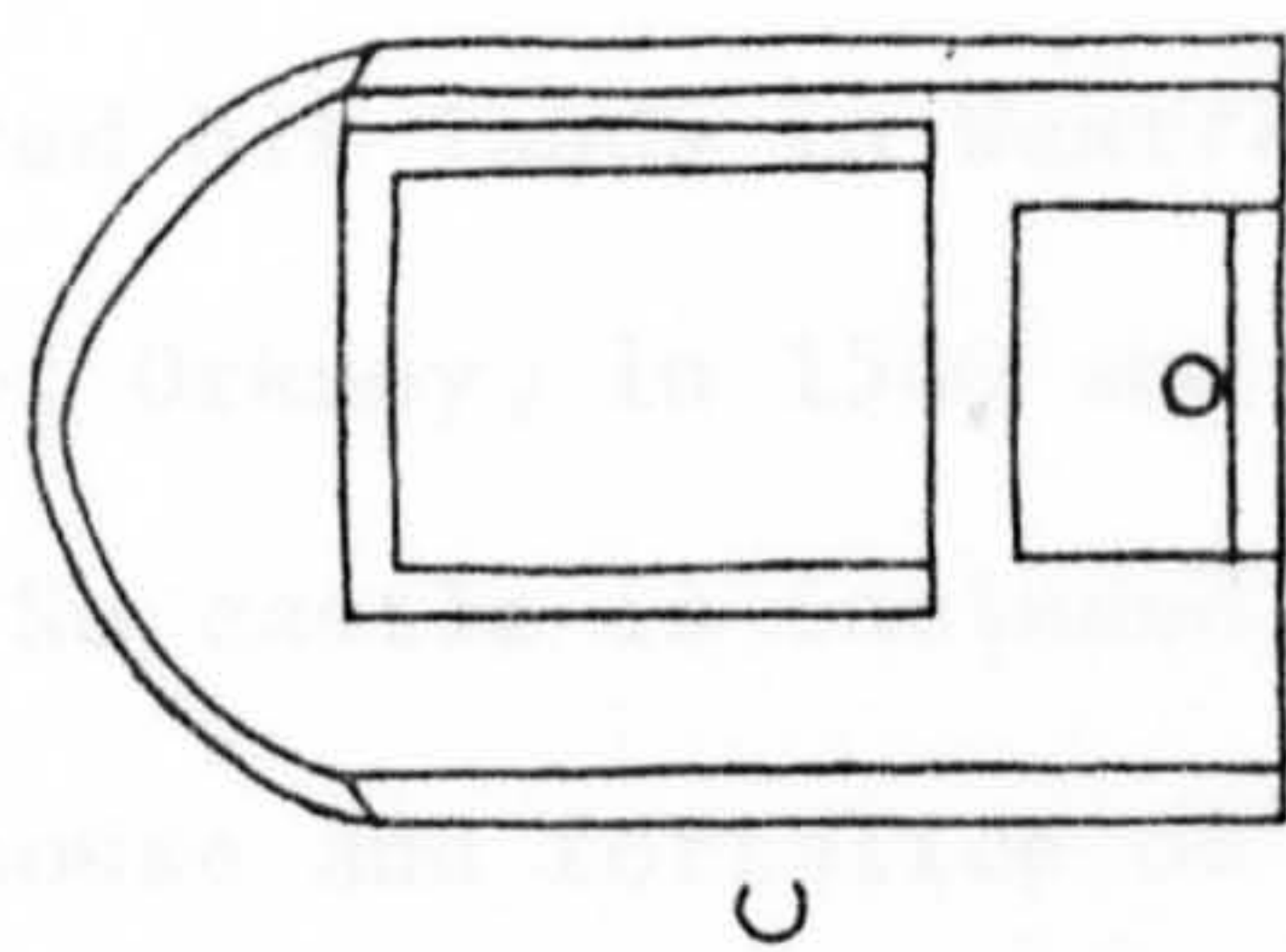
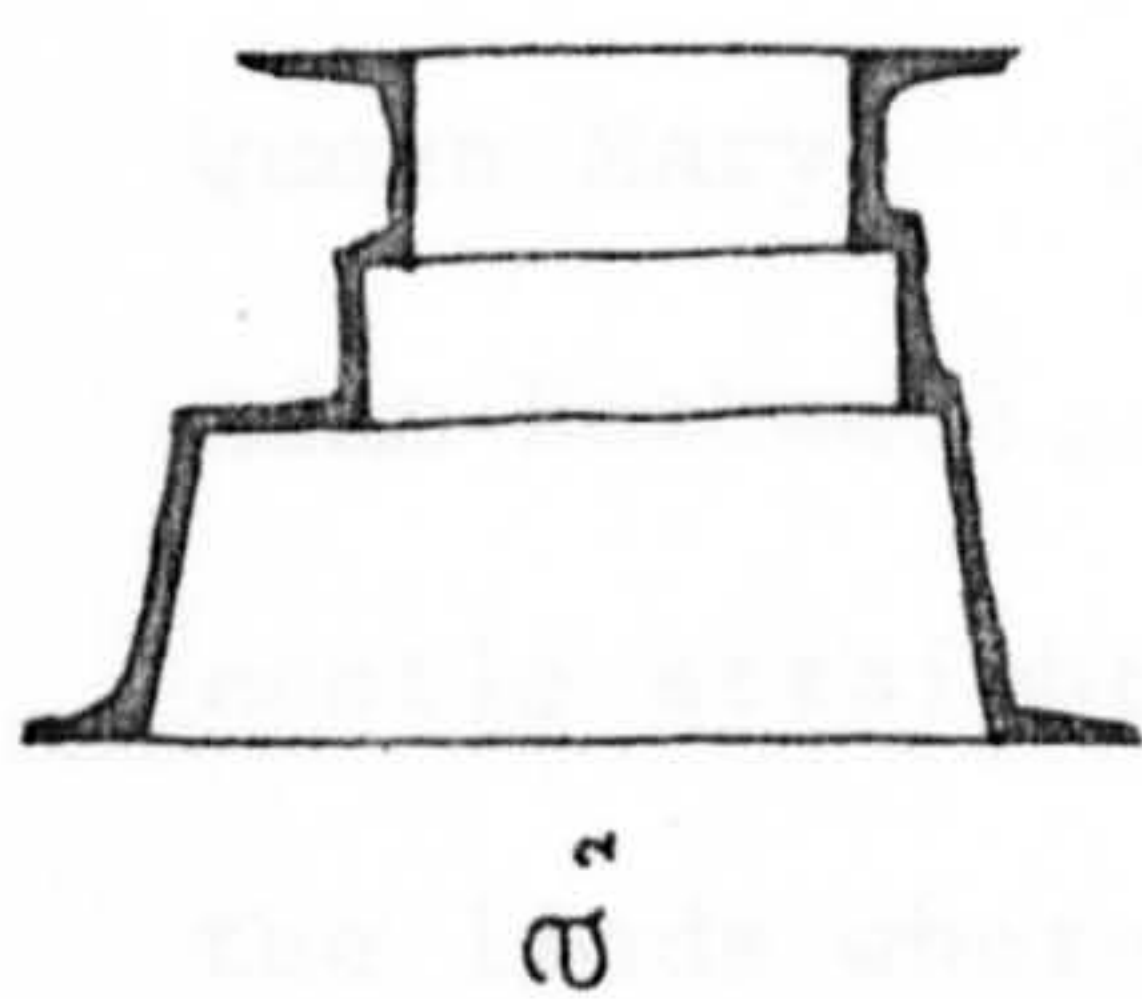
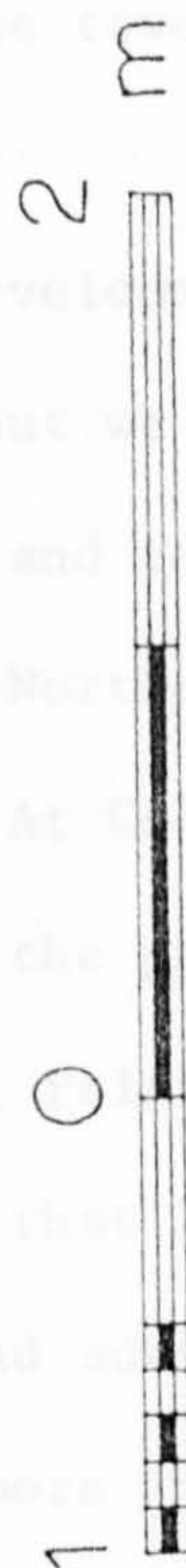
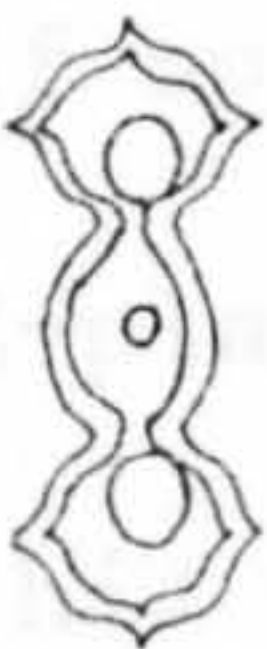
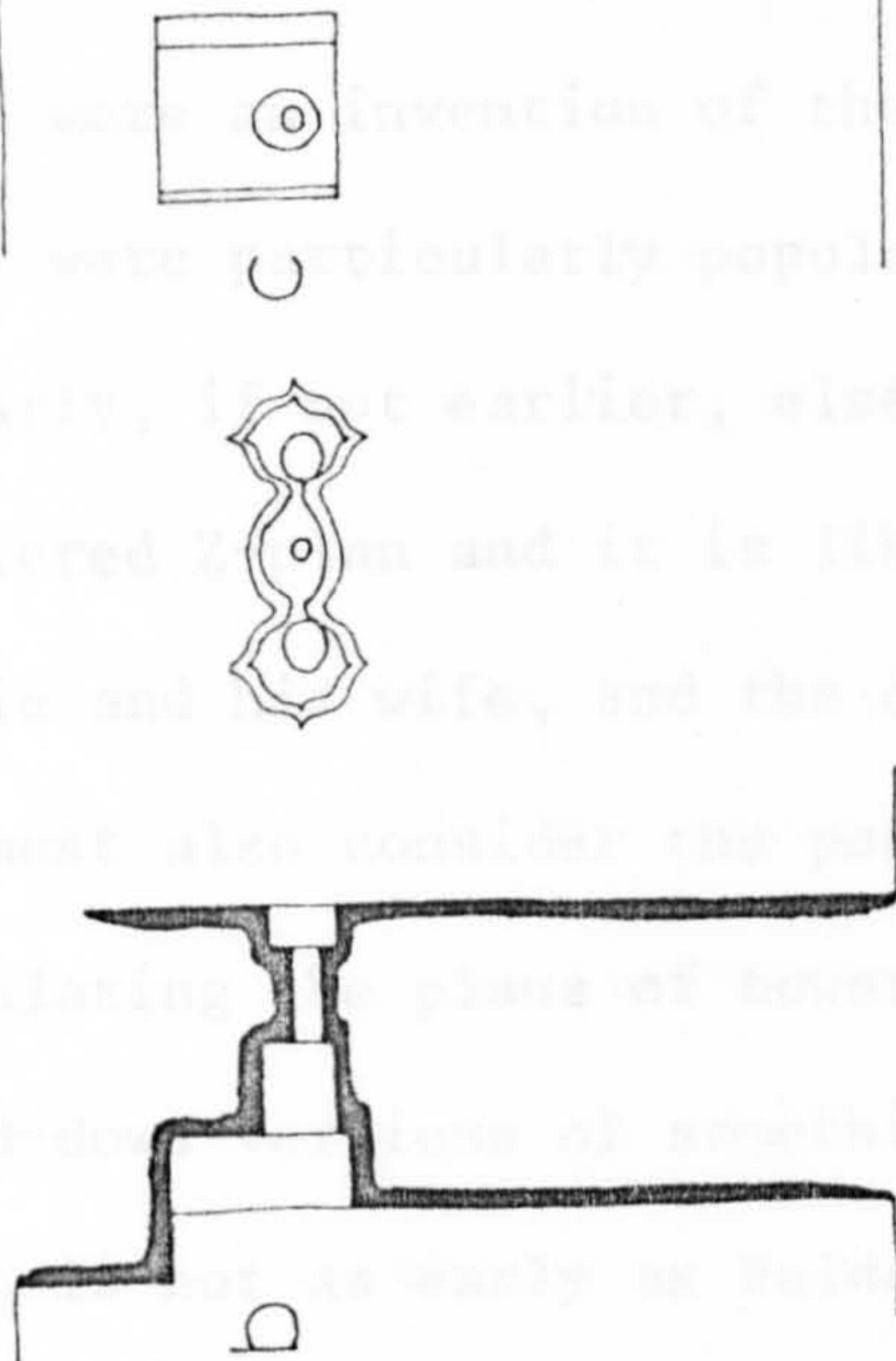
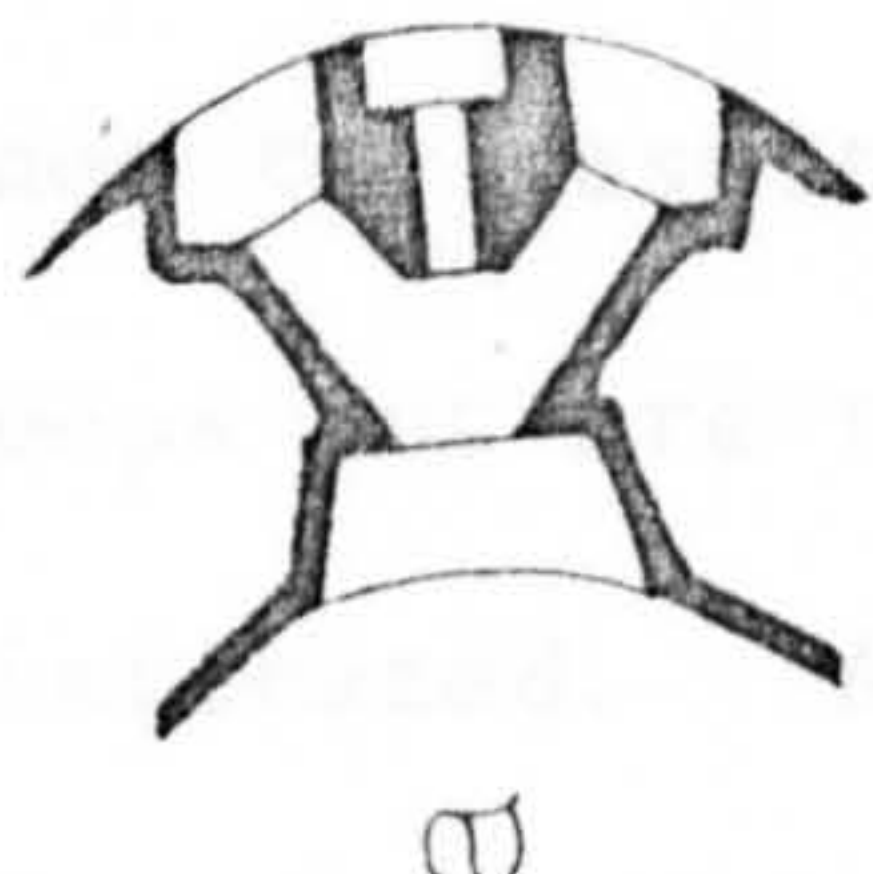
Huntly was remodelled in the 1550s and was probably a major source of inspiration for another Gordon house built about the same time or shortly after - Beldorney Castle in Aberdeenshire.¹⁶³ It is very definitely Z-plan in shape with boldly projecting towers at opposite corners of the main block, one round and one rectangular. Curiously it does not have gunloops of wide-mouthed or inverted key-hole type but simple rectangular slits at ground floor level. That they were not merely intended for ventilation is suggested by their careful placing to cover the castle walls and the approaches to them. Some care has been taken to contrive a 'double' loop in the angle of the main block and the rectangular tower. It has two embrasures to enable the walls of both to be flanked, the original entrances being positioned in this corner tower. The upper floors have been considerable altered.

A third Gordon stronghold, Terpersie Castle, near Alford, Aberdeenshire is dated 1561. It is a small house, now in an advanced state of decay, but as originally built had a main block, only 8.53 by 5.49 metres, and two round towers about 5.5 metres in diameter. The ground floors of the main block and the towers are vaulted, the former containing simple rectangular slits and the two towers three gunloops each, four of which are arranged to cover the walls of the main block. These loops are small and suitable only

163. H.G. Slade, 'Beldorney Castle, Aberdeenshire: an early Z-plan towerhouse', Proc. Soc. Antiq. Scot., cv (1972-4), 262-80.

TOLQUON

H



KIRKWALL
EARL'S PALACE



for small arms. They have round apertures with no external splays. Other similar loops were placed in the upper two stories of the towers but there were no battlements.¹⁶⁴

It is possible to see a typological progression in the development of the Z-plan, from Huntly, through Beldorney, to Terpersie, but we should beware thinking that Z-plans were an invention of the Gordons and their architects, even though they were particularly popular in the North-East. Z-plans crop up almost as early, if not earlier, elsewhere. At Collieston in Angus there is a much altered Z-plan and it is likely that the panel with the arms of John Guthrie and his wife, and the date 1553, relate to its building as such. We must also consider the possibility that Z-plans are not the result of manipulating the plans of towerhouses and adding gunloops but are the watered-down versions of something much more sophisticated. Although it is not as early as Beldorney and Collieston, Noltland in Orkney could be a reflection of this. It is more obviously a military structure rather than just a house.

Noltland overlooks the harbour at Pierowall in the Isle of Westray and is thought to have been built by Gilbert Balfour, a leading supporter of Queen Mary. He acquired his lands in Westray from his brother-in-law, Adam Bothwell, Bishop of Orkney, in 1560 and may have commenced building his castle straightaway. No castle is included in the charter granting him the lands whereas the house and fortalice of Westray are mentioned in a document of 1573-4¹⁶⁵ suggesting that it was erected between these dates, or at least started. The appearance of the stonework, the courses varying in height from top to bottom, differences in gunloops design and other

164. Reliance has to be placed in the account and drawings of Terpersie by MacGibbon & Ross, Castellated & Domestic Architecture, ii, 205-8. See also the early photograph used as a frontispiece to The House of Gordon, vol. 2, ed. J.M. Bulloch (New Spalding Club, 1907).

165. RMS, iv, no. 1668; RPC, ii, 340.

architectural features have been taken by Simpson to suggest at least three different phases of building.¹⁶⁶ The upper part of the south-west tower is likely to date nearer the end of the century if we accept as valid close comparisons between the stairhead and that of Fyvie Castle in Aberdeenshire, and the comparison of the quatrefoil gunloops with those in the Earl's Palace in Kirkwall.

Despite all this architectural uncertainty it is clear that the castle was laid down as a Z-plan, with a long rectangular main-block about 26 by 11 metres, and two square towers. The only significant alteration or addition is a courtyard and outbuildings to the South. The south-west flanking tower contains the doorway in its re-entrant angle and an impressive large stairway. The north-east tower has its two bottom stories vaulted and two private rooms above, while the main block is barrel vaulted with a mezzanine floor, and has a hall and withdrawing room above. All the walls in the three lowest stories are liberally provided with gunloops, by far the most impressive display in any Scottish fortification, sixty-eight loops in all, plus another one through the newel at the bottom of the main stair, covering the front foor, and two loops for pistols, one with quatrefoiled mouth, in the room at the top of the stairs, both covering the top-landing. Most of the loops have narrowish fields of fire (below 40°) but if this was a drawback it was made up for by their quantity.

Most, but not all, of the gunloops on the ground floor have arched embrasures whereas those on the upper floors have lintels. The loops in the south and east walls of the main block and north-east tower have oval shaped wide-mouthed openings and are of a large size, the throats measuring about 0.22 metres across. Although the embrasures have sills about 0.7 metres high they may have been intended for small wheel mounted pieces.

166. W.D. Simpson, 'Noltland Castle', Kirkwall Charters (The Third Spalding Club, 1952), 141.

Many of the other loops at this level, in the architecturally less important back sides, have simple rectangular wide-mouth openings, reflecting the shortage of free stone in these parts. They have smaller throats, about 0.17 metres across, with beam slots immediately behind, at the bottom edge of the throat but a good 0.25 metres or so above the level/the embrasure sill. Their position, low in relation to the throats, suggests that they were intended to hold gun-mountings rather than just fasten wooden shutters for which some of the loops are rebated. A noteworthy feature of the display of loops at this level is the provision of one in each salient corner (except the north-west corner of the main block between the kitchen fireplace and oven) pierced diagonally through the wall thickness from interior room corner to exterior corner. This is the first appearance of loops so placed in Scotland.

The loops in the upper floors all have oval wide-mouthed openings and are recessed in rectangular splayed embrasures. An exception is a loop, probably a secondary feature, in the north wall above the level of the hall, with a circular opening in a splayed embrasure, like the mouth of a wide-mouthed loop back to front. The vaulted lower floors are lit only by simple rectangular loops not much larger in size than the gunloop openings. Only the hall and upper stories of the towers, except the north side of the main block and west and north faces of the south-east tower are provided with large well moulded windows. If well provided with guns, ammunition and men, Noltland would truly have been a tough nut to crack.

There are no obvious direct antecedents to Noltland in Scotland in a military sense, nor are any convincing foreign parallels known. There are certainly Z-plan castles elsewhere in the Netherlands, Scandinavia and at Riga in Latvia,¹⁶⁷ but these may be parallel developments, the result of a

167. See W.D. Simpson, Earldom of Mar (Aberdeen, 1949), 125n.

similar desire to provide flanking fire, rather than the source of Scottish designs. At present Noltland may best be seen as an aberrant form of the more homely Scottish Z-plan houses exemplified by Terpersie. Simpson has suggested the likelihood that the master mason who worked on it had come from the south of Scotland, more particularly Fife, where Gilbert Balfour was brought up. His use of a string course and the style of windows at Noltland can be paralleled at Balmbreich in Fife.¹⁶⁸

No other Z-plan castle approaches Noltland in potential fire-power through other houses are well-provided with loops like the picturesque Claypotts at Broughty Ferry near Dundee, not dissimilar to Terpersie in plan. Its two round towers and main block are all vaulted at ground floor level and have wide-mouthed loops suitable for small pieces of artillery. The towers are built out into rectangular cap-houses but the main block has two stretches of battlements with rounds at opposite corners to the towers. There are some small-arms loops in the stairway which hugs the angle between the north-east tower and the east wall of the main block.

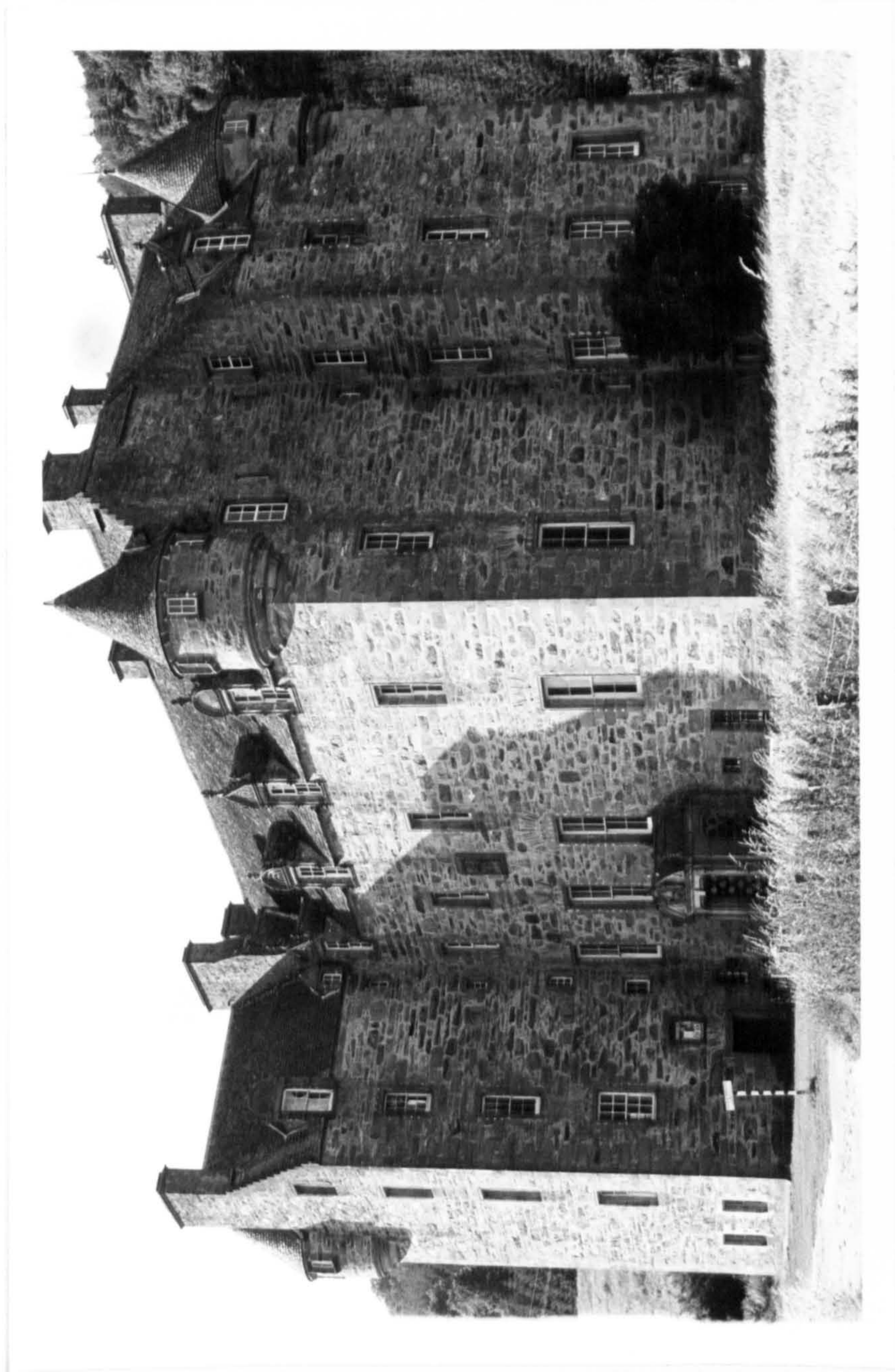
Claypotts bears two dates, 1569 and 1588, carved on the skew stones of the gables of the towers. It is likely that the castle was substantially complete by the first of these dates, and the second records the (re)building or remodelling of the top of the north tower, the stonework of which seems different from the rest of the castle.¹⁶⁹

Castle Menzies, the chief seat of the Menzies, like Claypotts shows signs of a serious intent to defend. It stands at Weem near Aberfeldy in XXIII Perthshire and is an oblong structure, some 23 by 9.3 metres with rectangular diametrically opposed towers, no smaller themselves than many a towerhouse. The main block contains four stories, including the attic, and the towers

168. Simpson, 'Noltland Castle', 146.

169. M.R. Apted, 'The Lands and Tower of Claypotts', Proc. Soc. Antiq. Scot., lxxxviii (1954-6), 108.

Castle Menzies



five. All are finished with pitched roofs. The attics are lit by dormer windows and there are pepper-pot turrets at the salient angles. This arrangement, however, does not seem to have been the original intention as recent restoration of the south-west turret has revealed floor drains connecting with external apertures in the turret corbelling, indicating that it was originally intended that it should be open.¹⁷⁰ This suggests that there might have been open battlements all round the castle. The date 1571 appears with the arms of Sir James Menzies of Menzies and his wife Barbara Stewart above the original entrance while 1577 appears on one of the pediments of the dormer windows. The ground floor is provided with wide-mouthed gunloops flanking the walls, and from one uncovered in recent renovation a wooden beam with a pivot hole was recovered.

The provision of gunloops in most Z-plans, however, is almost entirely confined to the flanking towers, as at Terpersie, and in many castles seem little more than a token concession to the concept of defence, tucked beneath large windows and corbelled turrets, intended for decoration in place of more business like battlementing. A classic example is Drochil Castle in Peeblesshire, built by James, fourth Earl of Morton, sometime between the 1570s and his execution in 1581.¹⁷¹ Internally its plan is unique in Scotland. Basically the rooms on all the floors of the large main block (25.6 in by 21.1 in) are grouped on either side of a central corridor for ease of communications, a type of design which could readily have been learnt by a Scottish designer from contemporary books illustrating French chateaux. Three of the gunloops with redented openings may also reflect directly this French influence. Only the flanking round towers are provided with gunloops some of which are arranged to rake the main block.

170. A.D. Dewar, Castle Menzies (Menzies Clan Society, 1974), 4.

171. Peebles Inventory, no. 498.

At Elcho on the south bank of the River Tay near Perth is a castle similar in many ways to Castle Menzies, although not a Z-plan. Here the requirements of comfort dictated that the house should have two rectangular and two rounded towers, three at the corners, the fourth in the middle of one side. Towers and main block are all well provided at ground level with wide-mouthed loops, some with beam slots (one beam remains). The largest of the towers is provided with a battlement walk. Many other houses of the late sixteenth and seventeenth century, like Nesbit and Thirlestane, consist of a main block with various towers and turrets disposed round about, but few have many, if any, gunloops or other defensive features.

The Z-plans considered so far are essentially the result of one, or a series of related, phases of building and are themselves towerlike groupings. At Tolquhon in Aberdeenshire, a house of the Forbes, an older castle was adapted to form a Z-plan based on a large rectangular courtyard with ranges of buildings round all four sides. A panel in the wall gives the information that 'AL THIS WARKE . EXCEP THE AULD TOUR . WAS BEGUN BE WILLIAM FORBES 15 APRILE . 1584 . AND ENDIT BE HIM 20 OCTOBER . 1589'. Only the towers of the castle, that is the two flanking towers, the gatehouse towers and the stair tower in the courtyard, are provided with gunloops. They are of a distinctive form with ornamental triple mouths, for hand firearms only. XXII Some of those in the upper stories are angled downwards. The two half-round towers flanking the entrance have two tiers of loops, and this front is further protected by a large round corner tower with gunloops in its vaulted ground floor (see above).

Four other late sixteenth century houses have the same spacious courtyard layout as Tolquhon but with more regularly placed flanking towers. Boyne Castle in Banffshire, possibly built by Sir John Ogilvie of Dunlugas soon after he acquired the lands in 1575, is an interesting example which seems consciously to harp back in its size and plan to the great castles of the thirteenth and early fourteenth century. It consists of a

rectangular curtain walled enclosure, about 27 by 32 metres with a round tower at each corner and one on each side of the entrance placed centrally in the south side. This front had a broad water filled moat. The slightness of the walls, pierced by large windows, belies the military aspect of the castle's plan. The bases of the towers, however, are pierced with small gunloops with rectangular mouths, suitable for hand firearms, and three of these, including one in the west wall, have double openings. These are crudely formed, not like the ornate loops at Tolquhon. Double loops also occur at Edzell in Angus and Traquair in Peeblesshire as late as 1642.

At Barnes near Haddington in East Lothian another imposing courtyard castle was started by Sir John Seton but apparently left incomplete at his death in 1594. The oblong castle, about 50 by 38 metres is surrounded by rectangular towers, probably originally ten in all, four at the corners, two on each of the longer and one on each of the shorter sides, all well provided with small wide-mouthed loops.¹⁷²

Finally there are two other examples worthy of note in Orkney, the first being the palace at Birsay, built by Robert Stewart, Earl of Orkney, in 1574.¹⁷³ It consists of a large rectangular courtyard surrounded by two storied ranges of building. As originally conceived, it was probably intended that it should have a rectangular tower at each corner, but a change in the building programme allowed for only three with a large hall and withdrawing room having a kitchen underneath, extending along the north face and covering the north-west angle where the fourth tower could have been. The towers at the south end, which contains the entrance, are provided with wide-mouthed loops with slots for mounting beams, and other

172. East Lothian Inventory, no. 71.

173. There is a 17th century plan of it in the SRO with this date over the entrance. See Orkney Inventory, ii, pl. 5.

gunloops are provided at ground floor level in the main walls including in the courtyard.

Secondly, there is the Earl's Palace in Kirkwall itself, built by Earl Patrick, the son of the builder of Birsay, about 1600. In plan it consists of two wings arranged at right angles with a flanking tower at the corner of one, but the original scheme of building was to link it up with the neighbouring Bishop's Palace to form one vast rectangular palace complex. The detailing and design of the Earl's work are remarkably fine, not least the two storeyed angle turrets and great oriel windows. The ground floor is provided with several loops for hand firearms with small circular openings in the exterior walls. They are mostly situated in the sills of larger windows but a noteworthy feature is the provision of loops through the corners of the flanking tower, as at Noltland Castle. There are several more little firearms loops beneath the oriel windows and turret windows at first floor level. The openings of the loops are only about 90mm in XXII diameter and most are decoratively carved as the centres of quatrefoils.

An account of fortifications in Scotland would not be complete if it was limited to castles, earthworks and town walls, for churches were sometimes adapted for military purposes and in some cases their design has been influenced by the possibility of such a use. In particular the towers of many churches with their small windows and battlement walks are not unlike towerhouses. At Whitekirk in East Lothian the church tower of the late fifteenth-century has a key-hole loop lighting its stair while at Dysart Church in Fife, the church tower of similar date has key-hole loops in its first floor, overlooking the sea. It is probable that towers like these, and many others, were intended as places of safety for valuables and the local populace when danger threatened.

In the sixteenth century there are several examples of churches being taken over by military forces, for instance Coldingham Priory in Berwickshire

on several occasions. In December 1542 it was garrisoned with 100 hagbutters.¹⁷⁴ The steeple of Glasgow Cathedral was held by soldiers of the Congregation in March 1559/60 and Dumbarton Church by the Queen's Party in 1568.¹⁷⁵ Other examples could be cited but perhaps the most interesting case is the capture of the steeple of Annan Church, garrisoned by the Governor Arran in 1547 with seven gunners and 57 local men under the leadership of James Lyon. Lyon was summoned to surrender on Sunday 11 September by the English under Lord Wharton and the Earl of Lennox, but refused. The English leaders wrote to Somerset

'And we having in ordenaunce but a facon, a faconett, and foure quarter facons, for that ther is no baterie peice at Carlisle, divised that night howe we shulde maik warr agaynst the house on the morowe. At viij th of the klok in the mornyng, we laid those sex peices to beit the battailling, and appoyntid certane archers and hagbutters to maik warre also untill a paveis of tymbre might be drawn to the sidde of the steplee, under whiche sexe pyoners might work to have undermyened the sam; and in putting these to effectes, they in the house maid sharpe warre, and slewe foure of our men and hurt divers others. And with grett stones from the steplee toppe, brooke the paveis after it was sett, and being in that extrymtie, lakking ordenaunce for that purpose, we caused certane pyoners cutt the walle of the east end of the quere, overthuart abone the earthe, and caused the hooll ende to falle, wherwith the rooff and tymbre falling inward, slewe vij Scotemen. And after that we caused the peices be laid to shoot at the doore of the steeplee which was a house hight, and that house hight rampered with earthe, and caused them further to myen'.

174. Hamilton Papers, i, no. 267.

175. Brosse, Journal of the Siege of Leith, 87; Cal. Scot. Papers, ii, no. 836.

About four o'clock in the afternoon Lyon took down his 'pensall of defyaunce' and asked for mercy, but he was constrained to surrender unconditionally. After some deliberation the English decided to grant them their lives but keep them prisoner.¹⁷⁶

The ordnance captured in Annan steeple by Lennox and Wharton were probably just small pieces of artillery, hagbuts of crok and the like, but in some of the major sieges of the sixteenth century good use was made of church towers as convenient platforms for large guns. The Prior of Capua had guns mounted on the tower of Saint Salvator's College and on the 'Abbey Kirk' for besieging St Andrews Castle in 1547¹⁷⁷ and when the French were besieged in Leith, artillery was mounted on the towers of St Anthony's and St Nicholas' which caused much annoyance to the besiegers.¹⁷⁸

176. Cal. Scot. Papers, i, no. 42.

177. Knox, History, i, 95.

178. J. Hayward, Annals of the First Four Years of the Reign of Queen Elizabeth (Camden Soc., 1840), 58.

EARLY PIECES OF ARTILLERY FROM SCOTLAND

The following is a list of guns which can be dated to the early seventeenth century or earlier which are now in Scotland. Not all of them were necessarily in Scotland at such an early period. Included in the list are various descriptions from early sources of guns. Although the guns themselves do not survive the descriptions tell us something about them. Guns marked with an * have either not survived or not been seen by the writer.

*According to Bower (Chron. Bower, ii, 490), James I had a bronze bombard called the Lion cast in the Low Countries in 1430, with the following inscription on it:

'Illustri Jacobo, Scotorum principi digno,

Regiifico, dum fulmino castra reduco;

Factus sum sub es, nuncupor ergo Leo'.

Various expenses connected with the purchase of the gun (possibly in Bruges) are detailed in the Exchequer rolls, including a payment to cover the cost of a pitcher of wine broken on the ship which brought the gun to Scotland. (ER, iv, 677-8, 681).

There is now no trace of this gun or any others of similar date which might have been like it. The chronicler of Pluscarden indicates that it was captured by the English (Chron. Pluscarden, 10), possibly at the time of James' unsuccessful siege of Roxburgh Castle in 1435. It is known that about 1430 the Duke of Burgandy had guns 'in the form of lions', and he lent two bronze veuglaires called 'Lyons' for the siege of Compiègne in 1430 (Gaier, L'Industrie et le Commerce des Armes, 171). These were presumably similar to James I's gun. Gaier has suggested that they had

muzzles shaped as lion's heads but it is possible that it was their cascabels which were treated in this way. Certainly there was a fashion of making cascabels in the form of lion masks, especially in the sixteenth century, as witness two large guns in the Musée de l'Armée in Paris (N69, N71), both cast in Lyons in 1507.

MONS MEG, bombard of wrought iron, made in Mons, Belgium in 1449.

See pp. 294-301.

Wrought iron chamber, bore c. 65mm, length 0.515m. 15th century?

Dredged out of Aberdeen Harbour.

Marischal College Museum, Aberdeen.

*Wrought iron gun, length 0.71m. 15th century (?). Possibly the barrel for the chamber just listed. Dredged out of Aberdeen Harbour.

Formerly in Marischal College Museum, Aberdeen, but now lost.

Wrought iron, muzzle-loading gun, bore, c. 1.5 ins (38mm), length 1.22m. I

First half of 15th century. Hagbut of crok with stub of iron stock, barrel probably faceted, but now badly pitted and corroded. See p. 293.

From Boghall Castle near Biggar, Lanarkshire.

National Museum, Edinburgh. L.1975.11.

Wrought iron gun, bore 1.4 ins (35.7mm), length 1.455m, barrel length 1.25m.

First half of 15th century. Hagbut of crok with hammer faceted barrel, much corroded and pitted. The breech end has been shortened and a recent - no earlier than the 18th century ? - iron stock inserted. A swivel pin of similar date has been attached underneath.

Formerly in the collection of the Earl of Seafield.

National Museum, Edinburgh. LH (1977).

*'Ane double cannon of fonte markit with the armes of the feir in Zeland' (i.e. Veere), in Edinburgh Castle in 1578 (Wardrobe Inventories, 248).

It was described as broken in a list made up in 1593 of artillery given or lent from Edinburgh Castle. It had been given to the Earl of Bothwell. (SRO E96/5).

*'Ane cannon of fonte markit with the Kingis haill armes of Scotland', in Edinburgh Castle in 1578 (Wardrobe Inventories, 252) and a bastard and two moyens 'markit with the armes of Scotland' in Dumbarton Castle in 1580, (RPC, iii, 319-20). The cannon may have been the 'brokin cannoun scottis fonte' given to Harry Home, constable of Edinburgh Castle, some time prior to 1593 (SRO E96/5). The two moyens were still in Dumbarton Castle in 1681 when they were described as being three pounders, nine feet long, marked with a lion and a crown on the breech, eight square and round before marked with thistles and fleurs-de-lis (Hist. MSS. Comm., 10th report (1885), 132). In 1539 a carver, Andrew Masterton, was paid for making six wooden patterns of lion's heads and fleur-de-lices for the gun moulds being made in Edinburgh Castle (TA, vii, 344).

*'Ane cannoun, called Throwne Mouth, marked with the porkanpyne, with hir stok and quheilles, all garnished with yron werk, with hir ladillis, sponge, and worme' Aug. 1614 (RPC, x, 713). She was in Scotland by 1547 when she was in Dunbar Castle (TA, ix, 103). Not to be confused with a 'thrawin mowit' moyen without arms made by Hans Cochran, 1539-40 (TA, viii, 348-51; Wardrobe Inventories, 249). The porcupine was the personal badge of Louis XII of France (1499-1515) and some of the artillery in the Musée de l'Armée in Paris is so marked.

*Two cannons (including 'Throwne Mouth') and a moyen, 'merkit with the porkspik', in Edinburgh Castle in 1578 (Wardrobe Inventories, 248, 250, 251). The porcupine was the badge of Louis XII of France (1499-1515).

*'Ane uther cannon of fonte callit litle thrawin mouth markit with the marschell of Frances armes', in Edinburgh Castle in 1578. (Wardrobe Inventories, 250).

*Three cannons of cast bronze 'markit with King Charles armis', in Edinburgh Castle in 1578. (Wardrobe Inventories, 250). Probably the Emperor Charles V is meant. There was a six pounder (a bastard?) ten feet long with the imperial arms in Dumbarton Castle in 1681 (Hist. MSS. Comm., 10th report (1885), 132).

Cast bronze gun, bore 5.5 ins (140mm), length 3.14m. French, 1515-1547. IV
Cannon (?), the chase decorated with fleur-de-lices and F's for Francis I of France, the reinforce with his salamander badge. The vent is contained in a letter B. The form of the cascabel, like a pierced leafy bud, on the basis of a comparison with other French guns in the Musée de l'Armée, Paris, is more likely to date this gun near the end rather than the beginning of Francis' reign. The B is the mark of the founder or foundry and occurs on other surviving guns of Francis I and Henry II. It is certainly not the mark of Benvenuto Cellini as claimed by Lord Archibald Campbell (Armada Cannon, (London, 1899), 7).

Lord Archibald says this gun, called by him the 'Gleed Gun', was recovered by the 2nd Duke of Argyll in 1740 from the Spanish Armada wreck at Tobermory in Mull (Campbell, Armada Cannon, 6, 27). There are however, in the archives at Inverary Castle, a discharged account containing two references to the gun showing that it was transported with great difficulty and at some cost from Edinburgh Castle to Glasgow and thence to Inverary in May 1701 (SRO transcript of 24 Aug. 1950). This obviously does not prove that she was not from the Armada wreck, since she could have been recovered at an earlier date than 1740, for instance, in 1666 when the 9th Earl of Argyll had two brass guns raised (Hist. MSS Comm., Appendix to 6th Report

(1877), 627, no. 176). It is interesting, however, that when the twelve year old Comte de Chambord, known as Henri V (heir apparent to the deposed King Charles X of France) visited Inverary in 1832 he recorded seeing a cannon captured from Francis I, (I.G. Lindsay & M. Cosh, Inverary And The Dukes of Argyll (Edinburgh, 1973), 401, n. 58). This can hardly have been any other than the Glead gun, but it is, perhaps, surprising that he makes no mention of its recovery from an Armada wreck, unless we imagine that Lord Archibald jumped to this conclusion later on without any hard evidence to back his claim. He certainly does not produce it in his book on the subject.

Although we equally cannot offer any proof for its possible origin for this gun which is worth bearing in mind is that it is the cannon, given by order of the Lords of Council, to the Earl of Argyll in 1543, along with two falcons, no doubt to help suppress the lawlessness in the Highlands and Isles (ADCP, 535; Dalrymple, ii, 280). Argyll later sent what was presumably the same gun to the siege of Castle Sempill in 1560 and the siege of Edinburgh Castle in 1573 (Cal. Scot. Papers, i, no 905; Diurnal of Occurrents, 331). There is no record that it was recalled from Argyll or any of his successors.

Cast iron gun, bore 6 ins (152mm), length c. 2.4m, Late 16th century.

Spanish ?. Cannon (?) badly corroded, raised from a wreck off Portincross, Ayrshire in 1740, thought to be one of the Armada ships of 1588. A Spanish crown and coat-of-arms is said formerly to have been visible on the gun. G.R. Hewitt, 'A Portincross Cannon', Ayrs. Archaeol. & Nat. Hist. Colls., vii (1961-6), 53-57. The gun is in the open at Portincross, next to the castle.

*A cannon, two grose culverins and two moyens all of cast bronze, 'with the armes of King Hary', in Edinburgh Castle in 1578 (Wardrobe Inventories,

248-52). Perhaps this was Henry II of France (1547-59), rather than Henry VIII of England.

Fragment of cast bronze gun, bore c. 4.4 ins (112mm). Piece of a grose culverin (?) with octagonal chase. It includes the vent and part of an engraved inscription (very worn) in three lines : 1564/PETRVS B.../ ...FEC....

Found in sea near Dunbar Castle.

National Museum, Edinburgh. LH (1978).

*Three English demy culverins, one of cast iron, two sakers and a double falcon, all 'markit with the rois', in Edinburgh Castle in 1578 (Wardrobe Inventories, 249-53). Several surviving English pieces of artillery dating to the sixteenth century have a Tudor rose cast as a decoration into the top of the barrel, e.g. guns in the Tower Armouries, London and at the Museum of Artillery, Woolwich.

*A culverin bastard, a little 'gallay' cannon and two moyens, all of cast bronze and 'merkit with the sallemandre', in Edinburgh Castle in 1578 (Wardrobe Inventories, 248, 249). The salamander, was the badge of Francis I of France (1515-47).

*'Ane battart, marked with the solamander, floure de luce and ef, with hir stok and quheilles, all garnished with yron work'. Aug. 1614, RPC, x, 713. The salamander was the personal badge of Francis I of France (1515-47), hence also the fleur-de-lices and Fs. Compare the gun at Inverary and others in the Musée de l'Armée, Paris. Possibly this was one of the guns brought to Scotland in June 1545 by Lorges de Montgomery (TA, viii, 389).

*'Ane moyane of fonte thráwin mowit without armes maid be Hanis Cochran', in Edinburgh Castle in 1578 (Wardrobe Inventories, 249). Cochran made two double culverin moyens in Edinburgh Castle in 1539/40. (TA, vii, 348-351).

*A moyen and a double falcon of cast bronze with the arms of the queen regent of Scotland (Mary of Guise), in Edinburgh Castle in 1578 (Wardrobe Inventories, 249, 253).

*A three pounder (moyen) ten feet long marked with a crowned L, in Dumbarton Castle in 1681 (Hist. MSS. Comm., 10th report (1885), 132). Compare a bronze cannon in the Musée de l'Armée, Paris, (N.73) with a crowned L for Louis XII (1499-1515).

Cast bronze gun, bore 3.05 ins (77.5mm), length 2.26m. Date 1544, English. Culverin moyen (?) with octagonal barrel and trunnions, inscribed HENRYCVS OCTAVVUS THOMAS SEYMOUR KNIGHT WAS MASTER OF THE KYNGS ORDYNANS WHAN IHON AND ROBERT OWYN BRETHERN MADE THYS PESE ANNO DNI 1544. Probably brought from the Isle of Man in recent times. Blair Atholl Castle, Perthshire.

Cast bronze gun, bore 3.05 ins (77.5mm), length 2.26m. Date 1544, English. Similar to last. Blair Atholl Castle, Perthshire.

*A three pounder (moyen), eight square, nine feet long, marked with the badge of Henry II of France (an H with conjoined D, C and crescents), in Dumbarton Castle in 1681 (Hist. MSS. Comm., 10th report (1885), 132). The monogram is drawn in the original manuscript and is the same as that on surviving guns of Henry II, (1547-59), e.g. two in the Musée de l'Armée, Paris (N.94, N.92).

Cast bronze gun, bore 2.75 ins (70mm), length 2.64m. Date 1577, English. Culverin moyen (?) with trunnions and dolphins and the crest of the Lords of Man surmounted by a coronet. It is inscribed: HENRIE EARLE OF DERBYE, LORDE OF THIS ISLE OF MANNE, BEINGE HEARE IN MAYE 1577 NAMED ME DOROTHE. SILVESTER HALSTALL, RECEYVOURE OF THE PELE ROVGHTE THIS PECE ANNO 1574.

HUGHE BURCHE, WORKEMAN SMYTHE SARVANT TO THE RYGHTE HONORABLE ABOVE NAMED.

Probably brought from the Isle of Man in recent times.

Blair Atholl Castle, Perthshire.

*'Ane double falcoun of fonte markit with the duke of Chastellaraltis armes', in Edinburgh Castle in 1578 (Wardrobe Inventories, 252).

Cast iron gun, bore 2.75 ins (70mm), length 2.515m. Dated 1587.

Falcon (?). Its barrel is spirally fluted and has applied bronze ornaments, including a Tudor rose within a garter. It is mounted on a reconstruction field carriage.

Culzean Castle, Ayrshire.

Cast bronze gun, bore 1.8 ins (46mm), length 1.778m. 1513-42. See pp. 333-4.

Small field gun (small falcon/falconet) with trunnions and the crowned arms and initials, IR 5, of James V. Found c. 1850 in Castle Semple Loch, IIIA Renfrewshire, next to the peel (the house in the loch) which was besieged by the Earl of Arran in 1560. With it were found two smaller guns, the whereabouts of which are now unknown.

Glasgow Art Gallery & Museum.

Cast bronze gun, bore 1.6 ins (40.6mm), length (incomplete) 1.33m. First half of 16th century. Small field gun (a small falcon ?) with trunnions and octagonally faceted barrel. The breech end has been blown off.

Formerly in the collection of the Earl of Seafield.

National Museum, Edinburgh. LH (1977).

Cast bronze gun, bore 1.45 ins (24.5mm), length 1.19m. Early 16th century. Small field gun (? a small falcon) with trunnions, simple cylindrical cascabel and octagonal chase. It has very little thickness of metal. The vent is set in a rectangular enclosure and there is a raised shield faced side-ways on one of the side flats. The tcp is crudely engraved with a

cross potent - as featured on groats issued for Mary of Guise - and there is a copper disc inset, engraved with the arms of Bannatyne of Kaimes in Bute, dating to the late 18th or early 19th century.

Formerly in the collection of MacGregor of MacGregor.

National Museum, Edinburgh. LH (1977).

*'Tua Bartenyie falcones', in Dumbarton Castle in 1571 (Bannatyne's Memoriales, 107-8) and 'Ane cannon markit with the armes of Bertanye' in Edinburgh Castle in 1578, along with the two moyens (Wardrobe Inventories, 248, 249, 253). In 1580 there was a bastard and two falcons in Dumbarton Castle (RPC, iii, 319-20) and in 1681 'a falkonett eight feet long marked with the arms of Anna Britanniae' (Hist. MSS. Comm., 10th report (1885), 132). This was Anne, Duchess of Brittany (1477-1514), successively queen of Charles VIII and Louis XII of France.

*'Tua pareis falccnis', that is two Paris falcons, were to be given out of Edinburgh Castle in 1601, together with a moyen, to furnish the Duke of Lennox's ship to France (Hist. MSS. Comm., (1904), Mar & Kellie, 49).

This might imply they had the coat-of-arms of Paris upon them, as a hagbut of crok in the National Museum, Edinburgh, from Corr, Country Armagh, Ireland, and another in the Musée de l'Armée, Paris (D.H. Caldwell, 'A Hagbut of Crok from Corr, Country Armagh', Ulster Journ. Archaeol., xxxix (1976), 53-55). The former might have got to Ireland via Scotland since there was a flourishing business in exporting munitions from the south-western burghs in the late sixteenth century.

*Two quarter falcons of cast bronze, 'markit with the duke of Albany's armes', in Edinburgh Castle in 1578 (Wardrobe Inventories, 251).

Cast bronze gun, bore 1.33 ins (34mm), length 1.28m. Date 1588.

Small piece of artillery (quarter falcon ?) with trunnions with raised lips

and the arms and initials of William Forbes of Tolquhon. The vent has a hinged cover. It was presumably made for defence of Forbes' castle at Tolquhon in Aberdeenshire, newly completed in 1588.

Private Collection.

Cast bronze gun, bore 1.33 ins (34mm), length 1.28m. Date 1588.

Similar to last, except that the vent cover is missing.

Private Collection.

Cast bronze gun, bore 1.16 ins (29.5mm), length 1.09m. Date 1588.

Small piece of artillery with trunnions and the arms and initials of William Forbes of Tolquhon. The vent cover is missing.

Cf. two previous guns.

Private Collection.

Cast bronze gun, bore 1.16 ins (29.5mm), length 1.09m. Date 1588.

Small piece of artillery, similar to last, except that it is not dated.

Private Collection.

Cast bronze gun, bore 1.2 ins (30.5mm), barrel length 0.998m. Early 16th century. Hagbut of crok (?) with octagonal barrel. The front third of the barrel has been broken off clean and restored, and the hook completely cut and filed off. It is now mounted on an 18th century or later (?) iron trunnion bar and has an iron stock of similar date fitted into the socket at the breech end. There is a shield (blank) on top of the barrel and a raised and cast P, with the vent in its tail.

Formerly in the collection of the Earl of Seafield.

National Museum, Edinburgh. LH (1977).

Cast bronze gun, bore 1.1 ins (28mm), length 1.20m, weight 25.5kg.

Dated 1553, with the arms and initials, IH, of James, Earl of Arran.

Probably the work of David Rowan. See pp. 335-6.

Double (?) hagbut of crok with octagonal chase and side pan, originally fitted with a swivelling cover. The hook is pierced and cavetto-moulded and there is a socket at the breech for a wooden stock. The Duke of Hamilton, formerly at Hamilton Palace but now in the National Museum, Edinburgh. L.1978.2.

Cast bronze gun, bore 1.1ins (28mm), length 1.20m Dated 1553, with the arms and initials, IH, of James, Earl of Arran. Double (?) hagbut of crok, similar to last. III B

Admiral Sir Angus Cunninghame Graham of Gartmore.

Cast bronze gun, bore 1.1 ins (28mm), length 1.20m. Dated 1553, with the arms and initials, IH, of James, Earl of Arran. Double (?) hagbut of crok, similar to last.

Admiral Sir Angus Cunninghame Graham of Gartmore.

*Cast bronze gun, bore (described as $1\frac{1}{8}$ ins) 28mm, length 1.20m. Dated 1553, with the arms and initials, IH, of James, Earl of Arran. Double (?) hagbut of crok, similar to the last, except that the I and H have carelessly been reversed to read HI. Found under a stair at Castle Menzies, Perthshire in July 1893, (Proc. Soc. Antiq. Scot., xxx (1895-6), 314-16).

Present whereabouts unknown.

Cast bronze gun, bore 1.1 ins (28mm), length 1.075m. Dated 1553.

By David Rowan ? See p. 336. III C

Hagbut of crok (?) with octagonal chase decorated with rope mouldings and a shield (blank). There is a socket at the breech end for a wooden stock and a side pan originally fitted with a swivelling lid. There is a raised back sight. Its hook has been cut and filed off and an iron trunnion bar - 18th century or later ? - mounted instead. It has an iron stock of similar date.

Formerly in the collection of the Earl of Seafield.

National Museum, Edinburgh. LH (1977).

*Cast bronze gun, bore 1.1 ins (28mm), length 1.30m. 16th century.

Hagbut of crok. The fore-part of the barrel is rounded with a bulbous muzzle. The rear part is octagonally faceted and has a shield on one of the side flats with an animal head and the letters 'SW' below. It has a conical cascabel and a myk attached to its hook (which appears to be a small pierced tang with rounded end).

Found in well (fcrework ?) of Eilean Donnan Castle, Wester Ross, in 1883.

Present whereabouts unknown. There is a drawing of it in the castle signed Alexander Ross, architect, Inverness, 1913.

Cast bronze gun, bore 1.05 ins (27mm), length 0.966m. Early 16th century.

Hagbut of crok with octagonal chase and socket for a wooden stock. The hook is cavetto moulded but now partially cut away. It has a shield with R upon it, probably contemporary with its manufacture, and the arms of Bannatyne of Kaimes in Bute set in it on a copper disc in the late 18th or early 19th century. The touch-hole is recessed in the top of the breech. Formerly in the collection of MacGregor of MacGregor.

Glasgow Art Gallery & Museum. A7713a.

Cast bronze gun, bore 1 ins (25.4mm), length 1.06m. First half of 16th century. Hagbut of crok with octagonal chase, pierced cavetto moulded hook, socketed for wooden stock and side pan. It has a shield with the arms of the (first) Earl of Arran and his initials, IH, on either side, and it has V-notched back sight. There is a large hole in the barrel where the gun has burst in being fired.

The Duke of Hamilton, formerly at Hamilton Palace, but now in the National Museum, Edinburgh. L.1977.1.

Cast bronze gun, bore 1 ins (25.4mm), length 1.06m, weight 17.04kg.

First half of 16th century. Hagbut of crok, similar to last, but not burst, and with no initials or arms on its shield.

III D

The Duke of Hamilton, formerly at Hamilton Palace, but now in the National Museum, Edinburgh. L.1978.1.

*Cast bronze gun, bore 1 in (25.4mm), length 0.953m. First half of 16th century. Hagbut of crok with cavetto moulded hook and octagonal barrel. The hook has a myk attached.

Found in well (fcrework ?) of Eilean Donnan Castle, Wester Ross in 1883. Present whereabouts unknown. There is a drawing of it in the castle signed Alexander Ross, architect, Inverness, 1913.

Cast bronze gun, bore 1 in (25.4mm), length without stock 0.92m. 16th century. Hagbut of crok (?), the hook filed off and replaced in the 18th century or later by a hinged iron swivel pin. Also at the same time an iron stock was attached in the socket at the breech. It is eight-sided, has a side-pan and a shield engraved with PH. At muzzle, reinforce ring and breech it has cast circlets of fleur-de-lices.

Formerly in the collection of the Earl of Seafield.

National Museum, Edinburgh. LH (1977).

Cast brcnze gun, bore 0.8 ins (20mm), length, c. 0.61m. 1558 x 1560.

French. Miniature cannon or field gun with trunnions, richly decorated all over. The fore part is engraved with parallel lines in imitation of the fluting on a column. The reinforce is ornamented with branches, fruit and leaves. It bears the conjoined initials of Francies II of France and Queen Mary (Q and M), with the arms of France and Scotland, impaled and crowned within a border of thistles.

Formerly in the collection of the Marquis of Lothian.

Queen Mary's House, Jedburgh.

*Cast bronze gun (of large size), late 16th century, Dutch. Inscribed: ASSVERVS KOSTER ME FECIT. AMSTELRED AMIE/700 A. Said to be one of the guns from the Spanish Armada wreck in Tobermory Bay, Mull, raised for the 9th Earl of Argyll in 1666 (Hist. MSS. Comm., Appendix to 6th Report (1877), 627, no. 176). Dunstaffnage Castle, Argyll.

*Cast bronze gun. Date 1623, Dutch.

Inscribed HENRICUS WEGEWAERT ME FECIT ENCHUSAE ANNO 1623.

Dick Institute, Kilmarnock.

Fragment of wrought iron gun (? muzzle), estimated bore 2 ins (51mm), 15th-16th century. Found in excavations at Fast Castle, Berwickshire.

Presently in the National Museum, Edinburgh.

Wrought iron chamber, bore 3.1 ins (79mm). 16th century.

It has a collar for slotting into the gun and a handling loop on top, over which is fitted a semi-circular iron band with trunnions formed on either side, bolted tightly to another band going round the underside of the chamber. Found near Hawick.

National Museum, Edinburgh. LH 211 Cf. the chamber (No 31) in Hawick Museum.

Wrought iron chamber, bore 2.5 ins (63.5mm), length 0.254m, 16th century.

Similar to the chamber found near Hawick, now in the National Museum, Edinburgh (LH 211). The collar and front section of this one have been broken (? blasted) clean off.

Hawick Museum (No. 31).

Wrought iron chamber, bore 2.15 ins (55mm). 16th century.

It has a cylindrical - slightly concave - body, with loop handle and neck. Cf. the chambers in the stone carvings of artillery and other equipment in Edinburgh Castle.

National Museum, Edinburgh. LH 236.

*Wrought iron breech-loading gun, bore c. 2.25 ins (57mm), length c. 1.829m
16th century ?. Illustrated by MacGibbon & Ross, Castellated And Domestic
Architecture, iv, 206. It has small trunnions on a ring over the barrel
and a straight metal stock. The chamber is missing.
Formerly at Braxholme Castle, Roxburghshire.

Wrought iron breech-loading gun, bore 1.4 ins (35.5mm). 16th century. IV
Very badly corroded gun lacking the fore part of its barrel and most of its
iron stock. A chamber with a handle and a wedge to hold it in place are
corroded in position.
Found in the sea off Aberdeen.
National Museum, Edinburgh. LH 213.

Wrought iron chamber, bore 1.8 ins (46mm), 16th century, with tapered
cylindrical body and loop handle.
From NE tower of Broughty Castle, Brought Ferry, Angus.
National Museum, Edinburgh. LH 212.

Wrought iron chamber, bore 1.3 ins (33mm), length 198mm. 16th century.
It has a tapered cylindrical body with loop handle.
From the ditch of Caerlavrock Castle, Dumfriesshire.
Presently with SDD (Ancient Monuments), Edinburgh.

Wrought iron chamber, bore c. 1.5 ins (38mm), 16th century, with tapered
cylindrical body and loop handle.
From Fife.
National Museum, Edinburgh. LH 245.

Wrought iron gun, bore 1.4 ins (35.5mm), length 1.46m. 16th century.
Hagbut of crok with octagonally faceted barrel, side pan and straight
iron stock.

Possibly one of the 'barrels of two muskets' found with the bores of a man in removing some old buildings near Corgarff Castle in 1825. This gun and another similar were in the sale at Inverernan House in 1925 (Proc. Soc. Antiq. Scot., lxi (1926-7), 71, 103).

National Museum, Edinburgh. LH 244.

A LIST OF PERSONNEL CONNECTED WITH ARTILLERY

The main officers of the royal gunnery establishment are listed first of all with their date of appointment or known period in office in brackets afterwards. The main list is arranged alphabetically. The references cited are a selection to indicate, where possible, length of service and advancement. Gunners outwith royal service are included, but certain wrights and smiths, etc. who only seem to have been involved casually in working on the guns, are excluded.

MASTERS OF THE ARTILLERY

William Bonar of Rossy (1457-8)
Allan Lord Cathcart (1482/3)
Sir Robert Ker April 1497
Henry Lord Sinclair 13 March 1510/11
Jehannot de Lavall 25 April 1516
Francois Brosse (Oct-Feb) 1521
Master John Campbell 15 May 1523
John Melville of Raith 9 Oct. 1526
Alexander Jardine of Applegirth(1) 3 July 1526
Robert Barton of Over Barton 1528
Henry Lord Methven 1528
Robert Hamilton of the Briggs 10 Feb. 1555/6
Alexander Jardine of Applegirth(2) 20 June 1573
Robert Colville of Cleish (Aug. 1578)
Andrew Lord Ochiltree (1598)

COMPTROLLERS OF THE ARTILLERY

John Chisholm 22 Oct. 1561

(James Gardner c. 1614)

Mr Robert Lindsay (1614-15)

James Murray(2) 1616

COMMISSIONER OF THE ARTILLERY

Captain John Bukat (1515)

MASTER GUNNERS

(Robert Borthwick 1510-31)

Hans Cochran 6 Jan. 1538/9

John Drummond 28 Dec. 1541

Robert Hector 17 Aug. 1547

James Hector 31 Aug. 1561 (Dunbar)

Harry Balfour 31 Aug. 1561 (Dunbar)

Charles Burdewis (1562-73)

Harry Balfour 21 Feb. 1567/8

Michael Gardiner 15 June 1571 (Stirling)

James Murray(1) (1599-1616)

James Murray(2) (1616-)

MASTER MELTERS

Robert Borthwick (1510-31)

Peris Rowan 30 April 1532

John Drummond (1532-50)

David Rowan 15 April 1548

MASTER WRIGHTS AND GUNNERS

John Drummond (1526-50)

John Crawford(1) 1 Jan. 1550/1

Andrew Mansion 28 Dec. 1561

James Hector Aug. 1579

James Roquenow (1583/4-87)

James Murray(1) (1587-1601)

James Murray(2) (1601-16)

Arthur Hamilton 1616

MASTER SMITHS AND GUNNERS

William Hill 12 Feb. 1550/1

John Bonston 31 Aug 1561 (Dunbar)

John Bickerton 8 Oct. 1565

Quentin Bickerton 23 Sept. 1580

Abraham Hamilton (1597-1600)

ADAMSON

1533-4: gunner, TA, vi, 203, 206.

AGAGARANT, William (Guilliame Agradane)

1537, Aug - 1539, Sept: gunner, £3 per month TA, vi, 354, etc.

AITCHISON, Dande

1497: gunner on raid of Norham, TA, i, 347.

Alan

1388: Keeper of the engines of war in Stirling Castle, ER, iii, 687, 693.

ANDERSON, Harry

1549, 1 April: appointed gunner and wright at £3 12s per month for life,

RSS, iv, no. 195. Actually paid from preceding November, TA, ix,
256-7, etc.

1551, 13 Oct: fee raised to £4 monthly, RSS, iv, no. 1386.

1565, 29 Nov: dead when John Stewart was appointed in his place, Ibid, v,
no. 2460.

ANDERSON, Robin

1513: gunner on the Gabriel, TA, iv, 507.

ANNAND, James

1531-2: gunner, TA, vi, 36, 38.

Anthone (Frenchman)

1511-(12): smith in Edinburgh Castle with Gerwez (q.v.), TA, iv, 276-7.

BAILLIE, John

1513: gunner on the Margaret, TA, iv, 507.

BAILLIE, Robert

1615, Mar: gunner, paid for 1 month at £8. E21/82, fo. 63r.

BALFOUR, Harry

1561, 31 Aug: appointed master gunner in Dunbar Castle for life at £6 per month. RSS, v, no. 830 (Cf. James Hector (1)). Described as wright and gunner in the Treasurer's account. TA, xi, 69, etc.

1563, 19 June: appointed principle^{al} master gunner and commander of the ordinary and extraordinary gunners and other craftsmen in Dunbar Castle at £8 6s 8d monthly. Ibid., v, no. 1363. Confirmed 4 Oct. 1565. (Ibid., v, no. 2357).

1567/8, 21 Feb: appointed principle^{al} master gunner in Edinburgh Castle for life at £8 6s 8d monthly, together with residence in the castle. Ibid., vi, no. 159.

1572, 11 Sept: died as the result of being hit on the head by a bit broken off the portcullis in the castle when it accidentally fell. Bannatyne's Memoriales, 264.

BALNAVIS, Gilbert

1542, 25 Sept: appointed gunner at £3 per month for life. RSS, ii, no. 4890, (also 12 Feb. 1542-3, Ibid., iii, no. 88).

1549, 1 April: fee raised to £4 monthly. RSS, iv, no. 196.

1551, Oct: described as melter and gunner. TA, x, 27.

1554/5, 21 Mar: described as David Rowan's servant when Rowan was mending Edinburgh's curfew bell. Edinburgh Burgh Accts, ii, 39, 40.

1558/9 May-Feb: involved in gun casting in Edinburgh Castle. TA, x, 438.

1558/9, Mar: last recorded payment of fee. TA, passim.

1584, April: dead when Thomas Rowan was appointed in his place. SRO E22/6, fo. 176r.

BANE, Robert

1548, Aug: gunner extraordinary in Edinburgh Castle. TA, ix, 227.

BARKER, Tom

1489, 4 Aug: gunner, paid expenses to go from Linlithgow to Kirkintilloch to help bring home the guns. TA, i, 117.

1494: clothing provided for. TA, i, 232.

1496, Sept: working on the royal artillery (in his own smithy). *Ibid.*, i, 289, 292.

1497: gunner on the raid of Norham. *Ibid.*, i, 347.

1513: working on the royal artillery and other munitions. *Ibid.*, iv, 514.

1513: 6 carriage horses hired to take his equipment, iron and coal with the army into England. *Ibid.*, iv, 519.

BARTON, Robert

1528/9, (Feb): 'About this tyme, the abbot of Halyrudhous and James Colvill wer depyryvit fra thair offices, and Robert Bartane was maid thesaure in the place of the said abbot. And als the said Robert was maid comptrollare, greit customar, maister of artalyeirie and conservatoure of the myndis of Scotland'. Diurnal of Occurrents, 13.

BASTIAN, Nicholas

1515, Aug: gunner. TA, v, 29.

1518, Sept: gunner in Dunbar Castle for previous year at £3 per month.

Ibid., 161-2.

BELL, George (1)

1504: paid for making dice of iron and casting 'plummys' for the guns going on the expedition to the Western Isles. TA, ii, 433.

1508: lorimer, made two 'lokketis', amongst other things, for the king's culverin. Ibid., iv, 121.

BELL, George (2)

1571, Oct: feed as a gunner extraordinary at £8. TA, xii, 290-1.

BELL, John

1584, June: entered as smith at £6 per month. SRO E22/6, fo. 192r.

1585, Sept: last recorded payment of his fee. E21/64, fo. 103r.

BICKERTON, John

1541, 28 July: smith and culverinmaker, entered to work in Edinburgh Castle, upon the cleaning and mending of the half hags and culverins, being paid 16s weekly. TA, vii, 499, 501; viii, 134.

1543, 2 Aug: appointed gunner at £3 per month for life. RSS, iii, no. 427.

1547/8, Jan: given 8 bolls of meal for his good service in Dumbarton Castle. TA, ix, 142-3.

1550, Aug: given 32 bolls of meal in consideration of his continual and daily service in the governor's work at Dumbarton and Hamilton, to supply his wife, children and servants. Ibid., ix, 434.

1557, 1 Aug: appointed gunner and smith ordinary for life at £5 per month. RSS, v, no. 180.

1558: in Leith, made two chambers for dogs for Edinburgh Town Council. Edinburgh Burgh Accts, i, 252.

1565, 8 Oct: appointed master smith and gunner ordinary for life at £6 per month, beginning 1 Nov. RSS, v, no. 2375.

1565, 9 Oct: also given annuity of £20, payable at the two usual terms. Ibid., v, no. 2377.

1579, Aug: last recorded payment. Dead by Sept 1580 when his son Quentin was appointed master smith in his place. TA, xiii, 283-4; RSS, vii, no. 2529.

BICKERTON, Quentin

1577, 4 Nov: appointed ordinary smith and gunner in Edinburgh Castle for life at £6 per month. RSS, vii, no. 1250. Actually only paid £5. TA, passim.

1580, 23 Sept: son of the deceased John Bickerton, (master) smith, appointed master smith and gunner with an annuity of £20. RSS, vii, no. 2529.

He continued to be paid his monthly fee of £5. TA, passim.

1587, April: last recorded payment of his fee. SRO E21/65, fo. 135r.

BONAR, David

1548, April: gunner (extraordinary). TA, ix, 174.

BONAR, John

1461-9: payment of his yearly fee of £4 at two terms. ER, vii, passim.

1469: payment made to him for looking after the king's artillery, making gunpowder. ER, vii, 660.

1470/1: granted the feus of the mill of Dron, Perthshire, for life, annual value £5 6s 8d and also given the grassum (4). ER, viii, 93.

1478: first described as gunner. ER, passim.

1484: also given feus of the 'Cotton' of Dron, giving total yearly sum of £12. ER, ix, 236. (The feus of the mill and Cotton are later valued annually at £10 and 24 capons. Bonar assigned the Cotton to his servant John Strang. Ibid., ix, 588, 652, etc).

1489 (June/July): gunner, lying sick, given £5 at the king's command to aid him. TA, i, 114.

1491, 8 Aug: paid expenses to go to Edinburgh to dry the gunpowder. Ibid., i, 180.

1492: died. ER, x, 316.

BONAR, William, of Rossy

1454: compotorum rotulator, RMS, ii, 1137.

1456-7: £20 allowed to for the manufacture of weapons at the king's command. ER, vi, 302.

1457-8: described as master of the artillery with annuity of £40. Ibid., vi, 383.

1455-8: also held the post of comptroller. ER, vi, passim.

BONSTON, John

1561, 31 Aug: appointed master smith in Dunbar Castle at £4 per month. RSS, v, no. 832.

1567/8, Jan: last recorded payment of fee. TA, passim.

BORTHWICK, Harry

1526: servant of Robert Borthwick, q.v. ER, xv, 271-2.

1527, June/July: gunner. TA, v, 323.

1528: killed at siege of Tantallon Castle. ER, xv, 517; ADCP, 404.

BORTHWICK, James

1558/9, May-Feb: melter, working with David Rowan on gun casting. TA, x, 438.

1561, 2 Dec: appointed gunner and melter ordinary in Edinburgh Castle for life at £5 per month. RSS, v, no. 924.

1565, Dec: last recorded payment of fee. TA, xi, 447-8.

BORTHWICK, John (?)

1546, Nov: principal gunner of besieging forces, killed by the defenders of St. Andrews Castle. Henry VIII. Letters & Papers, XXI, ii, no. 576.

BORTHWICK, Robert

1493: ? Robin of Borthwick, servant of the Laird of Dundas, Dunfermline Burgh Recs, 43.

1509: date given by Leslie, followed by others, for Borthwick beginning his work on casting guns for the king. Dalrymple, Historie, ii, 133.

1510/11, 1 Mar: gunfounder, granted Half Mains of Ballincreif, East Lothian, in feu ferme for his services in making and repairing guns. RMS, ii, no. 3546.

1511/12: feus of Half Mains of Ballincreif (£8 13s 5d money annually plus payment in kind) remitted to him (annually from now on). ER, xiii, 438.

1512: on royal business in France (Dieppe). ER, xiii, 488; TA, iv, 261, etc.

1512/13: paid £7 10s per month. TA, iv, 442, etc.

1512/13: working at gun casting for James IV. Ibid., iv, 508, etc.

1513: master gunner at Flodden. Pitscottie, Historie, i, 270.

1513/14, 20 Feb: reported to the Lords of Council that he has with de la Bastie devised bulwarks and trenches to defend Edinburgh Castle. ADCP, 11.

1515, 23 July: with his wife Katherine given the feus of all of the other lands of Ballincreif in which he was not infert by James IV during the governor's pleasure (worth £20 a year, plus payments in kind). RMS, iii, no. 31.

1515, 1 Aug: recommences founding guns in Edinburgh Castle. IA, v, 19, etc.

1517, 30 Mar: ordered with 6 gunners to remain continuously in Edinburgh Castle to defend the king. ADCP, 83. Paid £10 monthly for this. ER, xiv, 285, 349, 358; xv, 92.

1517, May/June: goes to France with Albany. TA, v, 125.

1525-6: described as master gunner. Ibid., xv, 271-2.

1526-7: baillie of Ballincreif ordered not to pay fermes to Borthwick in future without advice of the king and the Lords of Council. ER, xv, 345-6.

1531, 27 Mar: royal letter under the signet to the chancellor and lords:

'Forsamekle as we direct divers our writingis to yow of befor dischargeing yow of ony proceeding aganis our lovit servitour Robert Borthwick tuiching his landis and bailliery of Ballincreif, and as we ar informit ye have procedit in his contrar, of the quhilk we marvell considerand our will and mynd is that he sall brouk the saidis landis and bailyery for his gude service done to our derrest fadir and us, eftir the forme of our lettres and writingis gevin to him to sett and hald courtis upone the ground of the saidis landis'. ADCP, 354. See also ER, xvi, 223.

1531, 4 May: awarded the relief of Wester Balmonth in Fife. ER, xvi, 535.

1531 (Aug): awarded the goods, etc. of James Sinclair and Bernard Smith, indwellers in Ballincreif, escheated by them as fugitives from the law. RSS, ii, no 981.

1532, 24 Nov: royal letter to chancellor and Lords of Council requiring the revocation of the gift to the late Robert Borthwick and his wife of the males, profits and duties of certain lands in Ballincreif because the gift was made while he was still a minor and was to his hurt. The lords reduced the grant. ADCP, 390. Borthwick's widow continued to get payments from the fermes of Ballincreif until 1542. ER, xvii, 25, 86, 202, 316, 602.

1592, 5 June: in pursuance of a promise of James IV the Half Mains of Ballincreif regranted to Robert's grandson John in name of blanche ferme for 1d a year, reserving a life rent with the principle mansion, etc, to Robert's son Francis. APS, iii, 619.

Patrick, Earl of BOTHWELL

1488, 14 Oct: given the keeping of the castle of Edinburgh and the artillery therein. APS, ii, 211.

1497, Aug: in command of the artillery on the raid of Norham. TA, i, 355.

BOW, Alexander

1507/8, 10 Mar: potter of Edinburgh, given £5 to buy metal to cast the first gun (at Stirling?). TA, iv, 105. Similar payments in the following April. Ibid., 109.

BOWE, Andrew

1546/7, 4 Jan: appointed gunner ordinary for life at £4 per month. RSS, iii, no. 2088 (but no payment of fees then recorded to him in the Treasurer's accounts).

1552-3: Bowe or Bowe, gunner in Dumbarton Castle, paid pension of £20. TA, x, 131, 213.

BOYIS, Pier du, Frenchman

1542/3, 17 Mar: appointed gunner in Dunbar Castle (at £3 15s monthly) for life. RSS, iii, no. 161; TA, viii, 226.

1544, May: last recorded payment of fee to him. TA, viii, 297.

BOYLE, Robert

1558/9, May-Feb: working with David Rowan at gun casting. TA, x, 438.

BOYMAN

1515: hammerman, 'lauborand at the gunnys'. TA, v, 41.

BRAND, Nicholas

1518, Sept: gunner in Dumbarton Castle for previous year at 50s per month. TA, v, 161-2.

BROSSES, Francois (Frenchman)

1521 (Oct-Feb): appointed master of the artillery. RSS, i, no. 3229.

BROWN

1515: hammerman, 'lauborand at the gunnys'. TA, v, 41.

BROWN, James

1548, April: gunner (extraordinary). TA, ix, 174.

BROWN, William

1564, 18 May: gunner, dwelling in Canongate. Prot. Bk. Grote, no. 267.

BROWNLEY, Adam

1496: gunner. TA, i, 295.

BRUCE, Michael

1561, 31 Aug: appointed wright in Dunbar Castle. RSS, v, no. 831.

1567/8, Jan: last recorded payment of fee. TA, passim.

BUKAT, Captain John (Frenchman)

1515: commissioner of the artillery. TA, v, 32, etc.

BURDEWIS (Bordeaux), Charles

1558, 6 Oct: appointed ordinary gunner in place of the late Hans Cochran,
with an annuity of £100. RSS, v, no. 489.

1562, Martinmas: now referred to as master gunner. TA, passim.

1565-6: made fireworks, especially single and double 'fusees' and 'pettaritis'
for the baptism of the prince (James VI). TA, xi, 440, 467; xii, 407.

1573, 3 May: William Wolf appointed in his place. RSS, vi, no. 1953.

1573, 28 May: in Edinburgh Castle (also his wife) when it was rendered.

PRO SP 52/25.

1580/1, Jan-Nov: gunner at £8 6s 8d per month. SRO E21/61-62, fo. 113r, etc.

1581, Dec: John Seyton in his place. E21/61-62, fo. 169r.

BURDIT, Nicholas

1537/8, Jan-Feb: gunner, given two months wages (in connection with James V's visit to France). TA, vii, 16.

BYRIS, John

1537, Martinmas - 1541, Whitsun: gunner, in Leith, £5 per term. TA, vi, 389-90, etc.

1543, 30 July: given monthly pension of £3 for life. RSS, iii, no. 421.

1545, Aug: £4 per month. TA, viii, 403-4.

1545-1553, Sept: gunner (Edinburgh Castle). TA, passim.

CAMERON, Thomas

1511, Sept: servant of Lord Sinclair, master of the artillery. TA, iv, 310.

1513: working in powder mill (in Edinburgh Castle). Ibid., iv, 520.

1518, Sept: keeper of the artillery, paid £20 for previous year. TA, v, 161-2.

1532, Dec: scribe to the footband. Ibid., vi, 160.

CAMPBELL, Master John

1523, 15 May: Treasurer, appointed master of the artillery for life.

ADCP, 173.

CANT, Moyses

1573, May: extraordinary gunner for the siege of Edinburgh Castle, paid £4.

TA, xii, 347.

CANT, Patrick

1543, 28 July: appointed gunner at £3 monthly for life. RSS, iii, no. 416.

(Payment of fees not recorded).

Allan, Lord CATHCART

1482/3, 17 Mar: described as master of the king's artillery 'for the tyme'.

ADC, ii, pp. cxv-cxvi.

CAYES, John

1548, April: gunner, appointed to Edinburgh Castle, from Fasterns Eve 1547.

TA, ix, 172.

CHISHOLM, John

1561, 22 Oct: appointed second person of her grace's artillery and munitions, comptroller of the artillery with daily wages of 6s 8d. RSS, v, no. 877.

1564, 21 Oct: granted the 'King's Work' in Leith in feu ferme. RMS, iv, no. 1558.

1569, 23 Aug: confirmation of appointment as comptroller of the artillery. RSS, vi, no. 723.

1570/1: goes to France via London on the business of the Marians. Is captured on his return by the regent's men with money and munitions meant for Edinburgh Castle. Cal. Scot. Papers, iii, nos. 627, 638, 695, 828, 831; Misc. Papers, 59, 65.

1576, 12 July: precept for a remission for taking part with the withholders of the castle and burgh of Edinburgh and leaving the country without the king's licence. RSS, vii, no. 659.

1579, 31 May: reinstated as comptroller of the artillery for life, at £10 3s 4d per month, John Acheson, master of the mint caution to the sum of £1000 for his good behaviour. RSS, vii, no. 1909; RPC, iii, 191.

1583/4, 4 Mar: appointed collector of a new duty of 3s 4d on each chalder of salt exported, the money to be devoted by him to the up-keep of his majesty's artillery, castles, etc. Chisholm and his deutes awarded 12d in every £1 collection for their pains. RPC, iii, 639-40.

1587, (April or before): made steward of his highness' house. SRO E21/65, fo. 137v.

1598/9, 4 Jan: supplicates Privy Council over the regranting of his office and searchery of the salt exported to Edward Johnstone, burgess of Edinburgh. RPC, v, 512.

1614, (June or before): demits office as comptroller of the artillery in
favour of Mr Robert Lindsay. SRO E21/82, fo. 43r.

1616, 22 Aug: dead by. Melros Papers, i, 259-60.

Christopher, Frenchman

See GRANDMORCEAU

CLERK, John

1542, 12 June: appointed principal jackmaker and gunner at £3 per month.

RSS, ii, no. 4691.

1546, 12 July: fee raised to £4 monthly. Ibid., iii, no. 1751.

1546 - 1553, Sept: gunner (in Edinburgh Castle). TA, passim.

Clous

See Nicholas Heliote.

COCHRAN, Master Hans

1538/9, 6 Jan: master, appointed one of the principal master gunners for
life with an annuity of £100 payable at the two terms. RSS, ii,
no. 2840.

1539-40: casting guns in the gunhouse in Edinburgh Castle. TA, vii, 217,
348-51.

1554, Aug: gunner, sent on Lion to siege of house of Burro (Borgie?) in
Strathnaver. TA, x, 233-4.

1553-8: worked privately making a weight for Stirling (see Appendix C), and
casting bullets for Edinburgh. Edinburgh Burgh Accts, i, 251.

1558, 6 Oct: dead, when Charles Burdewis was appointed ordinary gunner in
his place. RSS, v, no. 489.

Servant: Nicholas Heliot (q.v.), 1541.

COCKBURN, James

1617, Jan: wheelmaker (in place of James Scheves) at £8 6s 8d paid for
3 months. SRO E21/84, fo. 47r.

COKKE, James

1558: (goldsmith), sinking and engraving the queen's arms and an inscription on a double falcon. TA, x, 438.

COLVILLE, Robert, of Cleish

1578, Aug: appointed master and commander of the artillery 'for the tyme'.
TA, xiii, 215.

COMBAT (Cumbo), Pier

1518, Sept: gunner in Dunbar Castle for previous year at £3 per month.
TA, v, 161-2.

1543, Aug - 1548, June: gunner in Dunbar Castle at £3 15s per month. Ibid.,
viii, 403-4, etc.

COMBAT, Robert

1518, Sept: gunner in Dunbar Castle for previous year at £3 15s per month.
TA, v, 161-2.

COOPER, Andrew

1569, 17 Aug: cannoneer in Dundee. RPC, ii, 12.

Cornelius of Braidhow (? Breda), Dutchman

1539, Oct: entered as gunner at £3 per month. TA, vii, 258.

1539, Dec: died. Ibid., 276.

Cornelius of the Feir (Veere), Dutchman

1539, Oct - 1541, May: gunner, £3 per month. TA, vii, 258, etc.

CRAUFURD, John (1)

1542, 16 June: appointed wright and gunner at £4 per month for life.

RSS, ii, no. 4706. (Also 3 Mar, 1542/3, Ibid., iii, no. 127).

1546, 30 Sept: fee raised to £6 monthly. Ibid., iii, no. 1926.

1550/1, 1 Jan: appointed master wright and gunner at £8 6s 8d per month for life. RSS, iv, no. 1022.

1553/4, 25 Feb: granted power to trade in wine, wax, silk and all other merchandise. Ibid., iv, no. 2428.

1561, 28 Dec: deceased when Andrew Mansion was appointed master wright in his place. Ibid., v, no. 942.

CRAUFURD, John (2)

(same as (1) ?)

1548, April: entered gunner in Edinburgh Castle, Fasterns Eve, 1547.

TA, ix, 172.

1548, April: gunner (extraordinary). TA, ix, 174.

1548, Aug: gunner extraordinary in Edinburgh Castle. Ibid., ix, 227.

CUMBALD, Robin

1515, Aug: gunner. TA, v, 29.

CUNYNGHAME

1518, Sept: gunner (in Inchgarvy ?) for previous year at 54s per month.

TA, v, 161-2.

CUNYNGHAME, Archibald

1565, Oct: entered as gunner in Stirling Castle at £8 per month. TA, xi, 422.

1567/8, 10 Mar: natural son of Duncan Cunynghame, appointed gunner in Stirling Castle for life at the (reduced) monthly fee of £5. RSS, vi, no. 195.

1572, 26 Mar: noted as then serving with the regent in Leith. RSS, vi, no. 1530.

1579, 28 May: ordinary gunner in Stirling Castle, pay raised to £8 per month (back dated to 1 January). Ibid., vii, no. 1906. He was, however, only paid £6. RPC, iii, 205-6; TA, xiii, 203-4, etc.

1583, May - 1587, Mar: payed at £8 per month. SRO E22/6, fo. 98v, etc.

1584, Aug: paid for a powder mill (also in 1595/6). E22/6, fo. 199v;
E21/70, fo. 199v.

1603, Nov - 1617: payed at £8 10s per month. E21/76, fos. 314v, 315r.

1617, Nov/Dec: died. E21/84, fo. 89r.

CUNYNGHAME, John/Hans (1)

1527, June/July: gunner. TA, v, 323.

1531-41: paid £3 per month. TA, passim.

1540/1, 5 Feb: entered with his servants to work in the powder mill (in
Edinburgh Castle). Ibid., vii, 491-3, 497, etc.

1542/3, 12 Feb: appointed gunner at £5 per month for life. RSS, iii, no. 87.

1542-1553, May: paid £5 per month. TA, passim.

1548, June: described as 'litill Cunynghame'. Ibid., ix, 201.

See also John Cunynghame (2).

Cunynghame, John (2)

(same as John/Hans Cunynghame (1) ?)

1554-1563: wright, employed at various times by Edinburgh Town Council.

Edinburgh Burgh Accts., i, 128, 146, 422.

1558, 22 May: paid for handling Edinburgh's artillery. Ibid., i, 284.

1558/9: appointed (one of three) gunners for Edinburgh. Ibid., i, 279.

CUNYNGHAME, Martin

1540, 4 Sept: son of John Cunynghame, gunner, appointed gunner for life at
£3 per month in place of the late Anthony Trotter. RSS, ii, no. 3640.

1540-1544, Oct: gunner (in Edinburgh Castle). TA, passim.

DALGLEISH, William, Dutchman

1539, Oct: gunner, entered at £3 per month. TA, vii, 258.

1539-1544, Oct: gunner (in Edinburgh Castle). TA, passim.

DALRYMPLE, Andrew

1616, July: wright at £8, paid for 2 months. SRO E21/83, fo. 77v.

DAVENNEIS (D'Avesgnes?), Stevin (Frenchman)

1511-(12): melter in Edinburgh Castle with Gerwez (q.v.). TA, iv, 276-7.

David (Frenchman)

1474: gunner, in royal service. TA, i, 52, etc.

Dedirco (Teodoricus)

1382-8: wright of the engines in Edinburgh Castle. ER, iii, 117, 165, 660.

Dedrik

See GRUTARE.

DELAKE, Lancelot

1539, Oct: gunner in Dunbar Castle. TA, vii, 256.

DOUGLAS, James

1576, 20 July: appointed soldier and gunner ordinary in Edinburgh Castle
for life at £5 per month from 1 August. RSS, vii, no. 676.

1578, Dec: last recorded payment of his fee. TA, passim.

DOW, Charles

1548, April: gunner, sent to Yester Castle. TA, ix, 173.

DRUMMOND, John

1507, 6 Dec: appointed wright at £10 per term. RSS, i, no. 1574.

1524, 8 Oct: given tack of mill and lands of Mylnab, Perthshire. Ibid.,
no. 3300.

1526: master wright, at £50 8s per year. ER, xv, 271-2.

1527, 7 May: Janet Drummond, his daughter, given Mill of Mylnab in feu ferme.
RMS, iii, no. 453.

1531/2, 25 Jan: Jonet Drummond given feu ferme of £10 lands of Ballincreif of which her father had a tack for life. RMS, iii, no. 453.

1532, 18 June: master wright and founder, given fermes of Ballincreif, in East Lothian, for life, excepting the £20 lands of the Mains of Ballincreif. RSS, ii, no. 1304.

1536, 19 July: confirmation to John Drummond and his wife, Christine Brogy, of the life-rent of Ballincreif and Mylnab. RMS, iii, no. 1603 (also no. 2338).

1538-41: payments for his livery and the rent of his house (belonging to the priest of St. Leonard's. TA, vii, passim.

1541, 28 Dec: principle^{al} carpenter, gunner, melter and yeoman keeper of our sovereign lord's artillery, gifted £6 monthly as his fee for life. RSS, ii, no. 4359.

1541/2, 24 Mar: awarded the 50s feu money for life of his lands of Monassen, Dumbartonshire. RSS, ii, no. 4551 (this gift originally made by the king's mother, life-renter of the Lordship of Dumbarton).

1542, 14 Oct: monthly fee raised to £8 6s 8d. RSS, ii, no. 4921.

1550, May-Jan: died (?) replaced as master wright by John Craufurd (1). TA, ix, 410; RSS, iv, no. 1022, etc.

DRUMMOND, William

1603, Nov: gunner (in Edinburgh Castle) at £6 per month, given 27 months pay. SRO E21/76, fos. 314v-315r.

1605, July: last recorded payment of his fee. E21/77, fo. 78r.

DUCH, George

1512-13, 19 Mar: smith (working on the guns). TA, iv, 508. Cf. George Keppin (Appendix E).

DUNBAR, Sir John (of)

1456: John of Dunbar, in the castle of Threave at the time of its capitulation, payment of £50 to. ER, vi, p xxxv, 199. Given half of the barony of

Crimond in Buchan, which had belonged to the forfeited Earl of Ormond.

Ibid., vi, 265.

1456-7: payment of expenses to for working on the guns, etc. Ibid., vi, 293.

1457-9: making gunpowder in Edinburgh Castle. Ibid., vi, 308-10, 495, 497.

1472/3, 20 Feb: grant of lands in Moray to Sir John of Dunbar for life, on account of his good services, especially at the recovery of Roxburgh Castle. RMS, ii, no. 1105. On 1 Feb. 1479/80 the lands were regranted to Master Gilbert Haye of Urray and his wife Beatrice, daughter and heir of Sir John. Ibid., ii, no. 1437.

Van DYCK (Fandyk), William, Dutchman

1541: iron delivered to make certain iron pieces at the master of the artillery's command. TA, vii, 501-2; viii, 118, etc.

1542, 27 Aug-21 Dec: maker of iron guns, paid for working in Edinburgh Castle. Died, 21 December. Ibid., viii, 134-5.

Van ERISLING, George

1509-10, 21 Mar: machinarum jaculatori, granted free passage to come to Scotland. RSS, i, no. 2033. Cf. George Keppin (Appendix E).

ERROL (Arrale), Patrick

1582/3, Jan: gunner at £4 monthly. SRO E21/63, fo. 109v.

1582, April: last recorded payment of his fee. E21/63, fo. 127v.

Evon (Frenchman)

1511-(12): wright with Gerwez (q.v.). TA, iv, 276-7.

FAIRGULLIS, Thomas

1513: gunner on the Margaret. TA, iv, 507.

Fandyk

See Van DYCK.

FASSAN, John

See Hans (2).

FENDAR, Robert

1561, 28 Dec: appointed wright ordinary in place of Andrew Mansion at
£6 monthly for life. RSS, v, no. 943.

1561/2, Jan: entered as wright at £4 per month. TA, xi, 104-5.

1566, May: last record of payment of his fee. TA, passim.

FLEMING, James

1571, Oct: feed as gunner extraordinary at £3. TA, xii, 290-1.

FOKART, Patrick

1558/9, May-Feb: working at gun casting with David Rowan. TA, x, 393,
438-42.

FORBES, Gilbert

1515, Aug: gunner. TA, v, 30.

FORBES, John

1543, Aug - 1548, June: gunner in Dunbar Castle at £3 per month. TA, viii,
226, etc. (NB his pay is sometimes given as £4).

1548, Sept-Oct: gunner (in Edinburgh Castle?). TA, passim.

FRENED, Adrian

1515, Aug: gunner. TA, v, 29.

FYNNK, John

1543-5: gunner, in the service of Cardinal Beator in St Andrews Castle.
Rent. S. Andree, 181, 224.

GALLOWAY, Ambrose

1571, Oct: feed as a gunner extraordinary at £8. TA, xii, 290-1.

1572, April: entered as gunner (ordinary) at £6 monthly. Ibid., xii, 309.
1579, 15 Aug: listed as gunner at £5 monthly. RPC, iii, 205-6.
1579, 16 Oct: dead when Harry Thomson was appointed in his place. RSS, vii,
no. 2056.

GALLOWAY, James

1623, 1 Oct: granted patent to make iron ordnance. RPC, xiii, 374.

GARDINER, Alexander

1573, May: extraordinary gunner for the siege of Edinburgh Castle, paid £4.
TA, xii, 347.

1589, Sept: mentioned as one of the ordinary gunners in Edinburgh Castle.
SRO E21/67, fo. 168r.

GARDINER, Archibald

1578, 1 June: appointed gunner ordinary in Edinburgh Castle for life at £5
per month. RSS, vii, no. 1547.

1597/8, Feb: payed £10 at the command of the king for his support and to
release him from the tolbooth. SRO E21/72, fo. 43r.

1600, April: master powder maker in Dumbarton Castle paid his wages from
1 May 1599 to 1 May 1600. E21/73, fo. 128r. Given further back pay of
£200. E 21/73, fo. 138r.

1600, Dec: fees for preceding year at £10 per month. E 21/74-75, fo. 91r.

1603, Nov: fee now £8. E 21/76, fo. 314v-315r.

1605, July: last recorded payment of his fee. E 21/77, fo. 78r.

GARDINER, Christopher (Cristell)

1579, 15 Aug: listed as a gunner at £4 monthly. RPC, iii, 205-6.

1581, Dec: last recorded payment of his fee. SRO E 21/61-62, fo. 169r.

GARDINER, James

1582, May: gunner at £6 monthly. SRO E 21/63, fo. 47r.

1588, April: last recorded payment of his fee. E 21/66, fo. 112v.

c. 1614: obtained a precept from the king for c. £1500 back money and a gift of the office of comptroller of the artillery. Payment of the money refused by the Lords of Council and did not obtain the office. Instead he got settlement of c. £600. Melros Papers, i, 259-60.

GARDINER, Michael (Gardun) (1)

1538, Whitsun: formerly in Dunbar Castle, entered gunner at £3 per month.

TA, vii, 122.

1538-1541, July: gunner. TA, passim.

See Michael Gardiner(2)

GARDINER, Michael (2)

(? same as Michael Gardiner (1))

1554, 30 June: appointed gunner ordinary at £6 per month for life.

RSS, iv, no. 2763.

1571, 15 June: master cannoner in Stirling Castle, gifted yearly pension for life of a chalder of wheat, a chalder of bear and £3 16s (being the mails and ferms of the Manor, Lordship of Stirlingshire). RSS, vi, no. 1191.

1572/3, 26 Mar: loyal to regent and then serving with the army in Leith.

RSS, vi, no. 1530.

1579, June: master cannoner at siege of Hamilton Castle. TA, xiii, 266.

1584, 3 May: death of, master cannoner and burgess of Stirling.

Whitelaw, Scottish Arms Makers, 299.

GARDINER, Robert

1570, 14 Aug: son of Michael Gardiner, cannoner, appointed ordinary gunner in Stirling for life at £4 monthly from 1 September. RSS, vi, no. 882.

1572/3, 26 Mar: noted in a list of gunners then serving with the regent's army in Leith. Ibid., vi, no. 1530.

1578/9, 9 Jan: at his own request is transferred from Stirling Castle

to place of the late George Haliburton in Edinburgh Castle at £6 monthly.

Ibid., vii, no. 1774, (actually only paid £5 monthly. See RPC, iii, 205-6; TA, passim).

1581/2, Feb: last recorded payment of his fee. SRO E 21/61-62, fo. 171v.

GARNERE, John (Frenchman)

1511-(12): melter, with Gerwez (q.v.) in Edinburgh Castle. TA, iv, 276-7.

George the Almane gunner

1508: working at the gun casting in Stirling. TA, iv, 127, etc.

Gerwez (Frenchman)

1511-12: gunner (gunfounder), working in Edinburgh Castle, with several other French craftsmen, on gunmaking. TA, iv, 276-7, etc. Paid from 14 January 1510 when he left home and given expenses while awaiting ship and wind at Dieppe. Ibid. Last recorded payment to him, 24 October 1512. Ibid., iv, 438.

GILBERT, Alexander

1579, 26 Nov: goldsmith, burgess of Edinburgh, appointed ordinary cannoneer in Edinburgh Castle, in place of Archibald Steill, at £5 monthly for life. RSS, vii, no. 2115.

1587, April: last recorded payment of his fee. SRO E 21/65, fo. 135r.

GILCHRIST, William

1571, Oct: feed as gunner extraordinary at £4. TA, xii, 290-1.

GOLDSMYTH, William

1474, 23 April: making a gun at the king's command. TA, i, 48, 49.

(Goldsmith was a moneyer, responsible for the black farthings of 1468, and a burgess of Edinburgh. See I H Stewart, The Scottish Coinage (London, 1955), 58; ADC, ii, 2).

GOTTHRALE, Robert

1558/9, May-Feb: working with David Rowan on gun founding. TA, x, 438.

GOVAN, Walter

1594, Nov: paid seven and a half years back money as gunner in Dumbarton Castle. SRO E 21/70, fo. 135v.

GRANDMORCEAU, Christopher, Frenchman

1537, 13 June: gunner feed at £4 per month. RSS, ii, no. 2282.

1537, June - Jan 1539/40: gunner, paid £4 per month. TA, vi, 333; vii, 281, etc.

1537, Sept/Oct: sends for wife to come to Scotland. Ibid., vi, 353-4.

1539/40, Jan: in service in France (in 1536?). Ibid., vii, 281.

1541, 7 April: fee raised to £5 monthly. RSS, ii, no. 3968.

1543-1548, Oct: gunner (in Edinburgh Castle). TA, passim.

GRANGER, Robert

1548, April: gunner (extraordinary). TA, ix, 174.

GRENER, John

1515, Aug: gunner. TA, v, 29.

GRUTARE, Dedrik (German/Dutchman)

1458: German, gunner, paid 20s. ER, vi, 385.

1460: keeper of the guns, awarded annuity of £20, payable at the two terms, for life, for his good service done and to be done. Ibid., vii, 32.

1465-6: paid expenses for working on the guns in Edinburgh Castle. Ibid., vii, 422.

1471, Martinmas: last recorded payment of his fee. Ibid., viii, 120.

GUILLIAME, Jacques (Frenchman)

1561, Oct - 1567/8, Jan: 'suddart' in Dunbar Castle at £3 10s per month. TA, passim.

1567/8, Feb: moved to Edinburgh Castle. TA, xii, 111.

1571/2, 31 Jan: described as the French smith, (then) in Edinburgh, summoned to compear at Leith to underlie the law. Bannatyne's Memoriales, 217-21.

1572, April: fee increased to £5 per month. TA, xii, 309.

1574, June: described as 'suddart' and gunner. Ibid., xiii, 18-19.

1588, April: last recorded payment of his fee. SRO E 21/66, fo. 112v.

GUNGO, John (Frenchman ?)

1543, Aug - 1548, June: gunner in Dunbar Castle at £3 per month. TA, viii, 226, etc. (NB. his pay is sometimes given as £3 15s or £4).

1548, Sept-Oct: gunner (in Edinburgh Castle ?). TA, passim.

GUNNER, John

1441: fee for 1441 of £13 6s 8d. ER, v, 101.

GUNNER

See Hans.

GUTHRIE, Alexander

1543, 15 Dec: appointed searcher and provider of horses and oxen for the artillery, munitions and victuals for the host in time coming. RSS, iii, no. 556.

1550: William Stewart, servant of Alexander Guthrie, Treasurer Clerk, appointed clerk of the gunners in his place to do the work he formerly did on looking after and servicing the munitions and paying the gunners and workmen in Edinburgh Castle (with annuity of 20 merks). TA, ix, 447.

Guyane, Frenchman

1494: provided with clothing. TA, i, 232.

1496: gunner on the raid of Ellem. TA, i, 299.

HALDANE, Archibald

1585, Nov: entered as ordinary wright at £6 per month. SRO E 21/64,
fo. 108v.

1587, April: last recorded payment of his fee. E 21/65, fo. 135r.

HALIBURTON, George (1)

1543, 8 June: letter appointing David Lumlie (q.v.) and George Haliburton
and either of them, gunners at £3 per month. RSS, iii, no. 315.
(Note only Lumlie received pay).

1547, Sept: entered as gunner at £4 per month. TA, ix, 123.

1547-1552, Nov: paid as gunner. TA, passim.

See George Haliburton (2)

HALIBURTON, George (2)

1560, May - 1568, May: ordinary gunner at £4 per month. TA, xi, 22, etc.

1563-4: paid for 'woping of the slangis' for Edinburgh. Edinburgh Burgh
Accts., i, 461.

1568, June: fee raised to £5 per month. TA, xii, 130.

1569, Dec: last recorded payment of fee. TA, passim.

1578/9, 9 Jan: dead when Robert Gardner transferred from Stirling Castle to
his place in Edinburgh Castle. RSS, vii, no. 1774.

HALIBURTON, Henry

1571, Oct: feed as gunner extraordinary at £4. TA, xii, 290-1.

HALSWELL, John

1598, June: mariner and gunner, indweller in Leith, died. Whitelaw,
Scottish Arms Makers, 147.

HAMILTON, Abraham

1591: listed as a freeman of the Hammermen of Edinburgh. EBA Edinburgh
Hammermen Recs., iii, fo. 69r.

1597, 1 June: master smith and gunner of Edinburgh Castle at £6 per month

from March 1595 paid 14 months back pay. SRO E 21/71, fo. 124v.

1599, Nov: paid for making locks and bands for the king's clock at

Holyroodhouse. E 21/73, fo. 89r.

1600, April: now paid £8 6s 8d, given back pay to 1 May 1599. E 21/73,

fo. 123r.

1600, Dec: now paid £10 monthly, given pay for terms of Whitsun and Martinmas

1600. E 21/74-75, fo. 91r.

HAMILTON, Adam

See Allan Hamilton.

HAMILTON, Alexander

1542/3, 19 Feb: appointed gunner at £3 per month for life. RSS, iii,

no. 102 (but no records of payments).

1545, July - 1553, Sept: cannoneer, Edinburgh Castle, at £4 per month.

TA, viii, 398, etc.

1558: feed as gunner by Edinburgh Town Council. Edinburgh Burgh Accts,

i, 279.

HAMILTON, Allan/Adam

1546, Aug-Sept: smith and gunner, in place of John Layng (?), at £3 per month.

TA, viii, 409, 484.

1546, Nov - 1548, Oct: smith and gunner, at £3 per month. TA, passim.

1548, Nov: fee raised to £4 monthly. TA, ix, 256-7.

1552, Dec: named Adam Hamilton for first time, but presumably the same

individual? TA, x, 150.

1553, 1 April: appointed smith and gunner for life at £4 per month. RSS, iv,

no. 1936.

1565, 8 Oct: fee raised to £5 monthly, starting 1 November, on the promotion

of John Bickerton to be master smith. RSS, v, no. 2374, (confirmed,

29 June 1568. Ibid., vi, no. 331).

1572, 26 Mar: noted as having 'defected' to Marians in Edinburgh Castle.

RSS, vi, no. 1530.

1573, 3 May: John Ker appointed smith and gunner in Edinburgh Castle in his place. Ibid., vi, no. 1952.

1573, 28 May: in Edinburgh Castle (also his wife) when it was rendered.

PRO SP 52/25.

1579, 15 Aug: reinstated as smith and gunner at £5 monthly. RPC, iii, 205-6.

1585: Edinburgh hammerman, chosen as one of the two masters representing the locksmiths. EBA Edinburgh Hammermen Recs, iii, 35v.

1587, May: pay raised to £6 per month. SRO E 21/66, fo. 65v.

1592, Oct: last recorded payment of fees. E 21/68, fo. 141r.

1596, Dec: died. EBA Edinburgh Hammermen Recs, iii, 68v.

HAMILTON, Arthur

1616, July: paid 2 months as wright at £8, and 2 months as master wright at £10. SRO E 21/83, fo. 77v.

HAMILTON, Archibald

1613, Dec: wright at £8 per month for previous term. SRO E 21/81, fo. 59v.

HAMILTON, Gavin

1548, Aug: gunner extraordinary in Edinburgh Castle. TA, ix, 227.

HAMILTON, James

1600, Dec: wright in Edinburgh Castle at £6 per month. SRO E 21/74-75, fo. 91r.

HAMILTON, Master John, of Millburn

1545: in charge of the artillery on the raid to Birgham. TA, viii, 398, 401, 402, 439.

HAMILTON, John

1548, April: gunner, sent to Yester Castle. TA, ix, 173.

HAMILTON, Olive(r)

1548, Aug: gunner extraordinary in Edinburgh Castle. TA, ix, 227.

HAMILTON, Robert, of the Briggs

1547, July: captain of Dunbar, master of the artillery for the expedition to Langhope. TA, ix, 88-89.

1547, Sept: keeping of Dunbar Castle taken from him. Ibid., ix, 445.

1549, Oct: captain of the footband of Edinburgh on the raid of Borrowmure.
Edinburgh Burgh Accts, i, 1, 3, 5, 6.

1550, Aug: now keeper of Linlithgow Palace. TA, ix, 431.

1555/6, 10 Feb: appointed master of the artillery and munition and general visitor and overseer of all her majesty's castles. His pay to be £100 per year, payable at the two terms. RSS, iv, no. 3158.

1557/8, 12 Mar: pay raised to £200 per year. Ibid., v, no. 353.

HANNAY (Ahannay), Robert

1574, Oct: reconciled to the kirk session of St Giles for remaining, coming into battle, entering the castle, and firing shot into the town, helping in the demolition and firing of parts of the town. ~~SRO~~ ^{General} Bk of the ~~Coddy~~ Kirk of Edinburgh, fos. 22v, 25v.

1581/2, Jan: gunner at £5 monthly. SRO E 21/61-62, fo. 171v.

1587, April: last recorded payment of his fee. E 21/65, fo. 135r.

Hans (1)

1473: gunner, at 20 merks a year. ER, viii, 189, 253.

1473/4, 1 Jan: 20s paid at the king's command 'to the obsequies and furth bringing of lital Hannis gunnare'. TA, i, 71.

Hans (2)

1494-8: gunner in royal service. TA, i, passim.

1500, 8 Dec: Hans Gunnare, servant of the king, admitted merchant burghess of Edinburgh. Edinburgh Burgesses, 222.

1507: has pension of £9 6s 8d, paid twice yearly. TA, iv, 69.

1507/8, 3 Feb: wins 28s from James IV in a culverin shooting contest at Holyroodhouse. Ibid., iv, 98.

1508, 3 Oct: dead when the two contiguous lands and tenements on the south side of the High Street of Edinburgh, which formerly belonged to John Fassan, alias Hans Gunner, were given to Alexander Wardlaw. RMS, ii, no. 3263.

Hans (3)

1512, 20 Aug: gunner, Scotsman, paid 55s as his wages for July. TA, iv, 372.

1515, Aug: one of two gunners put in Dunglass. Ibid., v, 32.

1518, Sept: gunner of Inchgarvy for previous year at £4 per month.

Ibid., v, 161-2.

1525, 9 Nov: the property of the late 'le Hannis Gunnar' in Newhaven mentioned ER, xv, 638, 642.

Cf. Hans Stowling.

Hans

See also Cochran, Cunynghame, de Nurnberg, Stowling.

Master Hans

1511: 'conduckit' (from the Continent?) by the Dean of Glasgow and paid for May - August at 6 merks monthly. TA, iv, 277-8.

1513: Lombard paper supplied to him (in Edinburgh Castle). Ibid., iv, 512.

HARQUIER, Robert

1541, 15 Aug: gunner, gifted £3 monthly as his wages for his good and

faithful service, done and to be done. RSS, ii, no. 4166.

(No recorded payments of his wages).

HARRISON, Henry

1571, Oct: feed as a gunner extraordinary at £3. TA, xii, 290-1.

HECTOR, James

1540/1: son of Robert Hector, q.v. apprenticed in Flanders? TA, vii, 428

(see also RPC, i, 395-6).

1547, Oct: entered as gunner at £3 per month. TA, ix, 132.

1547/8, 14 Feb: appointed wright and gunner ordinary at £3 15s monthly for life, provided he work daily 'bayth of wrycht craft, gunnar, melting and casting of gunnis and all utheris laubouris he can do, and als that he salbe reddy to pas to the feildis as an cannoner or to sege or to remane in any part quhair he salbe commandit'. RSS, iii, no. 2640.

1561, 31 Aug: appointed master gunner in Dunbar Castle for life at £6 monthly.

Ibid., v, no. 829. (Cf. Harry Balfour).

1565, 1 Aug: appointed principle^{al} master gunner and cannoneer ordinary in

Dunbar Castle at £8 10s per month. Ibid., v, no. 2231.

1567/8, 29 Feb: appointed as gunner in Edinburgh Castle at £8 6s 8d per month. Ibid., vi, no. 173. (NB. was actually paid £8 10s, TA, passim).

1569, 22 June: made burgess of Edinburgh, gratis, for service done and to be done in looking after the town's artillery. Edinburgh Burgesses, s.v.

See also RSS, vi, no. 1003 and Edinburgh Burgh Recs, iii, 269.

1579, Aug: master wright (in succession to Andrew Mansion). RPC, iii, 205-6.

1583/4, Jan: dead. Replaced as master wright by James Rockno. SRO E 22/6, fo. 151r.

HECTOR, Robert

1537, 5 June: paid for three cast guns. TA, vi, 466.

1538: paid for making a large piece of artillery. Ibid., vi, 438.

1540/1, 1 Feb: paid for making a piece of artillery, and also given expenses for putting his son (James Hector (1) ?) to a craft in Flanders.

Ibid., vii, 428.

1543, 9 Oct: in pay of Cardinal Beaton from this date onwards. Rent. S.

Andree, 170, 198.

1547, 17 Aug: appointed one of the principle^{al} gunners for life, for his good service to James V, and to be done, at £4 monthly, starting 1 September.

RSS, iii, no. 2380.

1548, June: last recorded payment of fee. TA, ix, 221.

HELIOTE, Nicholas (frenchman)

1541, 18 Nov: gunner, servant of Hans Cochran, appointed at £4 per month during the king's will. RSS, ii, no. 4300.

1544, April - 1548/9, Mar: gunner (in Edinburgh Castle) at £3 per month.

TA, viii, 287-8, etc.

1549, 1 April: appointed gunner and melter at £4 per month for life. RSS, iv, 197.

1554/5, 21 Mar: described as David Rowan's servant when mending Edinburgh's curfew bell. Edinburgh Burgh Accts, ii, 39, 40.

1558/9, May-Feb: working on gun casting in Edinburgh Castle. TA, x, 438.

1568, June: pay raised to £5 per month. Ibid., xii, 130.

1572/3: 'defects' to Marians in Edinburgh Castle. RSS, vi, no. 1530.

Henric

1496: gunner, at 40s per month. TA, i, 295.

1513: 'cutlug', gunner on the Michael. Ibid., iv, 507.

Henry (1)

1455-9: gunner, paid £13 6s 8d annually, at the two terms. ER, vi, 4, etc.

Henry (2)

1513: gunner on the Michael. TA, iv, 507.

HERWORT (Harowar), Robert

1494: clothing provided for. TA, i, 232.

1496: gunner, in royal service. TA, i, 320, etc.

1500: gunner, made burgess free as son and heir of freeman. Edinburgh
Burgesses, 239.

1512-13: working in Edinburgh Castle on the guns. TA, iv, 508, 509.

1518, Sept: gunner (in Dumbarton Castle ?) paid for previous year at 40s per month. Ibid., v, 161-2.

HILL, William

1530, 8 April: appointed smith at £10 per term. ER, xvi, 375n.

1530-1555: receives annuity of £20 per year (partial payment only to 1535?).
ER, passim.

1543, Aug - 1548, Oct: smith and gunner, at £4 per month. TA, viii,
225-6, etc.

1548, Nov - 1550/1 (Jan): smith and gunner, at £5 per month. Ibid., ix,
256-7, etc.

1550/1, 12 Feb: master smith and gunner, gifted £6 per month for life.
RSS, iv, no. 1093.

1553/4, 25 Feb: granted power to trade in wine, wax, silk and all other
merchandise. Ibid., iv, no. 2428.

1565, 8 Oct: deceased when John Bickerton was appointed master smith in his
place. Ibid., v, no. 2375.

HILL, George

1552, Dec - 1553, Sept: servant to William Hill, smith extraordinary at 40s
per month. TA, passim.

HOG, James

1513: gunner on the Margaret. TA, iv, 507.

1518, Sept: gunner (in Dumbarton Castle ?) for previous year at 56s per month.
TA, v, 161-2.

HOLAY

1537/8, Jan-Feb: gunner, given two months wages (in connection with James V's visit to France). TA, vii, 16.

HONEYMAN, Alexander

1566, July: gunner, at £8 per month. TA, xii, 58-60.

1567, May: made cock for the steeple of the Edinburgh Tolbooth. Edinburgh Burgh Accts, ii, 239.

1568, 29 June: appointed ordinary melter and gunner for life at £8 per month.
RSS, vi, no. 329.

1572, 26 Mar: noted as serving with the regent's army in Leith. Ibid., vi, no. 1530.

1579, Aug - 1585, Oct: paid £6 per month. TA, passim.

1585, Nov: dead when replaced by James Workman. SRO E 21/64, fo. 108v.

HORSHOPE, Thomas

1571, Oct: feed as gunner extraordinary at £3. TA, xii, 290-1.

HUNTER, William

1617, Jan: wright at £8, paid for 4 months. SRO E 21/84, fo. 47r.

HOUSTON, Henry

1548, Aug: gunner extraordinary in Edinburgh Castle. TA, ix, 227.

Jacart (Frenchman)

1511-(12): melter, with Gerwez in Edinburgh Castle. TA, iv, 276-7.

Jacart of Tours, Frenchman

1511-(12): with Gerwez in Edinburgh Castle. TA, iv, 276-7.

Master Jacob

1511: Jacob, gunner, 'condukkitt' (from the Continent ?) by the Dean of Glasgow at 8 merks monthly. Paid for May - August. TA, iv, 277.

1512-13: Master Jacob, gunner on the Gabriel which passed to France with de la Motte. Ibid, iv, 470, 480, 482.

1513: now serving in the Margaret. Ibid., iv, 490.

JARDINE, Sir Alexander of Applegirth (1)

1516: comptroller of the Duke of Albany's house. Henry VIII. Letters & Papers, II, i, no. 1672.

1526, 3 July: appointed master of the artillery for life at £100 per year. RMS, i, no. 3417.

1528, 7 Sept: protested that he should not be held responsible for the state of the artillery. ADCP, 284.

1530: described as deceased. TA, v, 346.

JARDINE, Alexander, of Applegirth (2)

1573, 20 June: appointed master of the King's ordnance for life with the fees, casualties and duties belonging thereto. RSS, vi, no 2001. Paid £100 per year at the two terms. TA, passim.

1578/9, 20 Feb: denounced for non-appearance to answer charges against him. RPC, iii, 97, 263, 268.

1582, Martinmas: last recorded payment of his fees. SRO E 21/63, fo. 136v.

1583, Aug: summons of treason against. SRO E 22/6, fo. 116r.

JARDINE, William

1548, April: gunner, appointed to Edinburgh Castle, from Fasterns Eve 1547. TA, ix, 172.

1548, Aug: gunner extraordinary in Edinburgh Castle. Ibid., ix, 227.

John

See GUNNER.

JOHNSTON, James

1537/8: smith, working in Edinburgh Castle. Expenses paid to him and his three servants for 6 weeks. AMW, i, 230.

1550, April: to Jonet Thomson, widow of James Johnston, smith, for certain chambers of cutthroats made by her late husband in Edinburgh Castle.
TA, ix, 392.

JOHNSTON, John

1543, 10 Aug: 'alias Propir Johne', gunner, gifted £3 monthly for life.
RSS, iii, no. 452 (no payments of fee recorded).

KENNEDY, James

1548, April: gunner (extraordinary). TA, ix, 174.

KENNEDY, Thomas

1543, 28 July: gunner in Leith, given £3 monthly for life. RSS, iii, no 413.
1545, Aug: fee raised to £4 monthly. TA, viii, 403-4.
1552, Oct: last recorded payment of fee. TA, passim.

KER, John

1571, Oct: feed as gunner extraordinary at £4. TA, xii, 290-1.
1573, 3 May: appointed ordinary gunner in Edinburgh Castle in succession to Adam Hamilton. RSS, vi, no. 1952.
1577, 10 June: David Cunynghame gifted the escheat of the goods of John Ker, who died unlegitimated without lawful heirs or disposition of his goods.
Ibid., vii, no. 1071.

KER, Sir Robert

1497, April: entered as master of the artillery. TA, i, 229. Paid a yearly fee of £66 13s 4d at the two terms. Ibid., i, 339, 368.

1500: murdered by Englishmen. Buchanan, History, ii, 246.

KERSS (Cass), David

1598: paid (as gunner) from 24 August to 13 September 1598 on expedition to Kintyre. SRO E 21/72, fo. 88r.

1600, Dec: in Edinburgh Castle, now paid £8 monthly. E 21/74-75, fo. 91r.

1614, June: John Kerss paid in the name of David Kerss, smith. E 21/82, fo. 43r.

See Appendix E.

KERVOUR, John, elder.

1489: already in royal service? TA, i, 110.

1494: clothing provided for. TA, i, 232.

1497: gunner on the raid of Norham. TA, i, 347.

KERVOUR, John, younger.

1497: gunner on the raid of Norham. TA, i, 347.

KYLE, John (1)

1513: 2 serpentines with 6 chambers, bought from. TA, iv, 486.

151 : smith, receives liverary. TA, iv, 259.

KYLE, John (2)

1552-3: smith, provides iron work for Edinburgh. Edinburgh Burgh Accts, i, 76, etc.

1558: making chambers and providing iron guns, etc. Ibid., i, 250.

1566: he and his servant paid for putting iron bands on the artillery in Inchkeith. TA, xi, 518-19.

de LAKE

See DELAKE.

LAMB, John

1494: clothing provided for. TA, i, 232.

1496, 9 June: gunner, given the 20 merk land of Newtoun of Markinch, Fife, for life. RSS, i, no. 81.

1496: paid for gunchambers, myks, bands, etc for the guns. TA, i, 281, 292, etc. The work was done in his house/smithy in Leith. Ibid., 292, 296.

1497: paid for 3 serpentine guns and their equipment for Dunbar (Castle). Ibid., i, 334.

1497: gunner on the raid of Norham. Ibid., i, 347.

LAUDER, Ninian

1600, Dec: wright in Edinburgh Castle, paid £6 monthly. SRO E 21/74-75, fo. 91r.

de LAVALL, Jehannot

1516, 25 April: appointed master of the artillery in succession to the late Lord Sinclair. RSS, i, no. 2756.

LAW, James

1537, Martinmas - 1541, Whitsun: gunner, in Leith, £5 per term. TA, vi, 389-90, etc.

1543, 30 July: given monthly pension of £3 for life. RSS, iii, no. 421.

1546, Nov: killed at siege of St Andrews Castle. Henry VIII. Letters & Papers, XXI, ii, no. 576.

LAWSON, John

1513: gunner on the Michael. TA, iv, 507.

LAYNG, John

1534, 7 July: gunner and potter, appointed at £3 per month for life. ER, xvi, 362n.

1546/7: died. TA, viii, 436; ER, xviii, 119.

LESCHENDER, Jacques (Liciender, etc)

1537/8, Mar - 1539, Sept: listed as gunner (TA, vi, 382, etc), but actually armourer or jackmaker.

LEVIN, John

1539, Oct: gunner in Dunbar Castle. TA, vii, 256.

Cf. John Havin.

LIDDEL, Thomas

1539, Oct: gunner in Dunbar Castle. TA, vii, 256.

1539/40, Jan - 1541, July: gunner, £3 per month (in place of Cornelius of Braidhow). Ibid., 281, etc.

1539/40, 1 Feb: appointed gunner at £3 monthly for life. RSS, ii, no. 3312.

1543, Aug - 1548, June: gunner in Dunbar Castle, pay raised to £3 15s from October 1546. TA, passim.

LINDSAY, Hew

1614, June: gunner at £8 6s 8d monthly. SRO E 21/82, fo. 43r.

LINDSAY, Mr Robert

1614, June: present comptroller of the artillery. SRO E 21/82, fo. 43r.

Demitted to him by John Chisholm. Melros Papers, i, 259.

1615, Mar: Archibald Primrose paid for term at £10 a month in name of

Mr Robert Lindsay the comptroller. E 21/82, fo. 63r (until end of 1615, E 21/83, fo. 64v).

LITSTER, John

1548, April: gunner extraordinary. TA, ix, 175.

LITTLEJOHN, Andrew

1550, 24 April: wright, awarded the escheat of the goods of the late William and Jonet Smith. RSS, iv, no. 2389.

1553/4, 12 Feb: appointed gunner ordinary and wright for life at £4 per month. RSS, iv, no. 2389.

LITTLEJOHN, Donald

1566, 4 Sept: appointed ordinary wright in Stirling Castle for life at £5 monthly. RSS, v, no. 3048.

1567/8, Feb - 1569, Dec: wright at £4 monthly. TA, xii, 111, etc.

1571, Oct: extraordinary gunner at £6 for the month. Ibid., xii, 290-1.

Lizars (Lisouris, etc), Brother Andrew (of Cupar, Fife)

1455-6: paid for transporting the great bombard to the siege of Threave Castle, returning it and others to Linlithgow, and for expenses and repairs on them. ER, vi, 200.

1464: repairing bombards in Edinburgh Castle. Ibid., vii, 294.

LOCKHART

1548, April - June: gunner. TA, ix, 183, 193, 209.

LOWRE

1545: gunner of Hamilton Castle, sent to the siege of Lochmaben Castle. TA, viii, 419.

LOWRESON, William

1547, 8 Oct: appointed gunner ordinary for life at £3 10s per month. RSS, iii, no. 2489.

1549/50, Mar: last recorded payment of fee. TA, passim.

LOWRIE, Alexander

1598: paid (as gunner) from 24 August to 13 September on expedition to Kintyre. SRO E 21/72, fo. 88r.

1600, Dec: in Edinburgh Castle, now paid £6 monthly. E 21/74-75, fo. 91r.

1606, July: payment for twenty one and a half pounds of powder shot at the burial of Alexander Lowrie, one of the ordinaries in Edinburgh Castle. E 21/78, fo. 58r.

LUMLIE, David

1539, Dec: entered gunner in place of William Agradane. TA, vii, 276.

1543, 8 June: either he or George Halyburton granted £3 per month for life.

RSS, iii, no. 315.

1539-1545, July: gunner (in Edinburgh Castle). TA, passim.

LUNDY, Sir Robert, of Balgony

1496: 'to the Lard of Balgony, be ane assignacioune to Schir Jhonne of Wemis for his fee for the Kingis artilyery'. TA, i, 269.

de LYON, John

1541, June: gunner, entered in place of Cornelius of the Feir. TA, vii, 456-7.

1541/2, Sept-Mar: casts double culverin in Edinburgh Castle after first two attempts under Peris Rowan were unsuccessful. Ibid., viii, 124-7.

1545: gunner in St Andrews Castle for Cardinal Beaton. Rent. S. Andree, 224.

McBEN, (McBane), John

1578, 28 July: smith, appointed ordinary smith and gunner in Stirling Castle for life with a monthly fee of £5 (in place of the late David Smith).

RSS, vii, no. 1603.

1587, April: last recorded payment of his fee. SRO E 21/65, fo. 135r.

See also Appendix E.

McCALLUM

1558, Aug: working with David Rowan at gunfounding. TA, x, 440.

MACCULLO(CH), Adam

1544/5, Mar: servant to the master of the artillery and clerk to the same, paid for his labours in setting a nightly watch for the safe keeping of the artillery (at the siege of Glasgow Castle). TA, viii, 272.

1545, July: paid for conveying the bastards to Edinburgh. Ibid., viii, 391.

1545-6: messenger. Ibid., viii, 398, 471.

McGLASSANE, Donald

1523: commanded by Albany to keep the artillery at the siege of Wark Castle.

TA, v, 225.

MANSION, Andrew, Frenchman

1539-40: wright, working on the new little bark and making the prince's cradle.

TA, vii, 189, 307.

1540/1, Nov-Jan: carver, and his servant, working in the gunhouse (making decorations for the guns). Ibid., vii, 488-9; viii, 127.

1543, 3 Aug: appointed gunner at £3 per month.

1546, Sept: fee raised to £4 by order of the governor since he was hurt in the hand by the shot of a gun at the siege of Edinburgh Castle (1544).

TA, vi-i, 484.

1561, 28 Dec: appointed master wright and gunner ordinary for life at £8 6s 8d per month. RSS, v, no. 942.

1561-1579, July: master wright. TA, passim.

1579, Aug: Francis Mansion appointed in his place. TA, xiii, 283-4 (not as master wright but just as wright).

MANSION, Francis

1579, 15 Aug: listed as wright in place of the late Andrew Mansion, his father, at £6 per month. RPC, iii, 205-6.

1588, April: last recorded payment of fee for a number of years. SRO E 21/66, fo. 110v.

1602, Aug: paid for making the pulpit of Falkland Kirk. E 21/76, fo. 172v.

1606, July: payment of his fees as wright at £6 per month recommenced.

E 21/78, fo. 60.

MARSCHO, John (Frenchman ?)

1543, Aug - 1547, Oct: gunner, cannoneer, in Dunbar Castle, paid £4 4s per month. TA, viii, 226. etc.

MARYEN, Jehan

1518, Sept: gunner in Dunbar Castle for previous year at £3 15s per month. TA, v, 161-2.

MASTERTON, Andrew

1539: carver, paid for carving 6 patterns of lion's heads and fleur-de-lices for the guns being cast in Edinburgh Castle. TA, vii, 344.

Master Mathew

1484: bombard maker, allowed freedom from custom on a consignment of wool. ER, ix, 286.

Maurice

1383-6: 'gunner' in Stirling Castle. ER, iii, 667, 676, 683.

MAWARE, John (younger)

1494: clothing provided for. TA, i, 232.

1496: wright with the artillery on the raid of Ellem. TA, i, 300.

1496/7, 22 Feb: paid expenses to inspect wood for the guns at Borthwick and Salton. Ibid., i, 321.

1497: gunner on the raid of Norham. Ibid., i, 347.

MELVILLE, John, of Raith

1526, 9 Oct: appointed master of the artillery for life. RSS, i, no. 3521.

Henry, Lord METHVEN

1528: 'In this Parleament the king ccnfirmet Henrie Stuart the Quenes housband, M. Lord Meffen, and gret Lieuetennant of the gret artilyie, quhilk with us in an office verie honorable. Dalrymple, Historie, ii, 217.

1539-42: paid £100 per year for his fee. TA, passim.

c. 1551: died. Scots Peerage, vi, 167.

MILLAR, Thomas

1546, 26 Oct: gunner in Arran (at Brodick Castle ?) in the service of the Earl of Arran. TA, ix, 26.

MOFFET, Robert

1545/6, Nov - Jan: gunner at £3 per month (taken on as gunner extraordinary) for siege of Lochmaben Castle in November). TA, viii, 409, 422, etc.

1545/6, 16 Jan: appointed gunner ordinary for life at £3 per month. RSS, iii, no. 1487.

1548, Nov: pay raised to £4 monthly. TA, ix, 256-7.

1551, Oct: described as wright and gunner. Ibid., x, 27.

1557/8, Feb: pay raised to £5 monthly. Ibid., x, 332.

1571/2, 26 Mar: noted as having 'defected' to the Marians in Edinburgh Castle. RSS, vi, no. 1530.

1573, 28 May: in Edinburgh Castle when it was rendered. PRO SP 52/25.

MONYPENNY, Robert

1537/8: smith, with 4 servants, working in Edinburgh Castle. AMW, i, 230.

MORAY, John of

See MURRAY.

MOSMAN, Thomas

1548, April: gunner (extraordinary). TA, ix, 174.

MULLONIS, John

1545: gunner in Craignethan Castle, served at the siege of Lochmaben Castle. TA, viii, 422.

MURRAY, James (1)

- 1565, 30 Nov: appointed wright and gunner ordinary in Dunbar Castle for life
at £6 per month. RSS, v, no. 2468.
- 1565-1567/8, Jan: payment of his fees. TA, passim.
- 1579, 20 July: appointed ordinary gunner and wright in Edinburgh Castle at
£6 per month, back dated to 1 April 1578. RSS, vii, no. 1986.
- 1585, May: fee raised to £8 10s per month. SRO E 21/64, fo. 70v.
- 1587, May: supercedes James Rockno as master wright and gunner. E 21/66,
fo. 65v.
- 1599, May: first referred to as master gunner (E 21/73, fo. 46r) which office
he held along with his office as master wright, at a total monthly fee of
£16 8s (E 21/73, fo. 123r).
- 1601, 4 May: appointed overseer and attender of all his majesty's works of
reparation, etc, and at the same time demits office of master wright to
his son James. AMW, i, pp. xxxvi - xxxvii.
- 1603, Nov: receives £10 per month as overseer of works and a further £10 as
master gunner. SRO E 21/76, fos. 314v, 315r.
- 1611, May: office of overseer of works demitted to his son James.
E 21/79, fo. 57r.
- 1615 (Dec?): last recorded payment of fees. Dead by December. E 21/83,
fo. 64v; AMW, i, p. xxix.

MURRAY, James (2)

- 1598, Aug: paid (as gunner) from 24 August to 13 September on expedition to
Kintyre. SRO E 21/72, fos. 87r-88r.
- 1601, 4 May: office of principle^{al} master wright and gunner ordinary in the
castle of Edinburgh and all other castles, etc, demitted to him by his
father, with fee of £8 monthly. AMW, i, p. xxxvii; SRO E 21/76,
fos. 314v-315r.
- 1611, May: now also overseer of HMs works (master of work). SRO E 21/79,
fo. 57r.

1612, 10 July: with his wife Martha given a charter of novodamus of the lands of Kilbaberton, etc, near Edinburgh, resigned by William Wardlaw (described as the king's architect). AMW, i, p. xxix.

1616, Mar: now also comptroller of the artillery, paid £10 3s 4d for this post for 3 months. SRO E 21/83, fo. 64v.

1616, July: now also master gunner on death of his father. E 21/83, fo. 77v.
Office of master wright given to Arthur Hamilton, q.v.

MURRAY (moray), John (of) (1)

1449-54: (son of Sir David Murray of Tullibardine), paid £7 6s 8d annually at the two terms. ER, v, 418, 419, 662.

1456: noted as the late John of Moray, bombardier (gunner) of the king.
Ibid., vi, 116.

MURRAY (Moray), John (of) (2)

1474-5: paid for smith work made for the artillery and sent to Edinburgh Castle. ER, viii, 268.

MURRAY, Robert (1)

1513: gunner on the Gabriel. TA, iv, 507.

MURRAY, Robert (2)

1543, Aug - 1545, June: plumber and gunner (in Edinburgh Castle), paid £3 per month. TA, viii, 225-6, etc.

MURRAY, Robert (3)

1565, 29 Sept: appointed gunner at £5 per month for life, beginning Oct. 1565. RSS, v, no. 2345.

1567/8, Jan: last recorded payment of his fee. TA, passim.

MYLNE, John

1561, 22 Oct: appointed wright and gunner in Edinburgh Castle at £5 monthly for life in consideration of his service to Mary of Guise in Leith.
RSS, v, no. 874.

1571/2, 26 Mar: noted as having 'defected' to the Marians in Edinburgh
Castle. RSS, vi, no. 1530.

de NEULLAY, Hew (Hew Denevey, Hewgait Donelyie, etc)

1561, 8 Nov: cannoneer and wheelmaker, appointed gunner ordinary during her
grace's will and pleasure at £5 monthly. RSS, v, no. 848.

1571, 2, 26 Mar: noted as having 'defected' to the Marians in Edinburgh
Castle. Ibid., vi, no. 1530.

1573, 28 May: in Edinburgh Castle when it was rendered. PRO SP 52/25,
no. 168.

1579, 15 Aug: reinstated at £5 per month. RPC, iii, 205-6.

1585, Sept: last recorded payment of his fee. SRO E 21/64, fo. 95v.

Nicholas

See HELIOTE.

NICHOLSON

1513: gunner on the Michael. TA, iv, 507.

NORMAN, John

1513: gunner on the Gabriel. TA, iv, 507.

de NURNBERG, Hans

1541, July: entered gunner at £3 per month. TA, vii, passim (only recorded
payment of his fee).

Andrew, Lord OCHILTREE

1598, June: described as master of the artillery. SRO E 21/72, fo. 72v.

ORMISTON, George

1513: gunner on the Margaret. TA, iv, 507.

1531-6: gunner, various payments to. TA, vi, 39, etc; ER, xvi, 398,
480K, 585.

1538: awarded £18 per year at King's command. ER, xvii, 167.

1544, Aug: sent to Kilmarnock Castle. TA, viii, 315.

PAREYNE, Anthony

1515, Aug: gunner and smith. TA, v, 33, 38.

PASTANCE

1548, April: gunner, sent to Yester Castle. TA, ix, 173.

PATERSON, John

1548, Aug: gunner extraordinary in Edinburgh Castle. TA, ix, 227.

PATERSON, Martin

1553, April: working with David Rowan in the gunhouse (in Edinburgh Castle).

TA, x, 175.

1558/9, May-Feb: working with David Rowan on gun casting. Ibid., x, 438.

PAUL (Paulis), John

1436-8: master of the king's military engines. ER, v, 31, 33.

Peris

See ROWAN.

PETTIGREW, David

1568, 29 June: son of the deceased Thomas Pettigrew, appointed smith and

gunner ordinary for life at £5 monthly. RSS, vi, no. 330.

1572/3, 26 Mar: noted in a list of gunners who had 'defected' to the Marians

in Edinburgh Castle. Ibid., vi, no. 1530.

1573, 28 May: in Edinburgh Castle when it was rendered. PRO SP 52/25,

no. 173.

1592/3, 5 Jan: smith, one of the ordinaries of the Castle of Edinburgh,

testament of, given up. Edinburgh Reg. of Testaments, i, s.v.

PETTIGREW, sir James

See Appendix E.

PETTIGREW, Thomas

1547, 12 Oct: appointed gunner ordinary for life at £3 10s per month.

RSS, iii, no. 2494.

1550, 1 April: gunner and smith, his fee raised to £4 monthly. Ibid., iv, no. 637.

1553, 8 Dec: fee raised to £5 monthly. Ibid., iv, no. 2292.

1556-8: did smith work for Edinburgh Town Council. Edinburgh Burgh Accts, i, 206, 267; ii, 73.

1568, June-July: died. TA, xii, 130; RSS, vi, no. 330.

Son: David Pettigrew, smith and gunner ordinary.

PIERSON, Thomas

1507: gunner, on service in the Western Isles. TA, iii, 388.

1511: paid £10 per term. Ibid., iv, 269.

1513, May: gunner on the Gabriel, in France with de la Motte. Ibid., iv, 470, 480.

1513: gunner on the Michael. Ibid., iv, 507.

PIRLIE, Nicholas

1515, Aug: gunner. TA, v, 29.

POLE, John

1545: gunner, in the service of Cardinal Beaton in St Andrews Castle.

Rent. S. Andree, 224.

1546, 30 July: accused of murder of the cardinal. RPC, i, 32.

1546/7, 10 Jan: appointed gunner and cannoneer at £4 4s per month for life.

RSS, iii, no. 2096.

1546, Dec - 1548, June: gunner at £3 3s. TA, passim.

POWIS, Pier

1515, Aug: gunner. TA, v, 35.

QUARRIER, John

1489, Oct: given expenses to go and fetch culverins from Stirling for
the field. TA, i, 122.

1494: clothing provided for. TA, i, 232.

1497: gunner, on raid of Norham. TA, i, 347.

RAITH, Allan

1571, Oct: feed as gunner extraordinary at £3. TA, xii, 290-1.

RAMSAY, David

1558, 9 Aug: appointed gunner and powder maker in Edinburgh Castle at £5
per month for life. RSS, v, no. 470. No recorded payment of his fees.

RAMSAY, John

1543, 28 July: gunner, given £3 monthly for life. RSS, iii, no. 414.

No recorded payment of his fees.

RAMSAY, William

1558/9, Oct-Mar: gunner, at £5 per month. TA, passim.

Ranald, Frenchman

1473, 26 Feb: paid/rewarded for making a gun. TA, i, 68.

REID, John

1568: deputy of John Chisholm, comptroller of the artillery, paid for
transporting artillery from Edinburgh Castle to Glasgow and back again,
and for remaining at field of Langside. TA, xii, 121.

1570, 10 May: messenger, employed to find horses for transporting certain
'affairs'. Ibid., xii, 201.

ROBERTSON (Robson), John

1584/5, Jan: entered as wright at £5 monthly. SRO E 22/6, fo. 235r.

1594, Nov: paid seven and a half years back money as gunner in Dumbarton Castle. E 21/70, fo. 135v.

ROBERTSON (Robson), Robert

1578, 28 July: appointed ordinary wright and gunner in Stirling Castle for life with a monthly fee of £5. RSS, vii, no. 1604.

1587, April: last recorded payment of his fee. SRO E 21/65, fo. 135r.

ROGE, James

1545: gunner, in the service of Cardinal Beaton at St Andrews Castle.

Rent. S. Andree, 224.

1546, Dec - 1548, June: gunner, in royal service, at £3 3s per month.

TA, ix, 47, etc.

1547, 18 Aug: appointed gunner ordinary at £4 4s per month. RSS, iii, no. 2387

1547: hurt with a shot from the castle of St Andrews. TA, ix, 25.

1547, Nov: given £6 12s to pay a barber to cure a hurt received at the fort at Broughty. Ibid.

ROQUENOW (Rockno, Rotnocht, etc), James

1561, 22 Oct: appointed ordinary gunner in Dunbar Castle as £4 per month for life. RSS, v, no. 875.

1561-1567/8, Jan: gunner (in Dunbar Castle). TA, passim.

1571, Oct: feed as gunner extraordinary at £6. TA, xii, 290-1.

1579, 1 Aug: reinstated as wright and gunner at £5 per month. RPC, iii, 205-6.

1583/4, Jan: master wright at £8 10s per month in place of late James Hector. SRO E 22/6, fo. 151r.

1587, May: superceded as master wright and gunner by James Murray who was likewise paid £8 10s. SRO E 21/66, fo. 65v.

1588, April: last recorded payment of his fee. SRO E 21/66, fo. 110v.

ROQUENOW (Rokno, etc), John (Frenchman ?)

1543, Aug - 1548, June: gunner in Dunbar Castle at £3 15s per month.

TA, viii, 226, etc.

ROQUENOW (Ratnocht, etc), Theobald (Frenchman)

1543, Aug - 1544, May: gunner in Dunbar Castle at £3 15s per month.

TA, viii, 260, etc.

1544, July: entered Edinburgh Castle as gunner at £4 4s per month. Ibid., viii, 310.

1551, Oct: described as wright and gunner, but otherwise only as gunner.

Ibid., x, 27.

1551/2, 5 Jan: paid £8 rent money since he had been put out of his house in Edinburgh Castle. Similarly, paid a further £9 in April 1553. Ibid., x, 49.

1565/6, Feb: last recorded payment to him. TA, passim.

ROWAN, David

1538: sons of Peris (? including David) apprenticed in France. TA, vi, 402.

1542, 27 Oct: son of Peris Rowan, appointed gunner in Edinburgh Castle at £5 per month for life. RSS, ii, no. 4964.

1548, 15 April: appointed principal master maker and melter of guns and artillery for life at £5 per month. Ibid., iii, no. 2719.

1548, 16 April: gifted annuity of £40, payable at the two terms. Ibid., iii, no. 2722.

1549/50, 17 Mar: empowered to trade in wine, wax, silks and all other merchandise, custom free. Ibid., iv, no. 596 (regranted, 25 Feb. 1553/4. Ibid., iv, no. 2428).

1550, 20 Nov: admitted burgess of Edinburgh, free, 'for his labours done and to be done for the town'. Edinburgh Burgesses, i, s.v.

1587, Nov: last recorded payment of annuity, but was still alive in 1590.

SRO E 21/66, fo. 89r; Edinburgh Burgh Recs (1589-1603), 335.

Servants: Gilbert Balnavis, Nicholas Heliote.

Apprentice: David Williamsen.

ROWAN, John (Jehan) (1)

1515, Aug: gunner. TA, v, 29.

1518, Sept: gunner in Dunbar Castle for previous year at £3 per month.

Ibid., v, 161-2.

ROWAN, John (2)

1565: powder bought from for men of war. Edinburgh Burgh Accts., i, 51.

1604, 6 Mar: allowed to melt and work brass, except spurs and stirrup irons,
by the deacon and masters of the Edinburgh Hammermen. Whitelaw,
Scottish Arms Makers, 294.

1604, 21 Mar: brassener, admitted burgess of Edinburgh as eldest son of the
late Thomas Rowan, merchant burgess. Edinburgh Burgesses, s.v.

ROWAN, Peris (Pier de Rouen)

1515, 1 Aug: mentioned as servant of Robert Borthwick, master founder.

TA, v, 19.

1526-8: receives £10 as his yearly fee. ER, xv, 365, 439.

1532, 30 April: appointed principle^{al} master maker and melter of guns and
artillery for life at £5 per month. RSS, ii, no. 1213.

1534, 20 June: letter of recommendation by James V to the officers of
ordnance of Francis I (Rowan was going to France to recover debts).

James V Letters, 270.

1538: his sons (see David and Thomas) apprenticed in France. TA, vi, 402.

1539: goes to France on royal business. TA, vii, 150.

1540, 1 May: awarded further pension of £40 yearly, payable in two installments
at Whitsun and Martinmas. RSS, ii, no. 3482.

1545, Aug: died. ER, xviii, 89.

Sons: David & Thomas

ROWAN, Thomas

1538: ? one of sons of Peris Rowan apprenticed in France. TA, vi, 402.

1550: merchant, admitted burgess of Edinburgh. Edinburgh Burgesses, i, s.v.

1558/9, May-Feb: brother of David Rowan, working with him at founding guns.

TA, x, 438.

1561, 31 Dec: 'wirkand in oure soverane ladeis gunhous within hir castell of Edinburgh', appointed gunner ordinary for life at £5 per month.

RSS, v, no. 950.

1571/2, 31 Jan: merchant (then) in Edinburgh, summoned to Leith by regent to underlie the law. Bannatyne's Memoriales, 217-21.

1584, April: appointed gunner in place of the late Gilbert Balnavis at £5 per month. SRO E 22/6, fo. 176r.

1587, April: last recorded payment of his fee. SRO E 21/65, fo. 135r.

1604, 21 Mar: deceased when his son, John, was admitted merchant burgess of Edinburgh. Edinburgh Burgesses, s.v.

SAISLYE, William

1607, 26 Oct: admitted freeman of the Stirling Hammermen as master gunner.

Whitelaw, Scottish Arms Makers, 291.

SANDILANDS, John, Laird of Hillhouse

1489, July: ordered to Paisley to get workmen with spades and shovels.

TA, i, 116.

1496, 11 Sept: paid to remain with the artillery and to help to guide it (on the raid of Ellem). Ibid., i, 294.

1497, July: paid expenses for coming home for Mons. Ibid., i, 349.

SAUNDERS (Sanderis), David

1583, May: £5 monthly for winning and making saltpetre. SRO E 22/6, fo. 98v.

1587, April: last recorded payment of his fee. E 21/65, fo. 135r.

SCHANG, John

1584, April: entered, wright, in place of the late Cornelius Stewart at £6 monthly. SRO E 22/6, fo. 176r.

1587, April: last recorded payment of his fee. E 21/65, fo. 135r.

SCHEILL (Seill), John, Englishman

1548, April: gunner, cannoneer, from Home Castle, appointed ordinary gunner for life at £5 per month. TA, ix, 183; RSS, iii, no. 2752.

1548-1552, Nov: paid as gunner (in Edinburgh Castle). TA, passim.

1553: 'sumtyme gunnar ordinar in Edinburcht Castell', paid a pension of £13 6s 8d. TA, x, 213.

1567/8, 29 Feb: appointed gunner in Edinburgh Castle for life with a pension of 40 merks yearly payable from previous Martinmas, 'and quhen he is employit in service hie have waigis'. RSS, vi, no. 172.

SCHEILL, Martin

1615, Mar: wright, paid for 1 month at £8. E 21/82, fo. 63r.

SCHEVES, James

1579, 15 Aug: listed as wheelmaker at £6 monthly. RPC, iii, 205-6.

1585, May: pay raised to £8 6s 8d. SRO E 21/64, fo. 70v.

1603, Nov: pay now reduced to £8 monthly. E 21/76, fo. 314v-315r.

1616, July: last recorded payment of his fee. E 21/83, fo. 77v.

SCOTT, Robert

1512-13: smith, working on making guns, etc. TA, iv, 508, 510.

SCHOUFFENE (Schonssene), Pier (Frenchman)

1543, Aug - 1544, May: gunner in Dunbar Castle at £3 15s per month. TA, viii, 226, etc.

1544, July: entered gunner in Edinburgh Castle at £4 4s per month.

Ibid., viii, 310.

1544-1547, Oct: gunner (in Edinburgh Castle). TA, passim.

SCOUGALL, William

1603, Nov: wright (in Edinburgh Castle) at £8 per month given 27 months pay.

SRO E 21/76, fos. 314v-315r.

1617, Jan: last recorded payment to him. August 1617 and March 1618

7 months of pay claimed by his creditors. E 21/84, fos. 47r, 70r, 89r.

SCRIMGEOUR, Master John

1538: master of work, given £463 11s 3d to pay for the munitions, artillery, gun timber and craftsmen working thereon, 3 March to 7 September.

TA, vi, 445.

SELKIRK, David

1583/4, Jan: entered wright in place of James Rockno (when the latter was upgraded to master wright) at £6 per month. SRO E 22/6, fo. 151r.

1592, Oct: last recorded payment of his fee. E 21/68, fo. 141r.

SERIMIJON, Guillaume de

1478, March: Scottish cannoneer in the 4th band of artillery for the reconquest of Burgundy and the Franche-Comte. Perroy, 'L'Artillerie de Louis XI', 196n.

SETON, John

1581, Dec: gunner at £8 6s 8d monthly (in place of Charles Burdewis).

SRO E 21/61-62, fo. 169r.

1595, Oct: given back pay for period from 1 May 1587 to 1 Nov 1595.

E 21/70, fo. 175r.

1603, Nov: fee (reduced to) £8. E 21/76, fo. 314v-315r.

1606, July: last recorded payment of his fee. E 21/78, fo. 60.

SETON, Thomas

1513: gunner on the Michael. TA, iv, 507.

Henry, Lord SINCLAIR

1510/11, 13 Mar: appointed master of the artillery with fee of £100 per year, payable at the two terms. ER, xiii, 417n; RSS, i, no. 2221.

1513: died at Flodden. Cf. Hall's Chronicle, 561.

SKIRLING, John

1569, May: paid wages as gunner extraordinary from 10 December 1548 to 24 May 1549. TA, ix, 307.

SMITH, David

1567/8, Feb-May: gunner at £4 monthly. TA, xii, 111, etc.

1578, 28 July: dead when John McBen, smith was appointed at £5 monthly in his place in Stirling Castle. RSS, vii, no. 1603.

SMITH, Henry

1600, Dec: ordinary smith in Edinburgh Castle at £6 per month. SRO
E 21/74-75, fo. 91r.

See Appendix E.

SMITH, James

1484: bought wood, lead and iron for work on the king's artillery.
ER, ix, 291.

1497: gunner on the raid of Norham. TA, i, 347.

SMITH, John (1)

1564/5, 28 Feb: eldest son of Patrick Smith, wright and gunner ordinary, to succeed his father (or any other gunner) on his death. RSS, v, no. 1934.

1565, 29 Sept: appointed wright and gunner ordinary at £5 per month. Ibid., v. no. 2344.

1567/8, Jan: last record of payment of his fee. TA, xii, 67-68 (? succeeded by David Smith, q.v.).

SMITH, John (2)

1572: gunner, keeper of Perth's artillery. Perth Hammermen, p. cxxn.

See Appendix E.

SMITH, Patrick

1558, 9 June: appointed gunner and wright ordinary for life at £5 per month.

RSS, v, no. 428.

1564/5, 28 Feb: his eldest son John granted Patrick's post when he dies.

Ibid., v, no. 1934.

1567/8, Jan: last recorded payment of his fee. TA, passim.

SPANG, William

1515, Sept: smith and gunner. TA, v, 38.

SPARK, Thomas

1515, Aug: gunner. TA, v, 32.

SPENCER, Evon

1515, Aug: gunner. TA, v, 29.

STEILL, 'Sergeant' Archibald

1577, 9 Aug: appointed ordinary gunner in Edinburgh Castle for life at

£4 per month from 1 September. RSS, vii, no. 1132.

1579, Oct: last payment of fees. Described as deceased the following month

when Alexander Gilbert was put in his place. TA, xiii, 294.

STEVENSON, David

1573, May: extraordinary gunner for the siege of Edinburgh Castle, paid £4.

TA, xii, 347.

STEWART, Cornelius

1584, April: dead when John Schang, wright, was appointed in his place at £6 per month. SRO E 22/6, fo. 176r.

STEWART, John

1558, Oct/Nov: wright, and his servant, paid for mounting and dismounting Edinburgh's artillery. Edinburgh:Burgh Accts., i, 285.

1562-3: making stocks for (hand) culverins in Edinburgh Castle. TA, xi, 247-8.

1565, 29 Nov: appointed gunner and wright ordinary at £5 per month for life, on the death of Harry Anderson, having been promised the first vacancy that arose. RSS, v, no. 2460.

1572, 26 Mar: noted as having 'defected' to the Mariams in Edinburgh Castle. RSS, vi, no. 1530.

1573, 28 May: in Edinburgh Castle when it was rendered. PRO SP 52/25, no. 170.

1579, 15 Aug: reinstated as a wright at £5 per month. RPC, iii, 205-6.

1585, Dec: last record of payment of his fee. SRO E 21/64, fo. 113v.

STEWART, William

1547, July: clerk and payer of the pioneers and gadmen on the expedition to Langholm. TA, ix, 89, 94.

1550: servant of Alexander Guthrie, Treasurer clerk, made clerk of the gunners in Guthrie's place at 20 merks per year, in recognition of his labours with the munitions and paying the gunners and workmen in Edinburgh Castle. TA, ix, 447.

STOWLING, Hans

1511: Hans, gunner, mariner, paid 40s as his wage for June. TA, iv, 293.

1513: and his servant, gunners on the Gabriel. Ibid., iv, 507.

Cf. Hans (3).

STRANG, John

1480: servant of John Borar, gunner. ER, ix, 588.

STRATTON, Andrew

1548, Aug: gunner extraordinary sent with the Frenchmen to Inchcolm.

TA, ix, 227.

STRIVILING, John (1)

1494-5: gunner, in royal service. TA, i, 236.

STRIVILING, John (2)

1547, Oct: entered as gunner at £3 per month. TA, ix, 132.

1548, Oct: last recorded payment of fee. Ibid., ix, 248.

TALYEFER, Robin

1515, Aug: gunner. TA, v, 29.

THEKAR, William

1548, Nov - 1558, Sept: quarrier and gunner at £4 per month. TA, ix,
256-7, etc.

THOM, James

1577, June: entered ordinary gunner at £5 per month. TA, xiii, 170.

1579, 3 July: died. Testament given up by his widow, Margaret Spens.

Whitelaw, Scottish Arms Makers, 159; Edinburgh Reg. of Testaments, i,
s.v.

THOMSON, Harry

1579, 16 Oct: appointed gunner ordinary in Edinburgh Castle in place of
Ambrose Galloway, at £5 monthly for life, having been promised the
first vacancy that arose by the Privy Council. RSS, vii, no. 2056.

TOD, George

1548/9: given a culverin to be stocked by a Frenchman. Knox, History,
i, 104-5.

1553-4: involved in wright work for Edinburgh Town Council. Edinburgh
Burgh Accts., ii, 276, 297, 307-10, etc.

1558: appointed one of 3 gunners of Edinburgh. Ibid., i, 279.

TURNBULL, Richard

1544, Aug: gunner, sent from Edinburgh to Glasgow Castle. TA, viii,
314-15.

TROTTER, Anthony

1539, Oct: gunner in Dunbar Castle. TA, vii, 256.

1540, Sept: dead by, when Martin Cunynghame was appointed in his place
with the same fee of £3 per month. RSS, ii, no. 3640.

VACHE, Alexander

1532: gunner, sent to Tantallon Castle. TA, vi, 156.

VEILNAIF, John, Frenchman

1505: 'to ane Franch man callit Johne Veilnaif quhilk said he coud mak
gunnis, be the Kingis command, xx Franch crounis'. TA, iii, 139.

1508 (May): payment to 'the Franchman that suld mak the gunnis' (in Stirling).
Ibid., iv, 117.

1511: Master John, gunner, paid for casting brass pulleys for the king's
ships. Ibid., iv, 284.

1513: Master John, gunner in the Michael, given money to pay the rent of
his house in Linlithgow. Ibid., iv, 487.

WAICHE, Thomas

1515, Aug: gunner. TA, v, 29.

WARDLAW, Jacob

1512/13, 18 Jan: gunner, given a ducat of weight. TA, iv, 403.

1513: gunner in the Margaret. TA, iv, 507.

WATSON, (William)

1548, Aug: gunner extraordinary in Edinburgh Castle. TA, ix, 227.

WEDDERBURN, James

1544, Aug: gunner, sent from Edinburgh to Glasgow Castle. TA, viii,
314-15.

WEIR, Francis

1553, Dec: appointed gunner ordinary for life at £4 per month from 1 January.
RSS, iv, no. 2284. No payment of his fee recorded.

WEIR, William

1548, Aug: gunner extraordinary in Edinburgh Castle. TA, ix, 227.

WHITE, John (1)

1548, April: gunner, sent to Yester Castle. TA, ix, 173.

WHITE (Quhyte), John (2)

1603, Nov: wright (in Edinburgh Castle) at £8 per month, given 27 months
back pay. SRO E 21/76, fos. 314v-315r.

WHITE (Quhite), Peter

1543, 12 Aug: gunner, appointed at £3 monthly for life. RSS, iii, no. 456.
No recorded payment of his fees.

WOLF (Wollof) of Nurnberg

1510, Sept: gunner, feed from then on at £4 4s per month. TA, iv, 261, etc.

1512, Oct - 1513, June: making gunpowder in Edinburgh Castle. Ibid., iv, 440.

1513: Wolf and his man, gunners of the Gabriel in the royal fleet. Ibid.,
iv, 507.

See Master Wolf.

Master Wolf (Wollof)

(same as Wolf ?)

1518, Sept: gunner in Dunbar Castle since 1 October 1517 at £4 4s per month.

TA, v, 161-2.

1541: gunner in Dunbar Castle, paid £20 by the master of the artillery for a falcon he had made. Ibid., vii, 501.

1543, Aug-Nov: gunner in Dunbar at £4 4s per month. Ibid., viii, 226, etc.

1543-4: in service of Cardinal Beaton at St Andrews Castles. Made culverin moyens. Rent. S. Andree, 177, 180, 182.

WOLF, William

1571, Oct: feed as a gunner extraordinary at £4. TA, xii, 290-1.

1572, April: entered as ordinary gunner at £5 monthly. Ibid., xii, 309.

1573, 3 May: appointed ordinary gunner in Edinburgh Castle in succession to Charles Burdewis (at £5 monthly). RSS, vi, no. 1953.

1575, Oct: last recorded payment of his fee. TA, passim.

WOFKMAN, James

1585, Nov: entered as ordinary gunner in place of the late Alexander Honeyman at £6 per month. SRO E 21/64, fo. 108v.

WRIGHT (Wrycht), David

1466-7: working on the guns at Dunbar (Castle). ER, vii, 494.

1473-4: paid for transporting artillery from Threave Castle to Edinburgh. Ibid., viii, 216.

YOUNG, William

1548, April: gunner (extraordinary). TA, ix, 174.

YOUNGER, William

1548, April: gunner (extraordinary). TA, ix, 174.

YULE, David

1616, Mar: wright, paid for 4 months at £8. SRO E 21/83, fo. 64v.

OBJECTS OTHER THAN GUNS MADE BY SCOTTISH GUNFOUNDERS

Robert Borthwick and his successors not only worked on the making of guns but also other items such as bells, weights and measures, some of which have survived. Pulley blocks for ships' rigging and chandeliers are also known to have been made but none have been discovered.¹ Many such items were probably made by the gunfounders in their own premises as part of their normal business.

Foremost amongst surviving pieces are two bells in St. Magnus Cathedral, Kirkwall, Orkney, which have inscriptions to the effect they were made by Robert Borthwick in Edinburgh Castle in 1528. A third bell was recast by Claudius Fremy of Amsterdam in 1682, but has copies of Borthwick's original inscriptions and coats-of-arms. All three bells are still in use, but owing to their inaccessibility high up in the tower of the cathedral and a heavy patination it is difficult to form an assessment of their merit as castings. The following accounts are based on the descriptions and illustrations of previous antiquaries,² corrected and amplified where possible by a photographic survey of the bells made in 1976.

The first bell is the smallest of the three and according to Dryden measures 2ft 9ins in diameter (0.838m), 2ft 5ins high (0.737m) exclusive of the canons, and has the note middle C, quarter of a tone sharp. Below the crown are two inscription bands, separated by two wire mouldings and so bordered top and bottom. They contain the following inscription

1. TA, vii, 223; ix, 455.

2. H.E.L. Dryden, Description of the Church dedicated to Saint Magnus and the Bishop's Palace at Kirkwall (Kirkwall, 1878), 51-56; Orkney Inventory, ii, 140; NMA Soc. Antiq. MSS no. 555; W. Fraser, Memoirs of the Maxwells of Pollock, vol. 1 (Edinburgh, 1863), 404-5.

in black letter with lozenge shaped stops, spilling over into the space beneath:

'maid.be.maister.robert.maxvel.byschop.of.orknay.ye.secund.
zeir.of.his.consecration:./ye.zeir.of.gode.l^m v^c xxviii.
zeiris.ye.x^v zeir.of.Kyng.iames.ye.v/by.robert.borthwik.maid.
al.thre.in.ye.castel.of edynburgh:.'

Below the inscription are the royal arms, crowned, of Scotland, on a raised shield; the arms of Bishop Maxwell, a saltire with an annulet in the centre, surmounted by a mitre and enveloped by a ribbon; and a panel bearing the figure of St. Magnus carrying the sword of his martyrdom and flanked by 'sanctus.magnus'. This, rather interestingly, is based on the stone carving of the saint recovered from the choir of the cathedral and now in Tankerness House Museum, Orkney. It possibly formed part of a fifteenth-century tomb along with another surviving sculpture of St. Olaf. Immediately after the inscription there is a small calvary cross and 'ihs' conjoined in a monogram. The second inscription band also contains a double band of leaf scroll as a filling motif.

The second has the note A, half a tone sharp, and is 3ft 1in (0.94m) in diameter and 2ft 5ins high (0.737) exclusive of canons. It has two similar to those on the first bell, containing the following inscription:

'maid.be.maister.robert.maxvel.bischop.of.orknay.ye.secund.
zeir.of.his.consecration./the.zeir.of.god.i^m v^c xxviii.
zeiris.ye.xv.zeir.of.ye.regn.of.Kyng.iames.ye.v:.'

The first line is preceded by a calvary cross and ends with the 'ihs' monogram. Below the inscription, spaced round the bell's circumference, are the bishop's arms, the royal arms, a medallion of 'sanctus.magnus' and 'robert.borthuik'.

These two bells seem to be proficiently cast with no evidence of major flaws or cracks, despite constant use for 450 years. The technique of

making bells was similar to that for guns. The letters and other applied decorations have been formed separately in wax and fixed to the clay model of the bell, the outlines of the stamps for each being clearly visible.

The third bell, the largest of the three, has the note G quarter sharp, and is 3ft 5½ins in diameter (1.054m) and 2ft 9ins high (0.838m) exclusive of canons. It has the following inscription copied from its predecessor:

'+ MADE BY MASTER ROBBERT MAXUELL BISCHOP OF ORNEY THE YAER OF
GOD MDXXVIII/ROBERT BORTHWIK MADE MEIN THE CASTEL OF EDINBURGH
THE YEAR OF THE REIGN OF KING JAMES THE V'.

This inscription is in plain capitals in two bands separated by a wire moulding. Above, there is a continuous border of putti in foliage, and below is a border of acanthus leaves. Around the bell are arranged a medallion portrait of 'SCT MAGNUS'; the arms of the bishop with a mitre and 'VLTA2' on a ribbon below (for the motto); the royal arms of Scotland, crowned, and an oval panel bearing the following account:

'TAKEN ET BROUGHT/AGAIINE HEIR BY ALEXANDER/GEDDUS
MARCHANT IN KIRKWA/AND RECASTEN AT AMSTERDAM/JULLY
1682 YEARS BY CLAU/DIUS FREMY CITY BELL/CASTER IT
WEIGHS 1450 P'

The St Magnus and the coats-of-arms are close copies of those on the other two bells but have been completely remodelled by Fremy. Dryden³ gives us the story of the refounding of this bell, and also the following, recorded in the parish records under Monday, January 9th 1671:

'Quilkday ther happened ane fearfull and sad accident in this place
to the great astonishment and terrification of all the beholders, by
thunder and lightning which fell upon the steeple heid of the

3. Dryden, Description of the Church dedicated to Saint Magnus, 53, 55-56.

Cathedral Kirk of Orknay, called St Magnus Kirk of Kirkwall, and fyled the samen, which brunt downwards until the steeple heid, three loftings, and all the timber work pertaining to the bells and the knockhouse were consumed to ashes. But by the providence of God, the bells thereof, being thre great bells and a little one called the skellat bell, wer preserved be the care and vigilance of the Magistrats, with the help of the townes people, who were active in that so sudden a meschance, and animated thereto be the liberalitie of my Lord Bishop of Orknay, who was present'.

Under August 1682 it is recorded that the great bell being 'rift', it was sent to Amsterdam to be re-cast, perhaps because of some injury received at the burning of the steeple. The bishop and the magistrates of Orkney instructed the bearer of the bell that 'there be ane special and diligent care had that the letters already about the bell be again reformed as the samin is conform to an note thereof sent with it, together with the several arms already thereupon... That there be added thereto, underneath the said letters and arms, this line, viz. - "This bell re castin at () for Kirkwall, in anno 1682". And to mark the weight thereof upon the bell'. The old bell is said to have weighed 1500 lbs, but lost 165 lbs in casting, to which was added 193 lbs of new metal. With the weight of a new clapper, 46 lbs, the total weight of the new casting is given as 1574 lbs. The total cost was 1303 merks. Many other bells⁴ in Scotland in the 17th century were cast by Dutch founders, notably the Burgerhuys, but this bell at Kirkwall is the only one so far discovered that is the work of Claudius Fremy.

The Kirkwall Cathedral bells are the only surviving works which can definitely be attributed to the workmanship of Robert Borthwick. It is not clear whether they were done as part of the royal programme of work as there

4. R. Clouston, MS list of Scottish bells deposited in the National Museum of Antiquities of Scotland.

are no expenses connected with them recorded in the Treasurer's accounts. David Rowan was called upon by the Governor Arran to make a bell for his collegiate church at Hamilton and some brass chandeliers probably for Hamilton Castle,⁵ and the Treasurer footed the bill. On the other hand he worked privately for the burgh of Edinburgh, graithing and repairing twelve brass pillars for St. Giles in 1556, making weights and measures for the Over Tron in the same year and giving advice on taking down a bell⁶ among other things.

Preserved in Huntly House Museum, Edinburgh, is the burgh's standard choppin measure dated 1555 which is most likely Rowan's work. It may indeed have been made with the weights for the Over Tron.

The choppin measure is a thick walled cylindrival mug with a strap handle. It has a body height of 0.13m and a base diameter of 0.117 m. Its sides are about 7mm thick. Its heavy construction was necessary so that there was no risk of its capacity being altered by denting of the sides or base. On the front it is decorated with the royal arms surmounted by a crown, the date 1555, and the three towered castle of the burgh arms. Alongside is a little shield bearing an R superimposed on a D and this would seem to be David Rowan's mark. Like the marks on silver, this has been stamped on the finished article using a steel die, thus causing a very slight bump of percussion on the inside of the mug. It is not unlike in shape and design, though larger in size, some of the earliest known Edinburgh goldsmiths' marks which appear soon afterwards. On the base are stamped some small arrows which may be early control marks. The whole mug is rather clumsy in appearance and unaccountably has not been brought to a fine polished finish. This means that traces of the different stages of manufacture can be detected on it which are of no small interest in assessing Rowan's

5. TA, ix, 393, 415, 418, 455.

6. Edinburgh Burgh Accts, ii, 70, 72; i, 204; Edinburgh Burgh Recs., ~~in~~ ii, 355.

technological abilities. The interior surfaces, having apparently received no post-founding cleaning -presumably to preserve the exact capacity of the measure - have two raised casting seams running down the sides but not across the base. The main problem facing the founder was to make this measure of an exact size. An additional difficulty was the fact that custom decreed this container should be of greater width at the base than at the top. Taking these two points into consideration it seems that the casting seams can best be explained by the following interpretation of the vessel's manufacture.

The exact cubic capacity of the measure was first obtained by filling a bucket shaped vessel with the right amount of water and then substituting this by clay which was to form the core of the mould. This bucket shaped vessel - possibly a mortar - must itself have had casting seams which were transferred to the clay core and ultimately to the finished measure. Having thus formed a clay core of exactly the right size a wax model of the measure was built up over it. A greater thickness was initially made at the front which was then cut into and scraped back to leave the date and other decorative motifs standing proud. In 1589 when Rowan was making more brass weights for the town, John Barton, goldsmith, was got to make 'the forme of thrie castellis to put upone thir wechtis,'⁷ possibly because the council did not appreciate Rowan's artistic talents, as displayed on the choppin! A wax model of the handle was then attached. It was firmly held in a pair of pliers while this was being done, leaving areas of criss-cross hatching on either side of the wax handle, markings which were also transferred in the casting process to the finished measure.

When the wax model was completed a clay mould was built round it, the wax model was melted out and bronze was poured in. The measure was cast

7. Edinburgh Burgh Recs., iv, 332-3.

upside down, the metal entering through the base.

The St. Andrews pint measure, presently kept in the old Burgh Chambers of that town is also by Rowan and exhibits similar constructional features as the Edinburgh choppin. There are, however, no traces of casting seems inside it and its handle has been riveted on separately. It also has a finer finish. It is 0.1655m high and 0.159m in diameter at the base and bears the DR stamp, overstruck, the coat-of-arms of St. Andrews with S and A engraved on either side, and PINTA + SANCTEANDREÆ above. Below on a label with fishtail sides and scroll work top and bottom is engraved:

RECEPTÆ.EST.HEC.

PINTA SCOTICE.MEN

SVRA.DE.STIRVILINGO

PER PATRICAM LERMO

NTH DE DERSIE MELITM

PREPOSITAM CIVITAT

IS.SANCT ANDRIE.1574

and below that the date 1574 again. The body has been plugged to one side of the shield, possibly to hide the effects of a casting flaw. The rim has been cut out with a crude spout for pouring, probably a secondary feature.

In the Smith Institute, Stirling, there is a brass weight known as the 'Craigengelt Weight' which is the work of Master Hans Cochran. It has previously been published in the Transactions of the Stirling Natural History and Archaeological Society but its inscription was misread so that its maker and origin were not fully appreciated.⁸ It has a conical body with rounded nose in which an iron loop with a free swivelling iron ring has been set. It weighs 9.19 kg (20 lb 3.5 oz), is 0.1615m high and 0.1285m in diameter

8. W.B. Cook, 'A Municipal Relic of Old Stirling', Stirling Nat. Hist. & Archaeol. Soc. Trans (1897-8), 65-69.

at the base. Round the body in three bands is the following inscription in black letter:

'iohn cragingelt of yat ilk me coding/maid quhe he ves prouest of
striviling/anno dni m d l iii .: m : hans coqhren'

The lettering, and three fleur-de-lis used as stops, have been formed in the mould before casting, and are rather roughly done. It does not appear that stamps were used to form them as on Borthwick's bells.

EARLY FIREARMS FROM SCOTLAND

i / The following is a list of all surviving Scottish firearms dating to earlier than c. 1650, together with foreign firearms used in Scotland before that date or by Scotsmen. Weapons not seen by the writer are marked with an *. The preferred makers of the firearms are suggested where appropriate, and other possible makers can be got by cross-checking with Appendix E. More long guns might have been included in the list but for the difficulty of dating what are often composite pieces very closely. The measurements, except where otherwise noted, are in millimetres.

Long gun, wrought iron stock, 15th century.

Abbotsford, Roxburghshire. Collection of Sir Walter Scott, no. 106.

Early hand gun of wrought iron with stock ending in loop. The side pan is missing. It has probably had a hook, also now lacking, measurements:

overall length 1657

barrel length 1102

bore 21

Snap matchlock mechanism, early 16th century.

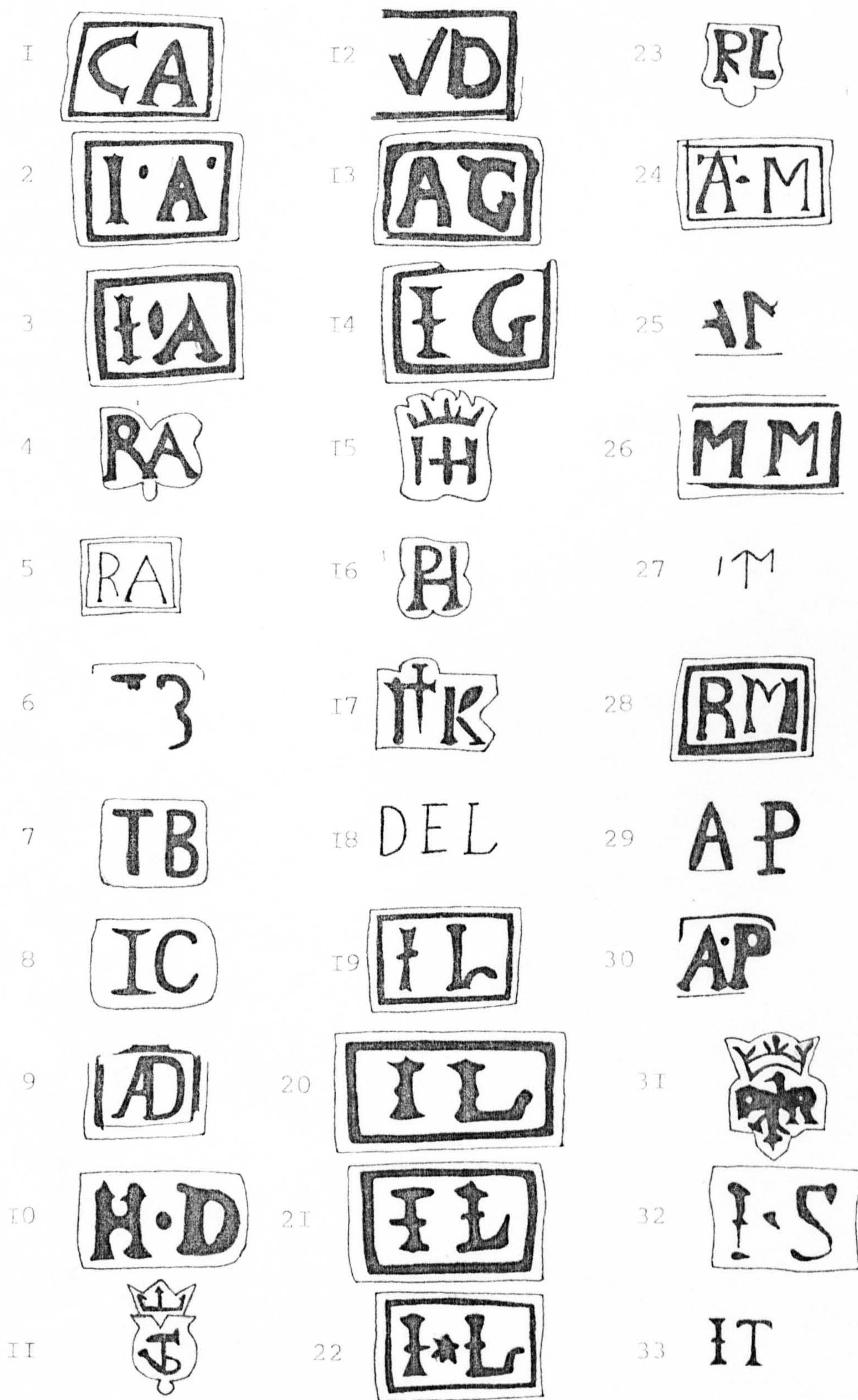
Edinburgh: National Museum, HX 91.

Badly corroded. It has a rectangular plate with remains, externally, of match-holder, mainspring and button release. On the interior are remains of the sear. It was apparently operated by a simple two lever button release. Found at Dirleton Castle, East Lothian, measurements: 120 x 16.

Carving of man shooting a gun, c. 1540.

Stirling Castle: South facade of palace at parapet level.

The gun is held to the chest, not to the shoulder.



Muzzle, bronze, of long gun barrel, 16th century.

Eilean Donnan Castle, Wester Ross, (found in castle).

Muzzle, probably blown-off when gun misfired. It has a flared mouth with a bore of about 25mm separated from the circular chase by a prominent astragal.

*The 'Bothwellhaugh Gun', said to be the weapon used to kill the Regent Moray in 1570.

Whereabouts unknown.

It appears to be a mid-17th-century German sporting gun, the wooden stock inlaid with ivory. The original lock mechanism has been replaced by a flintlock, measurements:

overall length 104

barrel length 73

Scottish National Memorials, fig. 74.

Gun barrel, DEL, 1583. Mark 19.

VI

Edinburgh: National Museum, L.1962.131.

It is inlaid with running leaf designs in copper and silver bands and plaques, including the arms, and initials, VO, of Sir Walter Ogilvie of Deskford and Findlater. DEL is stamped under the breech. There is a motto or moral, largely illegible, engraved along a brass strip in the top of the barrel.

It lacks its breech plug, measurements:

length 926

bore 15

Blair, 'Scottish Firearms, figs. 3, 4.

*Gun barrel, 1588.

Moscow: Historical Museum.

It is inlaid with foliage designs and the arms and name of David 11th Earl of Crawford.

Blair, 'Scottish Firearms', fig. 5.

Note: The Director of the Historical Museum, in correspondence, 1981, refused to supply any further information on this barrel on the grounds that it had not been published.

*Gun barrel, 1589.

Private collection.

It is inlaid with panels and plaques, including flower heads and foliage and a Virgin and Child.

Blair, 'Scottish Firearms', fig. 8.

Gun barrel, c. 1590.

Paris: Musée de l'Armée, PO 370.

Lacks its breech plug and rear sight. It is inlaid with silver strapwork, including thistles, the temptation of Adam and Eve, with copper tree and snake and silver figures, and a copper pot of lilies. It has a monogram including the letters EGH and HS for George, 6th Earl of Huntly and Henrietta Stewart his wife, and the earl's arms, complete with supporters, crest and motto. Huntly married 23 Sept. 1586 and was created Marquess of Huntly 17 April 1599. The barrel is likely to belong to sometime between these two dates, measurements:

length 810

bore 18

Blair, 'Scottish Firearms', fig. 7.

Long gun, wooden stock inlaid with engraved hartshorn, snap-hance lock, English (?), c. 1590.

Stockholm: Livrustkammaren, Inv. 1251.

Said in inventory of 1654 to be Scottish, measurements:

overall length 1633

barrel length 1294

bore 12.7

weight 4.12 kg

Cederström & Malmborg, Den Alde Livrustkammaren 1654, pl. 54, 2.

Gun barrel, 1595.

Edinburgh: National Museum, LH 277.

It is inlaid in brass along the top: BE WG (for William Gordon) OF GYCHT
ANO 1595 4 OCTOI, and across the breech S FRANCIS. There are three inlaid
bands of brass, the one at the muzzle with floral designs, the other two
with JESUS and MARIA. It was bought in Stirling in 1921.

length (excluding breech strap) 1245

bore 22

Whitelaw MS Catalogue no. 751.

Blair, 'Scottish Firearms', fig. 6.

'The Breadalbane Gun'. Long gun, wooden stock, snaphance lock, PR
(? Patrick Ramsay, Dundee), 1599. Mark 31.

VII

Edinburgh: National Museum, LH (1979).

(Formerly in the collection of the Lairds of Glenorchy).

The barrel is dated and is chiselled with a pot of lilies and the arms and
initials of Sir Duncan Campbell of Glenorchy. The maker's mark is stamped
thrice on little plates of brass inset in the barrel. It has a rear 'peep'
sight. The stock has iron mounts, and is possibly contemporary, as the
iron lock, despite the date (1)640 on its fence. The pin holding the jaws
of the lock is probably a replacement. It has an iron trigger guard.
It can be identified in early inventories of the Glenorchy family (see
above p. 418), measurements:

overall length 2083

barrel length 1701

bore 21

Sold as lot 15 at Christie's, London, 5 July 1917 (Morgan-Granville-Gavin Collection.

Wheel-lock key, late 16th-early 17th century.

Edinburgh: National Museum, HX 90.

Of iron with suspension loop on back of stem and screwdriver at top.

Found at Dirleton Castle, East Lothian.

length 148

Long gun, wooden stock inlaid with mother of pearl, snaphance lock, English (?), c. 1600.

Stockholm: Livrustkammaren, no. 1349.

The iron butt plate extends on a rod and is engraved with the arms of Spens. The initials IS occur on the barrel, presumably James or Jacob Spens, a son of Sir William Spens of Wormiston, who was a colonel in the army of Gustavus II Adolphus. In an inventory of the Livrustkammaren made in 1683 it is called 'a Scotch pellet gun' (i.e. it was not rifled). The barrel has a maker's mark, a conjoined B and N within a shield.

measurements: overall length 1053

barrel length 805

bore 11.9

weight 2.34 kg

Blackmore, Guns & Rifles, pl. 154.

*Long gun, wooden stock, wheellock, c. 1600.

Stockholm: Livrustkammaren, Inv. 1245.

Said in inventory of 1654 to be Scottish. Possibly the barrel is Scottish, but has been remounted on the Continent.

Cederstrom & Malmborg, Den Alde Livrustkammaren 1654, pl. 57, 1.

*Long gun, wooden stock, wheel lock, c. 1600.

Stockholm: Livrustkammaren, Inv. 1247.

Said in inventory of 1654 to be Scottish. Possibly the barrel is Scottish, but has been remounted on the Continent.

Cederstrom & Malmborg, Den Alde Livrustkammaren 1654, pl. 54, 4.

Wood carving, including men with firearms, c. 1600.

Edinburgh: National Museum, KL 131.

These carved panels now form part of a bookcase but are said originally to have come from a bed at Threave Castle, Kirkcudbrightshire. Certainly they seem to be the work of a craftsmen from the Galloway area. One carving shows a man with a long gun over his shoulder, another with a matchlock(?) petronel.

'The Black Gun of Newe', barrel c. 1600, Dutch.

Aberdeen: Marischal College Museum, 438.

The barrel is chiselled with flowers and foliage and the arms of Zeeland.

It has originally been mounted with a matchlock but now has an 18th-century wooden stock and flintlock. The rear sight and tang are 17th-century Scottish work. The 18th-century brass butt mount is engraved ALEXR FORBES OF NEWE 1513.

Long gun, wooden stock, snaphance lock, 1604.

Copenhagen: Tøjhusmuseet, B 344.

The stock has a trigger guard. The fence is dated 1604 and the jaws of the cock are secured by a pin from above. The stock and barrel, and most probably the lock, are later copies.

*Carving of two soldiers with guns, 1607.

Craigston Castle, Aberdeenshire, on decorative parapet.

Long gun, Brazil wood stock RA (? Robert Alison, Dundee), 1614. Mark 4.

London: Tower Armouries, XII-63.

VIII

(Formerly in the collection of Louis XIII of France).

The stock is decorated with inlaid thistles, roses, nails and stars. The barrel is of steel partly engraved with gilt strapwork and roses, the lock-plate of gilt brass. There is a steel trigger guard. It is signed and dated on barrel and lock.

It has been thought to be Prince Charles' (Charles I's) birding piece and ffoulkes identifies it as one of five 'Matchlock musquets with Indian stock and Damaske barrel with the Prince's Armes, 25s a pece' in a valuation of 1691. It probably, however, was not in the Tower at this stage, only arriving as booty from France in 1815 and 1816. It is gun no. 129 in the collections of Louis XIII of France, described in a 1729 inventory as

'On petit fusil irlandois de 4 pieds, le canon couleur d'eau, d'ore en trois endroits sur le bout, le milieu et la culasse, sur laquelle est gravé 1614; la platine de cuivre doré gravée en taille d'espargne, le chien et la batterie gravez sur un bois rouge enrichy de quelques ornemens de pointes d'argent et d'une rose, et un chardon sur la crosse'.

measurements: barrel length 965

bore 11.7

C.J. ffoulkes, Inventory of the Armouries of the Tower of London, vol. 2 (London, 1915), 340.

T. Lenk, The Flintlock (London, 1965), 16-18, 171.

Long gun, all metal construction, 161-

London: Tower Armouries, XII 1786.

The stock is of brass and has an extending butt, in the form of an openwork crown, operated by a small button on the underside of the stock. The trigger guard is original. The flintlock mechanism is an 18th-century

restoration. The brass barrel is dated. The whole gun has been gilt.

measurements: barrel length 857
bore 11.9
weight 3.66 kg

Reid, 'A Prince's Gun from Dundee'.

The 'Gunna Breachd' (spotted gun) of the Stewarts of Ardvorlich, Perthshire,
barrel c. 1620.

Private collection.

The barrel is fairly plain with an inset rectangular silver panel, no doubt
once engraved with the owner's arms. It has been restocked and mounted
with a flintlock.

measurements: barrel length 1090
bore 20

Long gun, all metal construction, snaphance lock, IL (? James Low, Dundee),
1624. Mark 21.

VIII

Edinburgh: National Museum, LH (1973).

The stock is of brass and the openwork crown butt can be extended on two
rods. The trigger guard is later and the snaphance lock has been converted
in the 17th century into a dog-lock mechanism, with combined steel and pan
cover and dog-catch. The top jaw and pin of cock are replacements, also
the trigger. The lock is marked IL and the brass barrel dated 1624,

measurements:

overall length 1234
with butt fully extended 1321
barrel length 937
bore 13
weight 3.21 kg

Maxwell, 'A brass sporting gun dated 1624'.

*Gun barrel, early 17th century.

Norwich Castle Museum, 20.62.

It is inlaid with silver wire, including thistles. Said to have been found in a ditch near East Dereham, Norfolk.

*Long gun, probably Scottish, early 17th century.

Formerly in the collection of Major the Hon. T.G. Breadalbane Morgan-Granville-Gavin, M.C. (from the armoury of the Lairds of Glenorchy ?).

Christie, Manson & Woods, Auctioneers, London, lot 8, 5 July 1917:

'An Arquebus, the stock of walnut-wood, inlaid with acorns and other motifs in engraved stag's horn, much decayed, the barrel, 49in long, of octagonal section, broadly chiselled with floral ornaments, and the motto "FURIUS JE SUIS MAIS SANS FEU JE NE PUIS", the back peep-sight is chiselled with a grotesque mask, the heavy lock is on the snaphance principle'.

*Long gun, Scottish, 17th century.

Formerly in the collection of Major the Hon. T.G. Breadalbane Morgan-Granville-Gavin, M.C. (from the armoury of the Lairds of Glenorchy ?).

Christie, Manson & Woods, Auctioneers, London, lot 21, 5 July 1917:

'A Heavy Arquebus, plain walnut-wood stock, with the butt of Highland formation, the barrel, 50½in long, of octagonal section, the lock on the snaphaunce principle'.

Long gun, wooden stock, snaphance lock, AM? (? Alexander Muir, Edinburgh), c. 1630. Mark 25.

Edinburgh: National Museum, LH (1977).

(Formerly in the collection of the Earls of Seafield, Lairds of Grant).

The curved and fluted stock with the inventory no 4 scratched on it is of late 17th century date, also the barrel, which has engraved panels of interlace. The lock alone dates to c. 1630 and is stamped AM (?). It is

of iron and has a round fence. The comb of the cock is broken off and the pin securing the jaws is a replacement.

measurements: overall length 1630

barrel length 1249

bore 21

Rifle, wooden stock, snaphance lock, lock signed IT 1671, barrel IS 1667.

Lock c. 1630? Mark 33.

Edinburgh: National Museum, LH (1977).

(Formerly in the collection of the Earls of Seafield, Lairds of Grant).

Although substantially a very fine Scottish sporting rifle of the late 17th century, the gun lock is of early snaphance type and is likely to date to c. 1630, despite the 1671 engraved on its circular fence. The lock-plate is engraved IT (e.g. for James Thomson or James Thornton, both of Dundee, or John Tweedie, Canongate). The barrel has a silver panel with the arms of Ludovic Grant, 8th Laird of Freuchie (1650?-1716) and a maker's stamp consisting of a Z and an S superimposed, flanked by stars in a shield. It may be foreign. It is dated 1667. The stock is fluted and silver mounted and dates to c. 1670.

measurements: overall length 1537

barrel length 1160

bore 20

Reid, 'Lady Seafield's Scottish Guns', 260.

Long gun, wooden stock, snaphance lock, WM 1673. Barrel c. 1630.

Edinburgh: National Museum, LH (1977).

(Formerly in the collection of the Earls of Seafield, Lairds of Grant).

Substantially a fine Scottish sporting gun of the 1670s, but the barrel is earlier, having a brass plate inset with S I G for Sir John Grant, 6th Laird of Freuchie (1596-1637). Described in an inventory of the

Grant's 'Guncage', dated 1720, as 'Sir John Grant's litle Gun' (SRO GD 248/30/3).

measurements: overall length 1175

barrel length 795

bore 16

Reid, 'Lady Seafield's Scottish Guns', 260.

Long gun, brazil wood stock, snaphance lock AP (? Andrew Philp, Dundee), 1635. Mark 30.

Edinburgh: National Museum, LH (1977).

(Formerly in the collection of the Earls of Seafield, Lairds of Grant).

The stock is fluted and inlaid with silver figures representing a hunting scene, and silver nails. On one side is a pot of lilies and a dragon (one of two originally), representing the arms of Dundee. The butt mount is also of silver. The trigger guard is original. The brass lockplate is marked AP and the round steel fence is dated 1635. The steel, top jaw and the pin securing it are replacements. The barrel is inlaid with silver and brass engraved panels and the muzzle has a brass sleeve. On a silver plaque are the arms and initials of Sir John Grant, 6th Laird of Freuchie (1596-1637) and along the length of the barrel on a narrow silver strip is the spurious legend DOMINUS JOHANNES GRANT MILES WICECOMES DE INNERNES ME FECIT IN GERMANIA ANNO 1434. The barrel may well be earlier than the 1635 engraved on the lock, but not by any more than about 50 years. The gun is described in an inventory of the Grant's 'Guncage' made in 1720 as 'The Dutch fusie with the Brass lock' (SRO GD/248/30/3).

measurements: overall length 1622

barrel length 1263

bore 16

Reid, 'Lady Seafield's Scottish Guns', 258-60.

Long gun, wooden stock, snaphance lock, barrel dated 1637.

Edinburgh: National Museum, LH (1977).

(Formerly in the collection of the Earls of Seafield, Lairds of Grant).

The stock is curved and fluted and probably dates to 1674, like the late snaphance lock signed GULELMUS SMITH (? for William Smith, gunsmith in Duthell, Inverness-shire). The barrel has four inlaid silver bands engraved with foliage and a silver strip lengthwise. The barrel itself is engraved with foliage, human heads and the arms and initials of George MacKenzie, 2nd Earl of Seaforth, and the date 1637. There are remains of gilding in the engraving. This gun is described as 'Seaforths gilt gun' in a 1720 inventory of the Grants' 'Guncage' (SRO GD/248/30/3).

measurements: overall length 1539

barrel length 1146

bore 18

Reid, 'Lady Seafield's Scottish Guns', 260.

Long gun, wooden stock, snaphance lock, HD (? Hew Duncan, Canongate),
c. 1640. Mark 10.

Glasgow: Art Gallery & Museum '39-65 u.k. (Scott Collection).

(? formerly in the collection of the Lairds of Glenorchy).

The barrel is 16th-century, and has originally been mounted with a matchlock. Stock and lock both date to c. 1640. The jaws of the cock are secured by a pin from above. On the underside of the stock is a stamped inventory number - 16.

measurements: overall length 1567

barrel length 1183

bore 21.5

Sold at auction at Christie's, London, lot 29, 5 July 1917 (Morgan-Granville-Gavin Collection).

Long gun, wooden stock, barrel c. 1640.

Edinburgh: National Museum, LH 253.

Wall gun (?). The wooden stock is fragmentary and together with the flintlock mechanism dates to the 18th century. The barrel alone dates to c. 1640. It was bought in Stirling in 1920.

measurements: barrel length 1822

Whitelaw MS Catalogue no. 744.

Long gun, wooden stock, dog lock, (1540). Barrel and stock c. 1650.

Edinburgh: National Museum, LH 278.

The dog lock is evidently a replacement since it does not fit the stock neatly. The stock may date to c. 1650, as also the barrel, which is decorated with five silver bands and has a belled mouth, almost like a blunderbuss. The stock has brass mounts, some of recent date. That at the end of the ramrod sleeve dates to the 17th century and is engraved with the Forbes arms, WF and 1540. Elsewhere is the inscription 'Wm Forbes of New 1540' in 18-19th century style.

measurements: overall length 1061

barrel length 684

bore 31

Long gun, wooden stock, flintlock, barrel c. 1650.

Carlisle Museum.

The stock and lock date to the mid 18th century. The barrel is inlaid with bands of silver and silver wire, including the initials IF, the arms of Forbes and the motto GOD GYDE THE HAND THAT I IN STAND. Possibly taken from one of the Jacobites captured at Carlisle in 1745.

measurements: barrel length 810

H.S. Cowper, 'A Jacobite Relic', Trans Cumberland & Westmorland Antiq. & Archaeol. Soc., xxxiii (1933), 133-45.

*Pair of pistols, fishtail butts, wooden stocks, IA (? James Alison, Dundee), c. 1580-90. Mark 2.

Madrid: Real Armeria. K215-K216.

The stocks have bilobate fishtails without metal mounts, the locks are signed IA and have hexagonal shaped fences. The barrels, possibly the originals, are by Anton Krug of Augsburg, and have been shortened.

measurements: overall length 410

The 'sillergun' of Kirkcudbright, 1587.

Kirkcudbright Museum.

A silver gun barrel. Although it has the size and proportions of a pistol barrel it has a tubular back sight of the type normally only found on long guns. It is engraved with the initials T.M.C. of Sir Thomas McClellan of Bombie, provost of Kirkcudbright in 1587. It is said to have been presented to the Incorporated Trades of the burgh by James VI and was used by them as a shooting prize.

Scottish National Memorials, 204, fig. 147.

Pair of pistols, fishtail butts, wooden stocks, HT 1598.

Palace of History, i, 315, no. 24.

HT = IK. See next entry.

Pair of pistols, fishtail butts, walnut stocks, IK (? John Kennedy, Edinburgh) 1598. Mark 17.

Dresden: Staatliche Kunstsammlungen Dresden, Historisches Museum, F 316.
(Formerly collection of the Princes of Saxony).

The steel barrels are blued with gilt decoration. The triggers and belt-hooks are of steel. The ramrods are of wood with metal tips and the ramrod pipes of brass. The top jaw of the cock of the right hand pistol is missing. The stock of the left hand pistol has cracked and been repaired and the bottomest fluke of its fishtail has been rounded off. Both pistols

are dated on the barrels and marked on barrels and locks.

measurements:	overall lengths	405	408
	barrel lengths	266	264.5
	bores	11.5	11.5

The 'siller gun' of Dumfries, ? 1598.

Dumfries Burgh Museum, 36.29.

A silver gun barrel of the size and proportions to fit a pistol, but with a tubular back sight, and now mounted in a 19th century silver long gun stock. It is engraved IM. If it had a date it is now covered by the attachment for a suspension chain. Said to have been gifted to the Incorporated Trades of the burgh by James VI and used by them as a prize for shooting.

length (barrel only) 175

Scottish National Memorials, 202-4.

*Pistol barrel, ramrod tip and pipe, RL (? Richard Low, Dundee), c. 1600.
Mark 23.

Private collection (G.P. Jenkinson).

The barrel is of steel with (restored) bluing and decorated areas gilt, incorporating IR in monogram surmounted by a crown. Over the maker's mark at the breech is incised the number 19, possibly an inventory number. It is said to have come from a private collection in Germany and was mounted in a modern wooden stock associated with an old German wheel lock.
Eaves, 'Further Notes on the Pistol', 314-16, pls. CXIV, CXVA.

Pistol, fishtail butt, wooden stock, iron barrel, Scottish (?), c. 1600.
Copenhagen: Tøjhusmuseet. B 345.3.

Right hand pistol. The stock is a copy made c. 1835. The ramrod is of wood. All the other parts are of iron and some, especially the trigger guard, may be replacements. This pistol was in the Danish royal collection

by 1775 when it was described as worm-eaten.

measurements:	overall length	577
	bore	13.5
	weight	1.42 kg

Lenk, The Flintlock, 20; Hoff, Dutch Firearms, 65-66.

Pair of pistols, fishtail butts, Brazil wood stocks, IL (? James Low of Dundee), 1602. Mark 19.

IX

Copenhagen: Tøjhusmuseet, B 345 a-b.

(Formerly collection of Kings of Denmark who acquired them at the end of the 17th century from the last Count of Oldenburg).

The steel barrels are blued with gilt decorated areas. They are signed and dated as are the locks. The ramrods, probably replacements, are of wood with horn tips. The belt hooks are of steel, the lock plates of brass with steel fittings and the triggers are of steel too. The fishtails (both damaged) are mounted in silver and the sides of the grips decorated with steel and brass plaques and bands.

measurements:	overall length	455
	barrel length	313
	bore	12.5

Hoff, 'Scottish Pistols in Scandinavian Collections', 199-200, pl. XXX.

Pair of pistols, fishtail butts, fruit wood stocks, AM (? Alexander Muir, Edinburgh), 1611. Mark 24.

Dresden: Staatliche Kunstsammlungen Dresden, Historisches Museum, 836, 837.

The barrels are of steel, the locks, triggers and belt-hooks of steel.

The ramrods, with ivory tips are possibly replacements. All other metal mounts are of brass. Both locks and barrels are dated but only the former have the maker's stamp.

measurements:	overall lengths	432.5	434.5
	barrel lengths	280.5	280.5
	bores	11	11

Pair of pistols, fishtail butts, all brass construction, IL (? James Low, Dundee), 1611. Mark 20.

Edinburgh: National Museum of Antiquities of Scotland, LH 325-6.

(Formerly in the collection of Louis XIII of France and Navarre).

The maker's mark and date appear on locks and barrels. The latter bear the arms of Louis XIII - two shields surmounted by a crown, France and Navarre with LOVIS XIII above and L/ROY.DE.FRAC below. The ramrod pipes are of silver and the missing ramrods may also have been of this metal. There are distinct traces of gilding on the brass.

The right hand pistol has 190 scratched on its grip. This is the inventory number of the pair in the French royal collection. In the Inventaire General des Meubles de la Couronne (Tome Quatrieme) of 1729 (quoted in the MS catalogue of the C E Whitelaw collection in the National Museum, Edinburgh) is the following entry:

'190 Une paire de pistolets pour porter au côté, montés sur des fûts de cuivre dorés, ciselés et gravés de compartments, sur lesquels est écrit LOUIS XIII ROY DE FRANCE. les platines de cuivre doré et gravé'.

They were bequeathed to the National Museum by C E Whitelaw who purchased them in 1930 from Lauder of Glasgow. He bought them from H. Furinage of London who had obtained them in Russia. They were said to have come from the Imperial Russian Collection of the Empress Catharine.

measurements: overall lengths 356

barrel lengths 222

bores 9

Whitelaw MS Catalogue, no. 846.

Pair of pistols, globular butts, all brass construction, IA (? John Alison, Dundee), 1613. Mark 3.

Stockholm: Livrustkammaren, nos. 4357, 4358 (inv. no. 1726-7).

(Formerly in the collection of the Swedish Chancellor, Count Axel Oxenstierna (1583-1654) at Tido Castle).

The barrels are exceptionally long and engraved with the arms and initials of Count Oxenstierna (AOS). Locks and stocks are dated and punched with the maker's mark. There are considerable remains of gilding.

measurements:	overall lengths	760	762
	barrel lengths	590	590
	bores	9.4	9.4

Hoff, 'Scottish Pistols in Scandinavian Collections', 203, pl. XXXII.

*? Lock plate of brass, IA (? John Alison, Dundee), 1613.

Paris: Musée de l'Armée.

*Pistol, fishtail butt, all-metal construction, c. 1620.

Whereabouts unknown.

Right hand pistol with brass stock, lock-plate and barrel. The lock has been converted to a flintlock in the 18th century but turned back into a snaphance this century. The lock plate, however, is original. The ramrod is a recent replacement.

Pair of pistols, fishtail butts, all brass construction, VD (?) 1613.

Mark 11.

Stockholm: Livrustkammaren, 4363-4 (15/228 a-b).

(Formerly in the collection of the Counts Bielke at Thureholm Castle).

Dated on barrels and locks and marked only on the latter. The belt hooks are of steel.

measurements:	overall lengths	461	459
	barrel lengths	315	314
	bores	9.3	9.4

Hoff, 'Scottish Pistols in Scandinavian Collections', 200.

Pistol, fishtail butt, all brass construction, VD (?) 1613. Mark 11.

Berlin (East): formerly in the Zeughaus.

This appears to be the pistol in the Colville collection, now in the National Museum, Edinburgh (see next entry). There is (a photograph of it when in Berlin is in the Whitelaw MSS in the National Museum).

Pistol, fishtail butt, all brass construction, VD (?) 1613. Mark 11.

Edinburgh: National Museum of Antiquities of Scotland, L.1949.90.

(N C R Colville Collection, FA 67).

Left hand pistol of a pair dated on barrel and marked on lock plate. The brass ramrod and loop at the end of the butt are modern. The steel belt hook is a restoration. The cock has been recently brazed and re-engraved.

This is apparently the pistol which used to be in the Berlin Zeughaus (A D 8675) when it had an iron ramrod and a belt hook with ASH 1672 on it.

measurements: overall length 447

barrel length 291

bore 10

Pistol, fishtail butt, all brass construction, IL (? James Low, Dundee), 1613. Mark 20.

Copenhagen: Tøjhusmuseet, no. B 1021 (acquired in 1838).

This is a left hand pistol of smaller than normal size. The snaphance mechanism has been altered to a true flintlock in the late 17th century, leaving its original lock plate with the maker's mark and powder pan with octagonal fence. The steel trigger guard was probably added at the same time. The barrel is dated at the breech and the ramrod is of iron.

measurements: overall length 372

barrel length 231

bore 10

*Pair of pistols, globular butts, all brass construction, IL (? James Low, Dundee), 1614. Mark 19.

Private Collection (R T Gwyn).

(Formerly in collections of Godfrey H Williams, M.S. Williams and G.A. Lockett).

The length of these pistols can be increased by about 100mm by unscrewing the butts and thus causing them to extend on brass rods. Dated on the barrels and marked on the locks. They are said to have been brought over from the Low Countries in 1880.

measurements: overall lengths 590.5

barrel lengths 419

bores 11

*Pistol, fishtail butt, all-metal construction, 1614.

Chicago: George F Harding Museum, no. 1486.

Left hand pistol with brass stock and barrel dated 1614. The snaphance lock is a 20th century copy of an early 17th century one, made by Andrew H. Baird, scientific instrument maker, Edinburgh, to designs by C.E. Whitelaw. The grip has RC engraved on one side.

measurements: overall length 432

Palace of History, i, 316, no. 25.

*Pair of pistols, globular butts, wooden stocks, 1614.

Sweden: Skokloster Castle, Wrangel Armoury, No. 119.

Only the dated brass barrels and snaphance locks are Scottish. The stocks are later, perhaps c. 1650, and probably Continental. They have a prominent swelling under the locks as on wheel lock pistols and are fitted with trigger guards.

Hoff, 'Scottish Pistols in Scandinavian Collections', 204, pl. XXXIV B.

Pistol, fishtail butt, wooden stock, RA (? Robert Alison, Dundee),
1615. Mark 4.

Paris: Musée de l'Armée (Pauilhac Collection). PO 817.

Right hand pistol. The barrel is of iron with gold and niello inlay,
and dated 1615. The lock-plate is of brass, marked RA, and the butt
mount of silver. The ramrod and belt-hook are of iron. This appears
to be the pistol of which there is an engraving in J M Micol, Panoplie
Européenne (Paris, 1858), pl. 12, fig. 5. It was then in the Musée de
Bordeaux, Collection Micol, and is said to have been found in the palace
of the dey at the taking of Algiers by the French in 1830. Micol identifies
it as Venetian.

measurements: overall length 435

bore 12

weight 0.695 kg

Caldwell, 'A wooden-stocked fishtail pistol', 319, pl. 25b.

Pair of pistols, fishtail butts, Brazil wood stocks, IH (? John Hadden,
Edinburgh or, more probably, James Hart, Canongate), 1615. Mark 15.

*New York: Metropolitan Museum of Art, no. 46.105, left hand pistol only
(formerly in Dresden, Historisches Museum).

Dresden: Staatliche Kunstsammlungen Dresden, Historisches Museum, no. 838,
right hand pistol only.

(both formerly in collection of William Duke of Courland (Kurzeme) 1574-1640,
now incorporated in Latvia, USSR).

The iron barrels are blued and decorated with silver bands edged with gold
strips, and bear the arms of Duke William, his initials 'W H Z C' (Wilhelm,
Herzog ZU Curland) engraved in a silver panel. Both barrels are dated
1615 at the breech and stamped with the maker's mark. Both are rifled,
having 16 V-grooves, half-turn, right twist.

The locks are also marked and dated. The iron lock-plates, the barrel tangs, belt-hooks, triggers, pickers, pin and screw heads, etc. have been gilt. The engraved silver butt mounts and the silver panels on the underside of the stock have not. The stocks are decorated lightly with engraved lines and well-modelled pointed leaves on the bulges underneath the locks. Scratched on the underside of the pistol still in Dresden is 'X03', possibly an old inventory number. The lug on the lock of the New York pistol is broken.

measurements (pistol in Dresden): overall length 498.5

barrel length 309

bore 11

*Pistol, globular butt, all brass construction, R.G. Edr (? Robert Glen, Edinburgh), 1615.

Sotheby, Parke Bernet & Co, Auctioneers, London, lot 105, 6 Dec. 1965
(also Sotheby's lot 199, 18 July 1966).

Left hand pistol in early 17th century style, though the stock is decorated all over with interlace patterns (? possibly the barrel is early 17th century). It has 1615 on the fence of the lock but in fact dates to the 19th century. It is apparently the work of Robert Glen, bag-pipe maker in the Lawnmarket, Edinburgh. Glen is suspected of making other forgeries of Scottish weapons and bagpipes.

measurements: overall length 463.5

Pistol, lemon butt, all brass construction, 1615.

Edinburgh: Scottish United Services Museum, Edinburgh Castle.

(Formerly in the N C R Colville Collection, FA 1).

Long left hand pistol with traces of gilding. It can be made even longer, by about 150mm, by unscrewing the pommel, as on the pair IL 1614.

The barrel is dated, and has the arms of Graham with the inscription

IOANAES * GRAEMVS * COMES * MONTIS * ROSARVM * (ie. the father of the famous Marquis of Montrose). Only the barrel and the stock, minus the pommel and belt hook, are original. All the rest (pommel, trigger, belt hook, ramrod and pipes) are modern or restorations. The original pommel would presumably have been more globular or barrel shaped than the present pointed version.

Although there is no maker's mark on the barrel and the lock is a replacement this pistol is likely to have been by the same maker (IL) as the pair dated 1614 judging by the quality of the decoration, general appearance and the mechanism for extending the butt. It is said (Archaeol. Journ., xl (1883), 320-1) to have been purchased in Paris in 1875 by the noted arms collector, the Baron de Cosson. It was apparently then fitted with a flintlock.

measurements: overall length 667

bore 95

*Pistol, fishtail butt, all-metal construction, 1616.

Private Collection.

Left hand lock, brass stock, lockplate and barrel.

measurements: barrel length 292

Pistol, fishtail butt, all brass construction, IL (? James Low, Dundee), 1617. Mark 20.

Edinburgh: National Museum of Antiquities of Scotland, L.1949.91.

(Formerly N C R Colville Collection, FA 16).

Left hand pistol, the barrel dated 1617. The only original part of the lock is the brass lock plate, signed IL. It has presumably been converted to a flintlock and only recently restored to a snaphance. The belt-hook and ramrod are missing.

measurements: overall length 392

bore 9.5

Pistol, fishtail butt, Brazil wood stock, RA (? Robert Alison, Dundee),
1618. Mark 4.

X

Edinburgh: National Museum of Antiquities of Scotland (purchased,
lot 167, Christie, Manson & Woods Ltd, Auctioneers, London, 20 April 1977).
(Formerly in the possession of the descendants of the 17th century diarist,
John Evelyn).

Left hand pistol with brass barrel, lock-plate and mounts. The barrel is
dated and has the arms of Caldwell of Inglis. The lock is marked RA.
The buffer is missing and the top jaw, pin and nut and comb of cock are
replacements. The barrel tang is incomplete and the ramrod and belt-hook
lacking. The stock is chipped and cracked.

measurements: overall length 438.5

barrel length 300

bore 10

Caldwell, 'A wooden-stocked fishtail pistol', 318-23, pls. 25a, 26, 27.

*Pair of pistols, lemon butts, Brazil wood stocks, IL (? James Low, Dundee),
1618. Mark 20.

Leningrad: Hermitage Museum, no. 6303.

The brass barrels, lock plates and belt-hooks are gilt. The barrels are
dated and bear unidentified arms - a crescent above a running hound. The
stocks are inlaid with engraved mother-of-pearl mounts and plaques of
stamped and engraved silver.

measurements: overall lengths 447 451

barrel lengths 304

bores 10

Tarassuk , Antique Firearms (Hermitage Museum), nos. 98-99.

(Charles Alison, Dundee)
Pistol, fishtail butt, Brazil wood stock, CA/1619. Mark 1.

London: Tower Armouries. XII - 737

(Formerly in Gurney and Londesborough Collections).

Left hand pistol with brass mounts and lock plate. The comb on the cock is a restoration. The barrel and ramrod are of steel. It is dated on the fence and marked on the lock plate.

measurements: overall length 416

barrel length 279

bore 9

Jackson & Whitelaw, European Hand Firearms, pl. III, fig. 11.

Pistol, globular butt, all-brass construction, ID. 1619.

ID = IL. See next entry.

*Pistol, globular butt, all-brass construction, IL (? James Low, Dundee), 1619. Mark 19.

Private Collection in USA.

(Formerly in collections of McCardle and C P Bedford).

Right hand pistol dated on the barrel and marked on the lock. The butt is octagonal with concave sides. The trigger is an old replacement. It has recently been fitted with a ramrod and pin and top jaw of cock. When it was actioned as lot 239 by Wallis & Wallis, Auctioneers, Lewis, 27 April 1971, the maker's mark was wrongly read as ID.

measurements: overall length 305

barrel length 216

bore 9.5

Pistol, fishtail butt, all brass construction, signed IL on lock (? James Low, Dundee) and AP on barrel (? Andrew Philp, Dundee), 1620. Marks 21, 29. Paris: Musée de l'Armée (Pauilhac Collection). PO 2846.

(Formerly in the collection of Louis XIII of France (no. 193)).

Left hand pistol, dated 1620 on the fence. The pan and the belt-hook are of steel. It is described in the catalogue of the royal collection as

follows:

'Un pistolet de 15 pouces, le canon de cuivre jaune, gravé en taill d'esparagne de grandes roses et fruits dans des compertmens avec son crochet à porter au costé, la platine de cuicre aussy gravée en taille d'espargne; le chien et la batterie de fer gravez de mesme; monté sur un fust de cuivre; fait en 1620'.

Lenk, The Flintlock (appendix).

measurements: overall length 414

bore 10.5

weight 0.87 kg

*Pistol, lemon butt, all brass construction, c. 1620.

Private collection.

Right hand pistol lacking its rammer, belt hook and powder pan. The trigger may be a replacement and there is a picker (?) screwed into the end of the butt. It is said to have a maker's stamp on the lock plate.

measurements: overall length 380

Lot 8, Phillips, Son & Neale, London, 8 Oct. 1968, illustrated in The Apollo, (Jan. 1969), 84.

Pistol barrel of brass, 1621.

Edinburgh: National Museum, LH 352.

It lacks its breech plug but the loop on the underside of the barrel indicates it was mounted with a wooden stock on a left hand pistol.

measurements: length 282

bore 10.5

*Pair of pistols, fishtail butts, with brass stocks and steel barrels, AG (? Adam Gordon, Aberdeen), 1622. Mark 13.

Private collection.

(Formerly in the Berlin Zeughaus, AD 8676 a & b).

The nuts holding down the top jaws are replacements. The ramrods have been replaced since they left Berlin. They are dated on their barrels and signed on their lock plates.

measurements:	overall lengths	435	435
	barrel lengths	297	295
	bores	10	10
	weights	0.805kg	0.812kg

Pistol barrel of brass, 1622.

Edinburgh: National Museum, L.1949.77 (N.C.R. Colville Collection).

It is from a left hand all metal pistol and has the initials CH of an owner engraved in a shield.

measurements:	length	323
	bore	12.5

*Pair of pistols, globular butts, all brass construction, 1623.

New York: Metropolitan Museum of Art, 14.25.1407 ab.

The snaphance locks have been replaced by miquelet locks of Mediterranean type and trigger guards have been added. There are pickers screwed into the ends of the butts (?). They are dated on the barrels. The belt hooks and ramrods are replacements.

S.V. Grancsay, 'Scottish Pistols in the Metropolitan Museum', The American Rifleman (Nov., 1949), 19, no. 6.

Pair of pistols, fishtail butts, all brass construction, IL (? James Low, Dundee), 1624. Mark 22.

Glasgow: Art Gallery & Museum, '40-45h, i.

(Formerly collection of C.E. Whitelaw).

All of brass except the moving parts of the locks, the pans, the triggers and belt hooks. The ramrods and one ramrod pipe are restorations. The upper jaw, bolt and nut of left-hand cock and the upper jaw of the right-

hand cock have been replaced. They are marked and dated 1624 on the locks. They have the date 1626 on the barrels, the 6s very deeply cut to obliterate the underlying 4s.

measurements: overall lengths 430

bores 9.5

Whitelaw Collection MS Catalogue, no. 887.

Pistol, globular butt, all brass construction, IL (? James Low, Dundee), 1624. Mark 21.

Private collection.

Right hand pistol, marked on the lock and dated on the barrel. There is a picker srewed into the end of the butt. The top jaw and the crest of the cock are restorations, possibly also the ramrod.

A. Montgomerie, 'Pistolmakers of Scotland', Scottish Field (May, 1954), 38.

Pistol, lemon butt, fruit wood stock and brass barrel, RM (? Robert Mosman, Canongate), 1625. Mark 28.

XI

Edinburgh: National Museum, LH 283.

(Formerly in the collection of C.E. Whitelaw).

Right hand pistol. The lock plate is of brass, the trigger and belt-hook of iron. The ramrod is lacking but when purchased by Whitelaw in 1914 it had an inaccurate restoration. It is marked on the lock plate and dated on the barrel. The butt is pierced with pin holes for attaching metal-plates.

measurements: overall length 381

barrel length 246

bore 11

Whitelaw Collection MS Catalogue, no. 707.

C.E. Whitelaw, 'Note on a "Dag" or Pistol with Snaphaunce Lock and Pear-shaped Butt', Proc. Soc. Antiq. Scot., xlix (1914-15), 79-80.

*Pistol, lemon buff, brass stock and steel barrel.

(Formerly in the collection of A.E.L.F. Pitt Rivers).

'Pistol or "Dag" with snaphaunce lock, left hand. Stock of brass engraved, butt of truncated lemon shape pierced, barrel of steel, octagonal and slightly bell-mouthed. Length $16\frac{3}{8}$ in'.

Palace of History, i, 313 (case 19, no. 2).

*Pistol barrel of brass, early 17th century.

New York: Metropolitan Museum of Art.

Mounted in early 18th century wooden stock with lock by W. Green of London.

It is engraved with the initials WL of an owner.

S.V. Grancsay, 'Scottish Pistols in the Metropolitan Museum', The American Rifleman (Nov., 1947), 20, no. 9.

*'A pair of miniature Scottish snaphaunce belt pistols in late (sic) 17th century style, the octagonal barrels with bulbous muzzles, the locks and hammers with incised line decoration, one pistol with right hand lock, the other with left hand lock, three-quarter length brass stocks engraved with scrolls and with octagonal ball butts, $7\frac{1}{2}$ in'.

Sold at auction, Sotheby's, London, lot 79, 14 Dec. 1970.

Apparently modern copies of early 17th century Scottish pistols.

Pistol, all metal construction, EC 1627.

Germany: Sigmaringen Museum, Wurtemberg.

This pistol is listed in Whitelaw & Jackson, European Hand Firearms, 100.

Evidently the all iron globular butt pistol,

IG 1627, now in the National Museum, Edinburgh, is intended. See next entry.

Pistol, globular butt, all iron construction, IG (? James Gray (1), Dundee), 1627. Mark 14. XI

Edinburgh: National Museum, LH 324.

(Formerly in the collection of C.E. Whitelaw, and before that in the Hohenzollern Armoury in Sigmaringen Castle near Stuttgart, Germany).
Right hand pistol with both lock and barrel marked and dated. The belt hook, ramrod and pipe are replacements, also sear spring (?).

measurements: overall length 355

barrel length 228

bore 12.5

Whitelaw Collection MS Catalogue, no. 840.

NB. this is the pistol illustrated as pl. 57c in volume 1 of J.F. Hayward, The Art of the Gunmaker (London, 1962), where it is wrongly attributed to the Kindig Collection, York, Pennsylvania.

Pair of pistols, globular butts, brass stocks, steel barrel, IL (? James Low, Dundee), 1627/9. Mark 21.

Stockholm: Livrustkammaren, nos. 4370, 4371 (39/71 a-b).

(Formerly in the armoury of Angsö Castle).

The pommels are pierced and fitted with pickers. The brass locks have been converted into flintlocks, the belt hooks removed and trigger guards added. The steel barrels are Scottish and parcel gilt, but apparently not those originally intended for the stocks which were probably of brass and rather longer. The backs of the stocks are engraved E.R.S. The locks are marked and the barrels dated 1627 - or 1629?

measurements: overall lengths 563 575

barrel lengths 429 427

bores 13.5 13.5

Hoff, 'Scottish Pistols in Scandinavian Collections', 203-4, pl. XXXIVA.

*Pistol, lemon butt, wooden stock and brass barrel, (possibly Edinburgh/Canongate maker), 1627.

Private collection.

Right-hand pistol. The eight-sided pommel is encased in brass. The lock plate is of brass, the trigger and pan of steel. The ramrod and belt hook are restcrations. The comb of the cock is broken off and the nut securing the top jaw is a replacement. The stock is said to be Brazil wood. The barrel is dated 1627 and has the initials ID of an owner.

measurements: overall length 420

Lot 36, Sotheby's, Lodon, 17 July 1972; lot 140, Christies, London, 15 Feb. 1978.

Pair of pistols, globular butts, brass stocks, steel barrels, IL (? James Low, Dundee), 1629. Mark 22.

Stockholm: Livrustkammaren, nos. 4355, 4356 (5685-6).

(Formerly in Thureholm Castle, seat of the Counts Bielke).

The stocks are gilt and the pommels decoratively pierced and fitted with pickers. The barrels are parcel gilt. Marked on brass lock plates and dated on barrels.

measurements: overall lengths 659 660

barrel lengths 496 497

bores 13.1 13.2

Hoff, 'Scottish Pistols in Scandinavian Collections', 203, pl. XXXIII, A.

Pistol, fishtail butt, wooden stock, CA (? Charles Alison, Dundee), 1630. Mark 1.

Paris: Musée de l'Armée, PO 816 (Pauilhac Collection).

Right hand pistcl with brass mounts and steel barrel. The lock plate is of brass and marked and dated, the barrel is dated as well.

measurements: overall length 432

bore 13

weight 0.685 kg

Caldwell, 'A Wooden-Stocked Fishtail Pistol', pl. 25c.

*Pistol, globular butt, brass stock, steel barrel, IG (? James Gray, Dundee), 1630. Mark 14.

Private collection.

Right hand pistol. The brass lock plate is stamped IG, the barrel dated.

The picker, belt hook, top jaw, screw and fence are restorations.

measurements: Overall length 438
barrel length 300
bore 13.7

Lot 240, Sotheby's, London, 20 Dec. 1965.

*Pair of pistols, globular butts, wooden stocks, RM (? Robert Mosman, Canongate), 1630.

(Formerly in the Armoury of the Schwarzburg, Thuringia, East Germany, (nos. 1257-8), they are illustrated, and described in Zeitschrift für historische Waffenkunde, iv (1906-8), 361-2, as follows:

'Sie sind, mit Ausnahme von Schloss und Gürtelhaken, durchaus von Messing. Der gravierte Lauf ist 27,5cm lang, erst kantig, dann an der Mündung rund und durch einige Ringe verstärkt, und ist mit P.S.L. und der Jahreszahl 1630 bezeichnet. Die gleiche Jahreszahl findet sich auch an der Pfanne des Schnapphahn schlosses. Dieses ist nach niederländischer Art gearbeitet, indem Batterie und Pfannendeckel getrennt sind, und in allen Teilen schön graviert. Auch der messingene Schaft mit den Buchstaben R.M. bezeichnet, und in einer kantigen Afterkugel endigend, ist mit Gravierung geschmückt. Ossbahr vermutet für diese Pistolen einen schottischen Ursprung. Dem steht zwar die Angabe des Inventars von 1686 entgegen, das sie "ein Paar Schwedische ganz Messinge Pistollen am Gurth zu führen", nennt, aber die Bezeichnung "Schottisch" dürfte doch zu Recht bestehen... Vielleicht sind diese Pistolen in Dreißigjährigen

Kriege von Schweden mit nach Deutschland gebracht worden und dadurch die Bezeichnung "schwedisch" in das Inventar gekommen'.

The pistols have pickers in their butts and trigger guards have been added.
Note: the collection of arms and armour from the Schwarzburg is now in the Staatliche Museen Heidecksburg, Rudolstadt, East Germany. They were not on display there in March 1981 and it was impossible to get any information on them.

Pistol, globular butt, all-metal construction, IB (?), c. 1630. Mark 6.
Private collection.

The stock is of iron. The butt has a picker screwed into the end. The brass lock plate is stamped IB (?). The iron barrel is inlaid with silver bands.

*Pair of pistols, lemon butts, brass stocks, AD (? Alexander Dunbar, Perth). c. 1630. Mark 9.

(Formerly in the Zeughaus, Berlin. AD 8677 a-b).

The barrels are of steel, the butts are decoratively pierced, the fences are circular. The ramrods are of iron. One of the locks is lacking its upper jaw and steel.

measurements:	overall length	440
	barrel length	310
	calibre	13.5
	weights	0.715 and 0.7 kg

Pair of pistols, lemon butts, fruit wood stocks, PH (? Patrick Hamilton, Canongate), c. 1630. Mark 16.

Copenhagen: Nationalmuseet, II dept. no 10457 (on loan to Tøjhusmuseet, B 344, 1-2).

(Formerly in the Danish royal collection).

The barrels are of brass and have an owner's initials, AS, in a shield. The ramrods are of wood and very slender. Possibly the originals were of metal. The lock plates are of brass and the triggers and belt hooks of steel. The stocks have brass insets and mounts, the butts being totally encased. It has been suggested (T. Mitchell, The History of the Scottish Expedition to Norway in 1612, (London, 1886), 126) that these belonged to a Col. Sinclair, commander of a party of Scottish troops who were annihilated in the Gudbrand Valley in Norway on their way to take up service in Sweden in 1612. The leader of the men, however, was Captain George Sinclair, so that the AS initials on the pistols do not fit, and it is unlikely that they are as early as 1612 anyway.

Hoff says they were presented to the Danish-Norwegian king Christian V in 1690 by Lt. General Johan Wibe, G.O.C. North Norway.

measurements:	overall length	420
	barrel length	270
	bore	10.5

Hoff, 'Scottish Pistols in Scandinavian Collections', 200-3, pl. XXXI.

Pistol, lemon butt, brass lock plate, iron stock and barrel, IL (? James Low, Dundee), c. 1630. Mark 22.

Private collection.

Right hand pistol which is substantially 17th century in date but the parts do not all belong together and there has been recent considerable and unacceptable restoration. The lock, which does not belong with the stock is of good quality and signed IL. It has a small circular fence with the date 16-1 (badly corroded). The pan cover is a modern replacement, steel and steel spring 17th-century replacements. The trigger has been re-hung and seems out of proportion (a replacement?). The stock has been cut back internally to fit this lock. The decoration on the eight-sided butt is modern. The pricker is a replacement of the wrong size. The belt hook

is a modern replacement. The barrel has recently been over-cleaned and the decoration at the flared muzzle is modern.

Note: The above description is based on a study made of the pistol in June 1979. It was sold at Sotheby Parke Bernet & Co. Auctioneers, London, as lot 19, 19 March 1973 at which time it had not been over-cleaned and re-decorated.

Pistol, lemon butt, fruit wood stock, RM (? Robert Mosman, Canongate), c. 1630. Mark 28.

Edinburgh: National Museum, L.1949.76 (N.C.R. Colville collection).

Right hand pistol. The stock has brass mounts and the pommel is covered in brass. There is a picker in the butt. The belt hook is of iron. The trigger, buffer and ramrod are missing and the top jaw and pin of cock are replacements. It is marked RM on the brass lock plate. The brass barrel is a recent inaccurate copy.

measurements:	overall length	402
	barrel length	256
	bore	11.5

*Pistol, globular butt, all metal construction, c. 1630.

London: The Tower Armouries. XII 1682.

Left hand pistol with brass stock, lacking its barrel. The iron snaphance lock has been converted into a flintlock, perhaps about the middle of the 17th century. The jaws of the cock (the original one) are secured by a pin from above. Found in the River Nenagh, Co. Tipperary, Ireland, in June 1957.

measurements:	present length	315
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Pistol, wooden stock, English dog-lock, c. 1630.

Whereabouts unknown.

This pistol is illustrated as pl. XXVIII, 1, in Drummond's Ancient Scottish Weapons. It appears to be of normal English type for the period except

that the barrel may be Scottish. It seems to be of iron with a flared mouth and brass bands.

Pair of pistols, globular butts, fruit wood stocks, English ?, in a Scottish style, c. 1630.

Sweden: Skokloster Castle, 5551-2.

The brass pommels are decoratively pierced, the wooder stocks are inlaid with brass wire and stars. The fences are cast with cherubs' heads, the barrels are of brass.

measurements:	overall length	388	390
	barrel length	255	255
	bore	10.5	10.2

Hoff, 'Scottish Pistols in Scandinavian Collections', pl. XXXIV B.

*Pistol, lemon butt, all-metal construction, AD (? Alexander Dunbar, Perth), 1631. Mark 9.

Private collection.

Right hand pistol with brass stock, lock plate and barrel, signed AD on lock and dated 1631 on the round fence. The trigger, steel, pan-cover, steel spring, cock and ramrod are replacements. The present cock is of English type and it has a flintlock combined steel and pan cover. It has probably been converted to a flintlock at some stage.

measurements:	barrel length	267
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Pistol, globular butt, all brass construction, MM (? Mungo Mosman, Canongate), 1631. Mark 26.

Edinburgh: National Museum, L.1949.75 (N.C.R. Colcille Collection).

Left hand pistol, dated on barrel and marked on lock plate. The picker is missing and the steel belt hook is possibly of later date.

measurements:	overall length	413
	barrel length	285
	bore	11

Note. It was purchased at auction, Messrs A Fraser & Co, Inverness, in Sept 1910

Pair of pistols, lemon butts, stocks of brass and iron, VD, 1633.

Mark 12.

Sweden: Skokloster Castle, 5561-5562 (Wrangel Collection 90).

The hind parts of the stocks are of iron, the fore parts of brass. The brass butts are decoratively pierced and fitted with pickers. The barrels are of steel, their mouths decorated with eight annulets. They are dated on the barrels and marked on their lockplates. The top jaw and pin of both cocks are missing.

measurements:	overall length	325	325
	barrel length	195	195
	bore	12.8	12.7

Pair of pistols, globular butts, all brass construction, IS (? John Smith, Perth), 1633. Mark 32.

Sweden: Skokloster Castle, 5559-5560 (Wrangel Collection 89).

The butts, made in one piece and pieced for pickers, are likely to be replacements. The fore part of one barrel and the belt hooks are missing. The triggers and one remaining ramrod are of iron. Dated and marked on the locks. The IS is engraved, not stamped.

measurements:	overall length	360	310
	barrel length	245	200
	bore	10.9	10.6

Pair of pistols, lemon butts, all metal construction, AD, 1634.

Whitelaw & Jackson, European Hand Firearms, 100.

AC = AG. See next entry.

Pair of pistols, lemon butts, all brass construction, AG (? Adam Gordon, Aberdeen), 1634. Mark 13.

Aberdeen: Marischal College Museum.

The butts are lenticular in cross section and fitted with pickers. The

triggers, belt hooks, fences and ramrods are of steel. They are dated on the barrels and marked on the lockplates.

measurements:	overall length	426	425
	barrel length	285	284
	bore	11.5	11.5

Whitelaw & Jackson, European Hand Firearms, pl. IV, fig. 13.

Pistol, globular butt, iron stock, IL (? James Low, Dundee), 1634. Mark 21.

Glasgow: Art Gallery & Museum, '40-45ae.

(Formerly in collection of C.E. Whitelaw).

Left hand pistol. The brass lock plate is marked IL and has a circular iron fence. The steel and buffer are restorations. The stock and barrel are of iron. The picker is missing. It is likely that it is only the lock which is the work of IL and it could be earlier than 1634, the date on the barrel.

measurements:	overall length	423
	barrel length	305
	bore	13

Whitelaw MS Catalogue, no 100 (Palace of History, i, 314, no. 7).

*Pair of pistols, globular butts, brass stocks, RA (? Robert Alison, Dundee), 1635. Mark 5.

Poland, Cracow National Museum. MNK. V-1445 a-b.

The butts are decoratively pierced and fitted with pickers. The locks are marked and dated. The barrels are of steel and engraved with the initials IB and a coat-of-arms, three cushions (?) between a chevron - for Brisbane(?).

measurements:	overall length	410
	barrel length	266
	bore	13

A. Labinowicz, Bron Palna Europejska (Kraków, 1966), 18, pl. 20.

Pistol, wooden stock with extending butt, c. 1635.

Edinburgh: National Museum, L.1949.83 (N.C.R. Colville Collection).

The brass barrel is mounted in a wooden stock with an iron dog-lock of English type. The iron trigger guard unfolds to form a butt extension, locked in place by a small spring catch. It has an iron belt hook.

measurements:	overall length (folded)	503
	overall length (unfolded)	665
	barrel length	317
	bore	11

Pistol, lemon butt, fruit wood stock, c. 1640.

Edinburgh: National Museum, L.1949-78 (N.C.R. Colville Collection).

Left hand pistol. The pommel is covered with brass and the other mounts on the stock are of the same metal. The barrel, belt hook and trigger are of steel. The steel lock has a circular fence and the jaws of the cock are secured by a pin from above. The crest on the back of the cock is broken off. Said to have been found in 1949 while demolishing an old house at 71 Saltmarket, Glasgow.

measurements:	overall length	406
	barrel length	269
	bore	14

Jackson & Whitelaw, European Hand Firearms, pl. IV, fig. 15.

Pistol, fishtail butt, fruit wood stock, MM (? Mungo Mosman, Canongate), 1645. Mark 27.

Edinburgh: Royal Scottish Museum, 1905, 753.

(Formerly in the collection of Noel Paton).

Left hand pistol. The stock has silver engraved mounts and a picker in its butt. The barrel and belt hook are of steel. The ramrod pipes are of steel and the ramrod is missing. The steel is a modern replacement and the buffer and, internally, the rod connecting tumbler and pan cover,

are missing. The date is scratched on the side of the barrel.

measurements: overall length 407

barrel length 261

bore 17

A.V.B. Norman, Arms & Armour in the Royal Scottish Museum (Edinburgh, 1972),
no. 69.

Pistol, globular butt, brass stock, 1645.

Edinburgh: Royal Scottish Museum, 1905.744.

(Formerly in the collection of Noel Paton).

Right hand pistol. The butt is decoratively pierced and fitted with a
picker. The barrel and belt hook of iron. The brass ramrod may be a
replacement. It is dated on the fence.

measurements: overall length 324

barrel length 214

bore 14

A.V.B. Norman, Arms & Armour in the Royal Scottish Museum (Edinburgh, 1972),
no. 68.

Pistol, lobe butt, iron stock, 1647.

Edinburgh: National Museum, L.1949.117 (N.C.R. Colville Collection).

Left hand pistol. The iron barrel is inset with engraved bands of silver.
It is dated on its circular fence. The lock mechanism is of late snaphance
type, this being the earliest dated example of the type.

measurements: overall length 413

barrel length 289

bore 15.8

Note. It was purchased at auction at Messrs A. Fraser & Co, Inverness,
Sept. 1910.

Whitelaw & Jackson, European Hand Firearms, pl. IV, fig. 16.

*'An extremely rare mid-17th century Scottish all-steel left hand Snaphaunce Belt Pistol 19 in., barrel 13 in. with fluted breech and facettted muzzle, the lock of typical early Scottish Snaphaunce type with brass plate engraved overall and circular fence to pan, engraved and dated 1648, plain fullstock with pronounced ramshorn butt, spherical trigger and pierced pricker, steel ramrod, long plain belt hook ...'.

Sold at auction, Wallis & Wallis, Lewes, 27 April 1981.

It seems that only the lock, which has an unread maker's mark on it, is genuine, probably earlier than 1648.

Pair of pistols, lobe butts, all iron construction, TB (? Thomas Bruce, Edinburgh), 1650. Mark 7.

Edinburgh: National Museum, LH 296-7.

Marked on lock plates, dated on their circular fences.

Probably the pair of pistols said to have been found in the thatch of an old tenement in the Saltmarket, Glasgow, when it was being removed (The National, 22 June 1844 - where pistols are said to be dated 1651).

measurements:	overall length	375
	barrel length	252
	bore	16

Whitelaw MS Catalogue, no. 824.

Pistol, globular butt, brass stock, IC (? James Clark, Edinburgh), c. 1650. Mark 8.

Glasgow: People's Palace, '74-29.

Left hand pistol. The butt is decoratively pierced and fitted with a picker. The lock plate is of brass and is marked IC. The fence is round and the jaws of the cock are secured by a pin from above. The crest on the back of the cock is broken off. The buffer is missing. The ramrod, belt hook and trigger are of iron. The muzzle has traces of gilding. Found near the

site of Partick Castle, Glasgow.

measurements: overall length 330

barrel length 196

bore 15.5

Jackson & Whitelaw, European Hand Firearms, pl. IV, fig. 14.

SCOTTISH HAND FIREARMS MAKERS

The following list includes all known makers of hand firearms who had completed their apprenticeships by the (arbitrary) date 1650. The bulk of the information has already been published in Charles Whitelaw's Scottish Arms Makers (London, 1977) - hereafter referred to as Whitelaw - but it is repeated here in order to present various corrections and additions more meaningfully. The list is arranged alphabetically by makers' names rather than by place of work, as in Whitelaw.

FIREARMS MAKERS : Numbers per town before 1650.

Aberdeen	: 6	Glasgow	: 17
Ayr	: 2	Perth	: 14
Blantyre	: 1	Preston	: 1
Brechin	: 6	St. Andrews	: 10
Canongate	: 81	Stirling	: 14
Dundee	: 45	Stranraer	: 1
Edinburgh	: 50	Winchburgh	: 1
Elgin	: 1		
Falkirk	: 1		

ACHESOUN, Michael. Edinburgh

1635: gunstocker, in Amsterdam. Kist et al Dutch Muskets And Pistols, Appendix.

1644, 24 Jan : wright, made burgess by Act of Council. Edinburgh Burgesses, i, s.v.

1651, 29 Dec : described as gunstocker when his son Frederick was

bound apprentice to John Tweedie, younger, locksmith.

Whitelaw, p. 138 (Edinburgh Hammermen Recs).

1658, 8 Dec : described as deceased when his son John was bound
apprentice to Gavin Nisbet, cordiner. Ibid., p. 139.

ADAMSON, Alexander. Edinburgh

1575/6, Jan : Apprenticed to John Watt, locksmith. EBA Edinburgh
Hammermen Recs., ii, 242v.

1581/2, 27 Feb : paid £19 for his upset. Ibid., ii, 243v.

1584/5 : described as dagmaker in the NE quarter. EBA Reg of Extents, i.

1586-93 : described as dagmaker in the SE quarter. Ibid.

1593, 10 May : condemned to 'xxxs of unlaw for bying of unfremans work
for the second falt, and David Edgar and Petir Spens each 10s
for the first fault, and the said Alexander to be reconsileit
to John Watt and David Cas, and ordains the Laird Drumlangrikis
hagbuttis to be partit as follows viz. to David Cass vij
hagbuttis, David Edgar vij, Petir spens vj, price of the pece
when thay ar outred x merkis, and Alexander Adamson sall haif
vjs viij of proffite of ilk hagbut therof and the said
Alexander sall tak the samyn hagbuttis of thair handis als sone
as thay ar maid being sufficient wark and sall pay for the samyn
as his ressait thereof' EBA Edinburgh Hammermen Recs., iii, 74r.

1596, March : noted in a list of hammermen as dead but his name
presumably added after this date. Ibid., iii, 89r.

1602, 18 June : is forbidden to live in Leith under the pain of loss of
his freedom. Edinburgh Burgh Recs (1589-1603), 308.

(ALISON, Alexander). Dundee

1610, 6 Nov : admitted freeman as son and heir apparent of John Alison,
gunmaker. No trade given. Whitelaw, 48 (Dundee Hammermen
Lockit Bk).

ALISON, Andrew. Dundee

1587, 26 Dec : included as a gunmaker in a list of the masters of the
hammermen. Warden, Burgh Laws of Dundee, 473.

Apprentice : John Prent, booked 1588.

ALISON, Charles. Dundee

1622 : deacon of hammermen. NMAS photos of Dundee Hammermen Lockit Bk.

1663, 8 April : signs statute in Dundee Hammermen Lockit Bk. Warden

(Burgh Laws of Dundee, 486) misread his trade as 'gauirsmyth'

but a photo in the NMAS shows he was a gunsmith.

? maker of wooden stocked fishtail pistol signed CA, in Musée de L'Armée,

Paris and another similar pistol, CA 1619 in the Tower Armouries,

London.

(ALISON, David). Dundee

1602, 28 June : admitted freeman as son of Peter Alison, gunmaker. No

trade given. Whitelaw, 48 (Dundee Hammermen Lockit Bk).

ALISON, James (1). Dundee

1587, 26 Dec : included as a gunmaker in a list of the masters of the

hammermen. Warden, Burgh Laws of Dundee, 473.

1589 : deacon. Whitelaw, p. 48 (Dundee Hammermen Lockit Bk).

1611, 8 July : described as deceased. Whitelaw, p. 48 (Dundee Hammermen

Lockit Bk).

Apprentices : Andrew Philp, booked 1589; James Gray (1), admitted

freeman 1600.

Sons : Robert Alison (2) admitted burgess 1593, John Alison (2), admitted

freeman 1611.

? maker of pair of wooden stocked fishtail pistols signed IA in the

Real Armeria, Madrid.

ALISON, James (2). Dundee

1612, 3 July : note in David Wedderburne's account book that he had lent his bandeleer and two velvet flasks covered with iron to James Alison, 'son to little John Alison'. Wedderburne's Acct Bk, 190.

Son : James Alison (3), admitted freemen 1653 (described by Whitelaw, p. 48 as James Alison (2)).

? maker of pair of all-metal globular butt pistols, IA 1613, in the Livrustkammar, Stockholm and pistol lock, IA 1613 in the Musée de l'Armée, Paris - but see also John Alison (1) and (2).

ALISON, John (1). Dundee

1586, 2 April : witness, described as smith. Wedderburne's Acct Bk, 35.

1587, 26 Dec : included as a gunmaker in a list of the masters of the hammermen. Warden, Burgh Laws of Dundee, 473.

1594, 7 June : described as Little John Alison the smith. Wedderburne's Acct Bk, 42.

Apprentices : John Carail, admitted freeman 1591- Duncan Horing, booked 1591.

Son : Alexander Alison, admitted freeman 1610.

? maker of pair of all-metal globular butt pistols, IA 1613, in the Livrustkammar, Stockholm and pistol lock, IA 1613, in the Musée de l'Armée, Paris - but see also James Alison (2) and John Alison (2).

(ALISON, John (2)). Dundee

1611, 8 July : lawful son of the late James Alison (1), gunmaker, admitted freeman. No trade given. Whitelaw, p. 49 (Dundee Hammermen Lockit Bk).

? maker of pair of all-metal globular butt pistols, IA 1613, in the Livrustkammar, Stockholm and a pistol lock signed IA 1613 in the Musée de l'Armée, Paris - but see also James Alison (2) and John Alison (1).

ALISON, John (3). Dundee

1643, 15 Jan : son of Patrick Alison, dagmaker, admitted freeman.

Trade not given. Whitelaw, p. 49 (Dundee Hammermen Lockit Bk).

1663, 8 April : describes himself as a gunsmith when he signed a statute in the hammermen's Lockit Book. Warden, Burgh Laws of Dundee, 486.

ALISON, Patrick. Dundee

1626, 14 Feb : described as gunmaker when his apprentice, James Thornton, was booked. Whitelaw, p. 52 (Dundee Hammermen Lockit Bk).

1643, 15 Jan : described as dagmaker when his son, John Alison (3) was admitted freeman. Whitelaw, p. 49 (Dundee Hammermen Lockit Bk).

Apprentice : James Thornton, booked 1626.

Son : John Alison (3), admitted freeman 1643.

ALISON, Peter. Dundee

1587, 26 Dec : included as a gunmaker in a list of the masters of the hammermen. Warden, Burgh Laws of Dundee, 473.

?1590 : had David Wedderburne's gun. Wedderburne's Acct Bk, 26.

1599, 3 July : described as deceased. Whitelaw, p. 49 (Dundee Hammermen Lockit Bk).

Apprentice : John Black, booked 1592.

Sons : Robert Alison (2), admitted freeman 1599; David Alison, admitted freeman 1602.

ALISON, Robert (1). Dundee

1570, 26 Sept : admitted burgess as faber ferrarius. NMAS Whitelaw MSS
extracts from Dundee Burgess Roll (also Wedderburne's Acct Bk,
12n).

1587, 26 Dec : included as gunmaker in a list of the masters of the
hammermen. Burgh Laws of Dundee, 473.

Workshop : in Well-gate? Wedderburne's Acct Bk, 12.

(ALISON, Robert (2)). Dundee

1593, 17 July : admitted burgess as son of James Alison (1) smith.
Described as smith. NMAS Whitelaw MSS extracts from Dundee
Burgess Roll (also Wedderburne's Acct Bk, 170n).

1612, 27 July : described as elder, smith. Wedderburne's Acct Bk, 170.
? maker of long gun, RA 1614, in Tower Armouries, London, wood stocked
fishtail pistol, RA 1615, in the Musée de l'Armée, and a similar
pistol, RA 1618, in the National Museum, Edinburgh.

ALISON, Robert (3). Dundee

1599, 3 July : son and heir of the deceased Peter Alison, gunmaker.
Whitelaw, p. 49 (Dundee Hammermen Lockit Bk).

1627, 18 Dec : described as gunmaker burgess when his apprentice James
Thomson was admitted freeman. Whitelaw, p. 49 (Dundee Hammermen
Lockit Bk).

Apprentices : James Thomson, admitted freeman 1627; Alexander Duncan,
booked 1627.

? maker of pair of all-metal globular butt pistols, RA 1635, in the
National Museum, Cracow.

ARCHIBALD, Patrick. Edinburgh

1580, 26 April : testament of, dagmaker, registered (died Sept. 1579).
Edinburgh Reg. of Testaments, i, 13 (SRO CC 8/8/7).

BALCANQUALL, Patrick. Dundee

1592, 7 Aug : booked apprentice to Patrick Ramsay, gunmaker. Whitelaw,
p. 49 (Dundee Hammermen Lockit Bk).

BARCLAY, David. Edinburgh

1601, 18 Aug : booked apprentice to John Kennedy (1) dagmaker. Whitelaw,
p. 140 (Edinburgh Hammermen Recs).

(BARRY, John). Glasgow

Lorimer, but v. John Hannay.

BASILLIE, James. Edinburgh

1640, 3 June : son to Mr James Basillie, apprenticed with David Clark,
dagmaker. Edinburgh Reg. of Apprentices, i, s.v.

1641/2, 2 Feb : son of the deceased Mr James Basillie booked apprentice
to David Clark dagmaker. EBA Edinburgh Hammermen Recs, iv, 91v.

BEIR, Robert. Canongate

1645, 20 Feb : makes supplication to be admitted to the hammermen and
is set an essay, viz. 'ane outred pistolat with ane timber stock',
to be made in Alexander Somerville's booth. EBA Canongate
Hammermen Recs.*

1645, 7 Mar : admitted freeman. Ibid.

Apprentice : James Ramsay, booked 1645.

BELL, Roger. Glasgow

1646, 10 Aug : booked journeyman to John Burnes, dagmaker. Whitelaw,
p. 230 (Glasgow Hammermen Recs.).

BICKERTON, John. Edinburgh (Leith)

culverinmaker, see Appendix B.

*Unpaginated.

BIRSE, Samuel. Canongate

1624, 28 May : entered apprentice to Thomas Glen, dagmaker, for 9 years.

EBA Canongate Hammermen Recs.

BLACK, John. Dundee

1592, 7 Aug : son of the deceased Mr David Black, minister, booked

apprentice to Peter Alison, gunmaker. Whitelaw, p. 49 (Dundee

Hammermen Lockit Bk).

BLACK, William. Edinburgh

1578, 7 July : 'Prenteis to David Clerk dagmaker, payit xxs' (upset?).

EBA Edinburgh Hammermen Recs., ii, 241r.

BLACK, William. Canongate

1617, 10 Aug : son to Andrew Black burgess of Musselburgh is booked

apprentice to Thomas Glen gunmaker for 7 years. EBA Canongate

Hammermen Recs.

1623, 26 Oct : servant to Thomas Glen, charged for having wronged John

Law, cutler; proven by witnesses and is fined 30s. Ibid.

1624, 16 July : apprentice to Thomas Glen, charged with night walking

and absenting himself from his master's work, etc., and is fined

40s. Ibid.

1629, 12 Nov : dagmaker, is received to essay 'ane outred pistolet of

irne'. Admitted freeman, 4 Dec. Ibid.

1633, 5 Nov : dagmaker, charged with resetting Andrew Bain, locksmith,

and suffering him to work in his booth. Fined 40s. Ibid.

Apprentice : Patrick Wilson, booked 1633.

BLACKIE, Patrick. Canongate

1642, 13 July : son to Andrew Blackie tailor in Edinburgh entered

apprentice to William Mosman dagmaker for 9 years. EBA Canongate

Hammermen Recs.

BOW, David. Perth

1560, 28 May : listed among the masters and officers of the craft.

Hunt, Perth Hammermen Book, 91.

1568, 9 June : elected an officer of the Hammermen Incorporation. NLS

MS 19239, * fo. 38v.

1570, 17 May : compositor of the Incorporation. Whitelaw, p. 268

(Perth Hammermen Recs).

1575, Dec : lorimer, witness to will of George Tait, bower. SRO

CC 8/8/4.

1593, 13 Sept : mentioned as master of John Jameson, lorimer and

gunmaker. NLS MS 19239, fo. 58v.

Apprentice : John Jameson, admitted 1593.

BREY, George. Perth

1598, 8 Nov : gunmaker, admitted freeman on payment of £18. NLS

MS 19239, fo. 64r.

BROWN, Andrew. Dundee

1590, 9 Nov : lawful son of James Brown in Faskie in the Mearns booked

apprenticed to William Low gunmaker. Whitelaw, p. 49 (Dundee

Hammermen Lockit Bk).

BRUCE, George (Burne). Canongate

1622, 9 Oct : Francis Multray ordered to book his servant George Bruce.

EBA Canongate Hammermen Recs.

1623, 15 Jan : bill by Francis Multray against George Burne his servant

who feed himself to Thomas Glen, gunmaker, without his master's

knowledge. Ibid.

*I.e. Perth Hammermen Recs.

BRUCE, George. Edinburgh

1624, 23 June : son to John Bruce, damasker, apprenticed with David Clark, dagmaker. Edinburgh Reg. of Apprentices, i, s.v.

1625, 30 May : apprenticeship booked. EBA Edinburgh Hammermen Recs, iii, 334v.

See also : George Bruce (Burne). Canongate.

BRUCE, Thomas. Edinburgh

1632, 30 May : described as dagmaker when enrolled as a burghess by right of his wife Marion daughter of Robert Hamilton litster. Edinburgh Burghesses, i, s.v.

BURNS, John. Glasgow

1641, 15 July : hammerman, admitted burghess, gratis, on consideration that he bestows four days work freely, yearly, for the rest of his life, in skouring and dighting the town's muskets, and shall come and offer this service yearly to the dean of guild or master of work for that effect. Glasgow Burghesses, 104.

1641, 28 July : admitted to the Incorporation of Hammermen (no craft noted). Lumsden & Aitken, History of the Hammermen of Glasgow, 287.

1650, 25 Oct : Admitted guild brother by right of his wife Agnes, lawful daughter of the late Thomas Fulton, merchant, burghess and guild brother. Glasgow Burghesses, 104.

1660, Mar : testament of late John Burns, hammermen, burghess, who died March 1660, confirmed 29 June 1661, given up by Janet Luggie his widow. SRO CC 9/7/32. (Glasgow Reg. of Testaments, 77).

Journeymen : James Frisall, booked 1645; Roger Bell, booked 1646.

CARAILL, John (Creall). Dundee

1591, 20 Sept : son of John Carail burgess of Dundee and apprentice of John Alison (1) gunmaker, admitted freeman. Whitelaw, p. 49.

1602 : deacon. Warden, Burgh Laws of Dundee, 482.

Apprentices : John Pettillok, booked 1595; Andrew Tailor, booked 1626.

CARRUTHERS, Cuthbert. Canongate

1643, 1 April : son to the late Francis Carruthers in Ireland entered
apprentice to David Wallace dagmaker for 8 years. EBA Canongate
Hammermen Recs.

1648, 26 Jan/Feb: apprentice of David Wallace, fined 40s for working to
himself without his master's knowledge. Ibid.

1653, 22 Sept : admitted burgess, as apprentice to David Wallace, burgess
Canongate Burgesses, s.v.

1669, 18 Feb : with Thomas Gray, q.v. and other Canongate gunsmiths
contracted to supply 3000 muskets for Edinburgh Castle.

Apprentice : James Harvey, admitted burgess 1663.

(CARWOOD, John). Edinburgh

Listed by Whitelaw (p. 142) as dagmaker, but this is a mistake for
damasker.

CASTELLAW, John. Canongate

1573, 28 May : in Edinburgh Castle when it was rendered. No trade
specified. PRO SP 52/25.

1589 : dagmaker, burgess of Canongate, appears as a witness to the will
of Robert Wedderspoone, cutler in Canongate. SRO CC 8/8/23.

CLARK, David (1). Edinburgh

1578, 6 July : described as dagmaker when his apprentice William Black
was registered. EBA Edinburgh Hammermen Recs, ii, 241r.

1586-9 : described as smith in the SE quarter. EBA Reg. of Extents, i.

1592-3 : described as dagmaker in the SE quarter. Ibid.

1601, 22 Dec : admitted burgess, dagmaker. Edinburgh Burgesses, i, s.v.

1639, 2 Oct : referred to as deceased when his son James was admitted
burgess. Ibid. (He was probably still alive in 1621 when
his son David made his essay piece in his booth - see David
Clark (2)).

Apprentices : William Black, booked 1578; Alexander Scott, booked 1596.

Sons : David (2), dagmaker, admitted burgess in 1617; and James,
dagmaker, admitted burgess in 1639.

CLARK, David (2). Edinburgh

1617, 17 Sept : admitted burgess as eldest son of David Clark, dagmaker.

Edinburgh Burgesses, i, s.v.

1621, 16 Oct : admitted to his essay, 'ane brasin bucle and ane arrowheid',
to be made in his father's booth under the supervision of two
lorimers, Alexander Burrell and John Callendar. Admitted freeman,
30 Oct. EBA Edinburgh Hammermen Recs, iii, 314r.

1638, 17 Aug : agreement with David Clark, gunsmith, for 'dichting' all
the town's arms, now to be moved into the westernmost cellar in
the wing of the Parliament House, to be used as an armoury.

Edinburgh Burgh Recs (1626-41), 206.

1644, 24 Jan : made guild brother, dagmaker, burgess of before.

Edinburgh Burgesses, i, s.v.

1645 : died. His testament given up partly by himself and his widow,
Marion Rutherford. Confirmed 1 June 1650. SRO CC 8/8/65.

(Edinburgh Reg. of Testaments, ii, 74).

Apprentices : George Bruce, booked 1624; Andrew Scott, booked 1627;

John Miller, booked 1634; James Basillie, booked 1640 (or 1641).

CLARK, James. Edinburgh

1639, 2 Oct : admitted burgess dagmaker as son to late David Clark (1)

dagmaker burgess. Edinburgh Burgesses, i, s.v.

1645, 20 March : presented his essay, an arrowhead and a brass buckle,
and was admitted freeman with consent of the lorimers. EBA
Edinburgh Hammermen Recs., iv, 128r.

CLARK, James. Canongate

1642, 16 Sept : John Sinclair (gunmaker) fined 40s for receiving
James Clark to work for him, 'not being fied'. EBA Canongate
Hammermen Recs.

See also James Clark, Edinburgh.

CLARK, William. Edinburgh

1609, 6 Jan : described as dagmaker in the SE quarter. EBA Reg. of
Extents, ii.

CLEMANE, John. Canongate

1619, 4 Dec : servant to Francis Multray, dagmaker, for 1 year. EBA
Canongate Hammermen Recs.

COK, Simon. Canongate

1634, 5 Dec : son to the late Malcolm Cok in Baitlaw, apprenticed to
William Mosman dagmaker for 6 years. EBA Canongate Hammermen Recs.

CRAWFORD, Alexander. Edinburgh

1591, 28 Sept : son to Hew Crawford in Cloberhill, apprenticed with
John Naysmith, dagmaker. Edinburgh Reg. of Apprentices, i, s.v.

CRUICKSHANK, Patrick. Canongate

1625, 19 May : entered apprentice to James Sinclair, dagmaker, for
7 years. EBA Canongate Hammermen Recs.

1626, 1 May : complaint by Patrick Mitchell, cutler, against Patrick
Cruikshank, apprentice to James Sinclair, and others not upheld.
Ibid.

CUNINGHAME, John. Blantyre

1625, 27 Jan : testament of snapmaker in Blantyre, registered (died Sept 1623). Glasgow Reg. of Testaments, 129; Whitelaw, 40.
(SRO CC 9/7/20).

CUNNINGHAM, John. St. Andrews

1588/9 : son of John Cunningham of West Barns, apprenticed to Henry Smith, gunmaker. Whitelaw, p. 279 (St Andrews Hammermen Recs).

CUTHBERTSON, James. Canongate

1642 : booked apprentice to Mungo Mosman, dagmaker. EBA Canongate Hammermen Recs.

1647, 15 July : after death of Mungo Mosman wishes to transfer his apprenticeship to Alexander Wilson. Ibid.

1661 : testament of James Cuthbertson dagmaker in Portsburgh died 1661. Given up by his widow, Marion Smith. SRO CC 8/8/70. (Edinburgh Reg. of Testaments, ii, 99.)

? maker of all-metal globular butt pistol, IC c. 1650, in the People's Palace, Glasgow.

DARROCH, Ninian. Glasgow

1647, 25 Nov : admitted burgess as eldest lawful son of the late Ninian Darroch, merchant burgess and guild brother. Glasgow Burgesses, 123.

1647, 10 Dec : admitted to the Incorporation of Hammermen as an apprentice dagmaker. Lumsden & Aitken, History of the Hammermen of Glasgow, 287.

Journeyman : Rorie McClenan, booked 1671.

DAW, Alexander. Brechin

1610-15 : nephew of Thomas Daw, gunmaker (information extracted from Brechin Hammermen's Book by Angus District Archivist).

? maker of pair of all-metal lemon butt pistols, AD c. 1630, formerly
in the Zeughaus, Berlin - but see also Alexander Dunbar, Perth;
Alexander Duncan, Dundee; and Andrew Daw, Brechin. (Also lemon
butt pistol, AD 1631).

DAW, Andrew. Brechin

1607-12 : apprentice to John Daw, gunmaker (information extracted from
Brechin Hammermen's Book by Angus District Archivist).

? maker of pair of all-metal lemon butt pistols, AD c. 1630, formerly in
the Zeughaus, Berlin - but see also Alexander Dunbar, Perth;
Alexander Duncan, Dundee; and Alexander Daw, Brechin. (Also lemon
butt pistol, AD 1631).

DAW, John. Brechin

1600-d. 1619 : gunmaker (information extracted from Brechin Hammermen's
Book by Angus District Archivist).

Apprentice : Andrew Daw.

DAW, Thomas. Brechin

1600-10 : gunmaker (information extracted from Brechin Hammermen's Book
by Angus District Archivist).

DICKSON, James. Perth

1626, 27 Dec : freeman's son, admitted to work in the arts of gunnery
and lorimery as far as he can sufficiently do. Whitelaw, p. 265
(Perth Hammermen Recs).

Apprentice : David MacDuff, booked 1649.

Servant : John Donaldson, booked 1648.

Son : John, admitted freeman 1648.

DICKSON, John. Canongate

1623, 1 Dec : entered apprentice to Patrick Hamilton gunmaker for 7 years.
EBA Canongate Hammermen Recs.

1635, 25 Mar : included in a list of masters and apprentices. Ibid.

DICKSON, John. Perth

1648, 13 Jan : son to James Dickson, gunner and freeman of the hammermen craft, admitted freeman in all the arts of the gunner and lorimer craft for payment of £8. NLS MS 19239, fo. 122r.

DONALDSON, John. Perth

1649, 4 Sept : entered servant ('fiall') to James Dickson, gunner, to serve in the gunner craft for payment of 40s. NLS MS 19239, fo. 122v.

DUNBAR, Alexander. Perth

1612, 10 Mar : admitted freeman to work in the arts of the gunner and lorimer craft on payment of £40. NLS MS 19239, fo. 91v.

? maker of pair of all-metal lemon butt pistols, AD c. 1630, formerly in the Zeughaus, Berlin ; but see also Alexander Duncan, Dundee; Alex ander and Andrew Daw, Brechin. (Also lemon butt pistol, AD 1631).

DUNCAN, Alexander. Dundee

1627, 29 May : son of Alexander Duncan, goldsmith, burgess of Dundee, apprentice to Robert Alison (3), booked. Whitelaw, p. 49 (Dundee Hammermen Lockit Bk).

? maker of all-metal lemon butt pistol, AD c. 1630, formerly in the Zeughaus, Berlin - but see also Alexander Dunbar, Perth; Alexander and Andrew Daw, Brechin. (Also lemon butt pistol, AD 1631).

DUNCAN, Hew. Canongate

1626, 24 Feb : entered apprentice to Francis Multray, dagmaker, for six years. EBA Canongate Hammermen Recs.

1635, 25 Mar : included in a list of masters and apprentices. Ibid.

(1635) : had 2 laigh smithies and a fore shop in Leith Wynd. EBA Annuity Tax Roll, 237.

? maker of lock (and stock), HD c. 1640, on long gun in Glasgow Museum.

EASTON, John. Canongate

1619, 14 Oct : entered apprentice to Thomas Grant (? Glen), dagmaker,
for 6 years. EBA Canongate Hammermen Recs.

1621, 22 Dec : on a complaint by Gilbert Thomson, stabler, Thomas Glen
was ordered to take home his apprentice John Easton and give him
work and 'lair'. Ibid.

1635, 25 Mar : included in a list of apprentices and masters. Ibid.

EDGAR, David. Edinburgh

1584-5 : paid upset of 40/- (fee for having married a freeman's daughter)
in two instal/ments. Whitelaw, p. 144 (Edinburgh Hammermen Recs).

1586, 25 Aug : described as locksmith when admitted to his essay. EBA
Edinburgh Hammermen Recs, ii, 41r (NB. Whitelaw is wrong in saying
his essay piece was two kist locks).

1586, 19 Oct : admitted burgess, smith, by right of his wife Jonet,
daughter of Daniel Duncan, smith. Edinburgh Burgesses, i, s.v.

1586-93 : described as smith in SW quarter (1586 no trade given).
EBA Reg. of Extents, i.

1593, 10 May : involved with Alexander Adamson (qv) et al in dispute over
unfreemen's work and the finishing of hagbuts.

1596, 30 March : described as a dagmaker when the apprenticeship of
Thomas Edgar was booked. EBA Edinburgh Hammermen Recs, iii, 85v.

Apprentice : Thomas Edgar, booked 1596.

EDGAR, Thomas. Edinburgh

1596, 30 March : booked apprentice to David Edgar dagmaker. EBA
Edinburgh Hammermen Recs, iii, 85v.

FENDER, David. Canongate

1626, 25 Aug : admitted burgess, at request of the Earl of Winton,
gratis. Whitelaw, p. 198 (Canongate Burgess Roll).

1626, 13 Oct & 4 Nov : discharged from work till he be admitted freeman.

EBA Canongate Hammermen Recs.

1627, 14 April : on production of his essay, viz. 'ane skarmisch of
ane hagbute', is admitted a freeman. Ibid.

FENDER, William. Canongate

1580, 6 Oct : dagmaker, made burgess, £5. Maitland Misc, ii, 345.

1598, 1 June : testament of the late William Fender, dagmaker burgess,
died 1598, given up partly by himself and his widow, Katherine
Vallenge:

sum of inventory £10

sum of debts due £896 8s 6d

sum of debts owed £590 13s 4d SRO CC 8/8/33.

FLEBAIRNE, Alexander. Edinburgh

1651, 19 Nov : described as deceased, dagmaker at the West Port, when
his son George was booked apprentice. Edinburgh Reg. of Apprentices
i, s.v.

FORD, Gavin. Edinburgh

1589, 8 July : booked apprentice to David Kerss, locksmith. EBA
Edinburgh Hammermen Recs, iii, 56r.

1589, 9 July : son to late Nicoll Ford, maltman, apprenticed with David
Kerss, locksmith. Edinburgh Reg. of Apprentices, i, s.v.

1594/5, 28 Jan : admitted freeman, his essay being 'ane hagbut and ane
dag outred'. EBA Edinburgh Hammermen Recs., iii, 81r.

1599, Aug : onwards, appears as messenger in royal service. SRO
E21/73, 74r; E21/74-75, 43v; etc.

FOSTER, Thomas (Forrester). Canongate

1633, 12 Aug : son to Alexander Foster, tailor in Peebles, entered
apprentice to William Walker, dagmaker, for 6 years. EBA
Canongate Hammermen Recs.

1641, 2 April : apprentice to the late William Walker dagmaker admitted to his essay, viz. 'ane outred irne pistolet'. Admitted freeman 8 April. Ibid.

1641, 25 April : admitted burgess as apprentice to the late William Walker, dagmaker. Canongate Burgesses, s.v.

1642, 31 May : 'The craft in ane voyce forlanides Thos Forrester (and 3 others) fra their officership for the quhilk they haif payit ilk one 20 merks'. EBA Canongate Hammermen Recs.

1643, 2 Sept : Thomas Forrester and George Turner having a controversy agree to submit it to the deacon's judgement. Ibid.

Apprentice : Robert Paton booked 1641.

1646, 23 Jan : testament of, dagmaker, registered. Edinburgh Reg. of Testaments, 145 (Died 21 June 1645 : SRO CC 8/8/61, fo. 250).

FRAME, Hew. Edinburgh

1593, 20 Nov : son to John Frame, in Over Lany, apprenticed with John Haldane, dagmaker. Edinburgh Reg. of Apprentices, i, s.v.

(FRAME, James). Edinburgh

1587, 20 June : booked apprentice to Patrick Kennedy. Trade not recorded. EBA Edinburgh Hammermen Recs, iii, 51r.

FRISALL, George (Frazer). Stranraer

1618, 19 Mar : snapmaker, assaulted by a customer. RPC, xi, 331.

FRISALL, James (Frazer). Stirling

1563-1611 : appears in a list of brethern of the Hammermen Craft admitted between these dates. No trade given. Whitelaw, p. 289. (Stirling Hammermen Recs).

1592, 29 Oct : dagmaker, married Christian, daughter of Alexander Kincaid, maltman. Northern Notes & Queries, vi (1892), 168.

1607, 8 April : admitted freeman. Whitelaw, p. 289. (Stirling
Hammermen Recs).

? son : John Fraser, admitted burgess 1618.

FRISALL, James. Glasgow

1645, 8 Sept : booked journeyman to John Burnes, dagmaker. Whitelaw,
p. 234 (Glasgow Hammermen Recs).

FRISALL, John (Frazer). Stirling

1618, 15 Mar : entered dagmaker. Whitelaw, p. 289 (Stirling Hammermen
Recs).

1618, 29 Nov : son of James Frisall, smith, admitted burgess and paid
£8. Whitelaw, p. 289. (Stirling Burgess Roll).

1631, 11 Mar : complaint by the fiscal against John Frisall dagmaker
and three others for fighting, for which they were fined. Ibid.

Apprentices : Andrew Ker, booked 1621; Alexander Whitbrew, booked 1633.

GIBSON, Archibald. Canongate

1644, 3 Sept : son to the late Andrew Gibson in Gilmerton entered
apprentice to Alexander Somerville, dagmaker, for 6 years.
EBA Canongate Hammermen Recs.

(GILBERT, Humphrey). Glasgow

cutler, but v. John Hannay.

GLEN, Thomas. Canongate

1613, 4 May : listed among the brethern of the craft. EBA Canongate
Hammermen Recs.

1614, 4 May : elected a master of the craft. Ibid.

1614, 6 July : involved in a complaint against Walter Smith, servant to
James Naysmyth (q.v.). Ibid.

1616, 28 Aug : complaint to the Privy Council by Nicholas Elmure, His Majesty's servitor in His Highness's wardrobe of the Kingdom of Scotland, that some four years previously he had given a case of pistollets to Thomas Glen, dagmaker in the Canongate to be mended. He had on several occasions since then asked for them back, and on the last occasion, 10 August, had been dealt with insolently and hit in the face with a 'fauldit neive'. Glen was ordered to be detained in the Tolbooth of Edinburgh at his own expense during their Lordships' pleasure. RPC, x, 617.

1621, 22 Dec : subject of a complaint about his apprentice, John Easton (q.v.). EBA Canongate Hammermen Recs.

1623, 15 Jan : involved in a complaint against George Bruce (q.v.).
Ibid.

1623, 16 July : complained that his apprentice, William Black (q.v.) did not work and absented himself from his master's work. Ibid.

1628, 1629 : deacon. Ibid.

1635, 25 Mar : included in a list of apprentices and their masters.
Ibid.

1635, 24 June : testament of, gunmaker, registered. Edinburgh Reg. of Testaments, ii, 158.

Apprentices : William Black, booked 1617; John Easton, booked 1619; John Rollock, booked 1623; Samuel Birse, booked 1624; Walter Malcolm, booked 1627; Walter Multray, listed 1635.

Servant : George Bruce, feed servant, 1623.

Son-in-law : William Mosman.

GORDON, Adam. Aberdeen

1602 : paid £26 13s 4d, his fee for looking after the burgh clocks for two terms, Martinmas 1601 - Whitsun 1602. Described as gunmaker. Spalding Misc, v, 129.

1608 : paid along with David Robertson for looking after the clocks
in the Kirk and tolbooth for two terms, Gordon getting £8 18s,
Robertson £8 13s 4d. Spalding Misc, v, 134-5.

? maker of pair of all-metal fishtail pistols, AG 1622, formerly in
the Zeughaus, Berlin, and pair of all-metal lemon butt pistols,
AG 1634, in Marischal College Museum, Aberdeen.

GORDON, Thomas. Aberdeen

1591, 30 April : Admitted burgess, gunmaker : 'his composition dischargit
for keiping of the thre knock the yair bygane'. Whitelaw, p. 36
(Aberdeen Burgess Roll).

1598, 24 May : paid for mending the Tolbooth clock. Spalding Misc,
v, 70.

1598/9 23 Jan : given £10, his fee for the Martinmas term, 1598, for
looking after the burgh's clocks, conform to an act of council,
23 Jan. Spalding Misc, v, 125.

GORDON, Steven (1). Aberdeen

1597-8, 25 Sept : Admitted burgess, gunmaker. Whitelaw, p 37 (Aberdeen
Burgess Roll).

GORDON, Steven (2). Aberdeen

1611, 26 July : Admitted burgess, gunmaker. Whitelaw, p 37 (Aberdeen
Burgess Roll).

GRAY, James (1). Dundee

1600, 11 Sept : gunmaker, apprentice to James Alison, admitted freeman.
Whitelaw, p. 50 (Dundee Hammermen Lockit Bk).

Son : James Gray (2), admitted 1634.

? maker of all-metal globular butt pistol, IG 1627, in National Museum,
Edinburgh and all-metal globular butt pistol, IG 1630, in a
private collection.

GRAY, James (2). Dundee

1634, 30 July : lawful son of James Gray (1) dagmaker, admitted freeman.

Whitelaw, p. 50 (Dundee Hammermen Lockit Bk).

1709, 4 Oct : described as gunsmith, deceased, when his grandson

Andrew Gray was admitted freeman. Whitelaw, p. 50 (Dundee

Hammermen Lockit Bk).

GRAY, Thomas. Canongate

1646, 16 July : admitted hammerman burgess, son to Thomas Gray, burgess.

EBA Canongate Hammermen Recs.

1648, 17 Oct : essay master of Thomas Wilson, dagmaker. Ibid.

1669, 18 Feb : with Cuthbert Carruthers, Alexander Wilson, Hugh Somerville,

James Wilson, Adam Lawson and Francis Henderson, gunsmiths in the

Canongate, he contracted to supply the magazine in Edinburgh Castle

with '3000 good and sufficient musquets of their own making stocked

with Elme tree oyled over, lunt workes equal lenth and bore

according to the pattern given to them out of his Majesties

Magazine each of them taking ane ball of ane unce weight whereof

there is sixteen to the pound. And each Musquett to be marked

with a Thistle on the end of the Dock-naill and above the prying

hole' for £7 scots for each musket and stand. SRO E26-28/76, 22.

1669, 17 July - 1672, 27 July : 18 payments made on this contract which

was completed 27 July 1672. SRO E26-28/76, 23-34; E26-28/124, 1-5.

1674, 6 May : made burgess and guild brother of Edinburgh on giving

20 firelocks to the town's magazine in lieu of payment of the dues.

Whitelaw, p. 146.

Apprentices : John McKay, booked 1646; Adam Lawson, admitted burgess 1664.

GREIG, William. Dundee

1591, 15 July - son of Walter Greig in Convey booked apprentice to Patrick

Ramsay gunmaker. Whitelaw, p. 50 (Dundee Hammermen Lockit Bk).

GUTHRIE, John. Dundee

1595, 23 June : son of Andrew Guthrie in Little Kaine booked apprentice to Alexander Leighton, gunmaker. Whitelaw, p. 50 (Dundee Hammermen Lockit Bk).

HALDANE, John (Hadden, Howden, etc). Edinburgh

1585, 13 April : described as locksmith and 'discharged of further working with Gawin Gilchrist blacksmith in his buyth of dagis or snapis because the said Gawin can make nane thereof himself'. EBA Edinburgh Hammermen Recs, iii, 35r.

1586-92 : described as a smith in the SW quarter. EBA Reg. of Extents, i.

1593, 13 Nov : admitted burgess, dagmaker as son to the late John Haldane, merchant, burgess. Edinburgh Burgesses, i, s.v.

1596 : witness to the will of George Richmond, dagmaker, Canongate, q.v.

Apprentice : Hew Frame, booked 1593.

? maker of pair of wooden stocked fishtail pistols, IH 1615, one in the Historisches Museum, Dresden, the other in the Metropolitan Museum, New York - but see also James Hart, Canongate.

HAMILTON, Arthur. Edinburgh

1592, 7 July : described as a dagmaker in the SE quarter. EBA Reg. of Extents, i.

HAMILTON, Bartilmo. Canongate

1589 : dagmaker, burgess, appears as witness to the will of Robert Wedderspoone, cutler in Canongate who died in 1589. Whitelaw, p. 200.

1592 : grave-slab of wife at Holyrood Abbey. Edinburgh Inv., 142.

HAMILTON, Patrick. Canongate

1596 : dagmaker, burgess, appears as a witness to the will of George Richmond, dagmaker, Canongate, q.v.

1613, 4 May : elected a master. EBA Canongate Hammermen Recs.

1617, 18 April : ordered to deliver to John Stevenson a gun which belonged to him. Ibid.

1620, 6 April : warned to produce the indenture of Richard Hamilton his apprentice.

1635, 25 Mar : included in a list of apprentices and masters. Ibid.

Apprentices : Richard Hamilton, booked 1620, 1624; John Dickson, booked 1623; James Sinclair (1), admitted freeman 1616.

? master of wooden stocked lemon butt pistol, PH c. 1630, in the Tøjhus Museum, Copenhagen.

HAMILTON, Richard. Canongate

1620, 6 April : Patrick Hamilton (dagmaker) warned to produce the indenture of Richard Hamilton his apprentice. EBA Canongate Hammermen Recs.

1624, 21 May : Richard Hamilton entered apprentice to Patrick Hamilton, dagmaker, for 9 years. Ibid.

1656 : testament of late Richard Hamilton dagmaker in the Coldtowne (Calton) and late Janet Darling his spouse. Richard died 1656, Janet, Sept. 1657.

sum of inventory, £114; debts due, £96 13s 4d. SRO CC 8/8/68. (Edinburgh Reg. of Testaments, 177).

HAMILTON, Robert. Canongate

1585/6, 25 Feb : wright, stocker of dags and long guns, made burgess and freeman on payment of £10. Maitland Misc., ii, 354.

1637, 9 Mar : deceased, when apprentice Simon Murray admitted burgess. Canongate Burgesses, s.v.

Apprentice : Simon Murray, admitted burgess 1637.

HANNAY, James

King's culveriner, see Appendix B.

HANNAY, John. Glasgow

1574, 3 Aug : John Hannay, smith, fined for assault. Glasgow Burgh Recs (Maitland Club), 96.

1578, 3 July : snapmaker, ordered to serve John Barry, lorimer in making snaps from last Whitsun to next Martinmass. In consideration that he had transferred his services to Humphrey Galbraith, cutler, he was ordered to serve Barry for an extra month beyond Martinmass to make up his complete term of service, for which he had already received half his fee. Ibid.

HART, James. Canongate

1594, 16 Aug : dagmaker, burgess, one of the witnesses to the will of Alexander Wedderspoone, cutler burgess of the Canongate.
SRO CC 8/8, 27.

1613, 1614, 1616, 1620, 1622, 1623 : deacon. EBA Canongate Hammermen Recs.

1622, 7 Nov : 'The ilk day James Hairt, dekin, with his maisters, adjudge ane bill given be William Smithe against Thomas Dunkane the said Thomas com in the will of the dekin and maisters for his wrong and sicklyk he came in will of the maisters for miscalling the James Hairt behynd his bak for the quilk caus they ordained the said Thomas to pay his inlaw of 4 poundis'.
Ibid.

1624, 18 Nov : John Black, servant to John Drysdale, smith, was charged with using slanderous words to James Hart and warned not to do do again, under pain of 40s fine. Ibid.

1630, 13 Jan : his booth mentioned. Ibid.

Servant : John McBen, mentioned 1622.

? maker of pair of wooden stocked fishtail pistols, IH 1615, one in the Historisches Museum, Dresden, the other in the Metropolitan Museum, New York - but see also John Haldane, Edinburgh.

HOG, John. Glasgow

1579, 28 July : George Laing (armourer) ordered to pay John Hog 21s for stoking guns and to deliver to him a sword and a new pair of guards given to him to dight, within the next 15 days. Glasgow Burgh Recs (Maitland Club), 112.

HORING, Duncan. Dundee

1591, 25 Dec : son of () Horing of Pendreich booked apprentice to John Alison (1) gunmaker. Whitelaw, p. 50 (Dundee Hammermen Lockit Bk).

HUNTER, John. Aberdeen

1611, 13 Sept : Admitted burgess, gunmaker, as eldest son of the late Alexander Hunter. Whitelaw, 37 (Aberdeen Burgess Roll).

JAFRAE, James. Glasgow

1643, 4 Sept : admitted freeman hammerman as a son. Lumsden & Aitken, History of the Glasgow Hammermen, 287.

1643, 7 Sept : admitted hammerman, burgess, as second lawful son of John Jafrae, smith, burgess. Glasgow Burgesses, 113.

1648, 1 April : the master of work ordered to take all the muskets he was dressing for Lieut. Col. Dick and pay him 30s for each. Glasgow Burgh Recs., ii, 130.

JAMESON, John. Perth

1593, 13 Sept : admitted lorimer and gunmaker, the freedom of which his master, David Bow (q.v.) purchased. NLS MS 19239, fo. 58v.

KELLO, Henry (1). Canongate

?1616, 11 Nov : testament of, treasurer, burgess of Canongate.

Edinburgh Reg of Testaments, ii, 222.

1618 : described as deceased when his son John was booked apprentice to Samuel Thomson, cutler in Edinburgh. Edinburgh Reg. of Apprentices, s.v.

1630 : described as dagmaker in Leith, deceased, when his son Patrick was booked apprentice cordiner, Edinburgh. Ibid.

KELLO, Henry (2). Canongate

1627, 5 June : son to late Henry Kello, dagmaker, burgess, entered apprentice to John Sinclair, dagmaker, for 6 years. EBA Canongate Hammermen Recs.

1635, 25 Mar : included in a list of apprentices and masters. Ibid.

1637, 20 April : admitted burgess. Canongate Burgesses, s.v.

KELLO, John (1). Canongate

1573, 28 May : man of war, armed with harq^eybus, hurt, in Edinburgh Castle when it was rendered. PRO SP 52/25.

1589 : dagmaker, witness to the will of Robert Wedderspoone, cutler, Canongate, who died 21 March 1589. SRO CC 8/8/23.

1596 : witness to the will of George Richmond, dagmaker, Canongate (s.v.).

KELLO, John (2). Canongate

1642, 14 Jan : son to James Kello in Danirk, entered apprentice to Mungo Mosman dagmaker, younger, for 7 years. EBA Canongate Hammermen Recs.

1648, 26 Jan/Feb : fined 40s for working to himself without his master's knowledge. Ibid.

KENNEDY, John (1). Edinburgh

1596, 1 April : admitted to his essay, a kist lock, as son of Patrick, locksmith and dagmaker, and admitted freeman dagmaker, 8 June.

EBA Edinburgh Hammermen Recs, iii, 87v.

1601, 22 Jan : admitted burgess, dagmaker. Edinburgh Burgesses, i, s.v.

1595-1610 : described as a dagmaker, in the SE quarter in 1595, in the NE quarter from 1607. EBA Reg. of Extents, i, ii.

Apprentices : David Barclay, booked 1601; son, John, booked 1611.

? maker of pair of wooden stocked fishtail pistols, IK 1598, in the

Historisches Museum, Dresden. See also John Knox, Brechin.

KENNEDY, John (2). Edinburgh

1611, 4 Sept : natural son of John Kennedy, dagmaker, apprenticed with his father. Edinburgh Reg. of Apprentices, i, s.v.

KENNEDY, Patrick. Edinburgh

1586, 20 Dec : formerly apprentice to the late Hew Brown, locksmith, admitted to his essay, viz. a kist lock. Admitted freeman 30 Dec. EBA Edinburgh Hammermen Recs, iii, 44r.

1587, 26 May : admitted burgess, locksmith, by Act of Council.

Edinburgh Burgesses, i, s.v.

1592, 23 May : described as a dagmaker when William Naysmyth was booked apprentice. Edinburgh Reg. of Apprentices, i, s.v.

Apprentices : James Frame, booked 1587; William Naysmyth, booked 1592; John Matheson, booked 1601.

Son : John (1), admitted burgess 1596.

KEPPIN, George. Edinburgh

1511 : (Edinburgh Castle) to George Keppin and Kasper Lepus his servant, taking for his own wages and expenses 7 French crowns, and for his servant, 4 French crowns, making monthly £7 14s, delivered to

them in complete payment of 11 months from 1 Oct to 31 Aug,
£84 14s. TA, iv, 276.

1511, 13 Oct : 2 French crowns given as 'ane propin' on the king's
command, 28s. Ibid.

1511/12, Feb-Mar : to George, culverinmaker, in drinksilver, 28s.
Ibid, 333.

1513, July : regular monthly payments to George Keppin, smith in
Edinburgh Castle, and his servant, up to July 1513. Ibid, 439,
etc.

1515/16, Jan : payments recorded up to this date. TA, v, 32-33, 69.

See also Appendix B, George Dutch, George the Almayne gunner.

KER, Andrew. Stirling

1621, 1 May : booked apprentice to John Frisall of the dagmaker craft.
Whitelaw, p. 290. (Stirling Hammermen Recs).

1626, 2 Oct : dagmaker, son to Robert Ker, walker, admitted burgess and
paid £8. Ibid (Stirling Burgh Recs).

1627, 10 July : admitted freeman. Ibid. (Stirling Hammermen Recs).

Apprentices : John Ker, booked 1629; Archibald Wilson, booked 1640;
John Wilson, booked 1644.

KER, John. Stirling

1629, 14 April : booked apprentice to Andrew Ker his brother.
Whitelaw, p. 290. (Stirling Hammermen Recs).

1636, 18 Jan : dagmaker, admitted burgess and paid £8 as a freeman's
son. Ibid. (Stirling Burgess Roll).

1636, 25 Feb : admitted freeman, his essay being 'ane snap with ane
cavenat lok and ane schamber dor lok'. Ibid. (Stirling
Hammermen Recs).

KERSS, David (Cass). Edinburgh

1560/61, 19 Feb : apprenticed to David Duncan, locksmith. EBA

Edinburgh Hammermen Recs, ii, 213v.

1569, 3 May : locksmith, paid £20 for his upset. Ibid., ii, 233r.

1569/70, 25 Jan : admitted burgess, locksmith. Edinburgh Burgesses,
i, s.v.

?1573, 28 May : 'Davyd Kar a harq' (harquebusier/hagbutter), in
Edinburgh Castle when it was rendered. PRO SP 52/25.

1574, 30 Dec : agreed to renounce the mass and papistry. Described
as Smith. EBA Bk of the General Kirk of Edinburgh, 36v.

1579, 30 Dec : described as dagmaker when his apprentice, Gilbert Cass,
was admitted burgess. Edinburgh Burgesses, i, s.v. G. Cass.

1583-93 : described as dagmaker in the SE quarter. EBA Reg. of
Extents, i.

1593, 10 May : involved in dispute with Alexander Adamson et al (qv),
in a dispute over the buying of unfreeman's work in connection
with the finishing of hagbuts.

1598, Aug - 1614, June : in royal service as smith and gunner in Edinburgh
Castle. He probably died about the latter date as his fee was
collected in his name by John Kerss. SRO E21/72, fo. 88r;
E 21/82, fo. 43r, etc. See also Appendix B.

KERSS, Gilbert (Cass). Edinburgh

1574, 20 May : booked apprentice to David Kerss, locksmith. EBA
Edinburgh Hammermen Recs, ii, 237v.

1576 : listed amongst the masters of the craft. No craft specified.
Ibid., ii, 239.

1579, 31 Oct : described as locksmith when his apprentice, Daniel Young,
was registered. Ibid., ii, 242v.

1579, 30 Dec : admitted burgess as apprentice of David Kerss, dagmaker,
Edinburgh Burgesses, i, s.v.

1581/2, 18 Mar : testament of Gilbert Kerss, dagmaker burgess of
Edinburgh, who died in Monktonhall, 18 March. Given up by
himself on the 16 March. SRO CC 8/8/10. (Edinburgh Reg. of
Testaments, i, 50).

KNOX, John. Brechin.

1600 : gunmaker (information extracted from Brechin Hammermen's Book
by Angus District Archivist).

? maker of pair of wooden stocked fishtail pistols, IK 1598, in the
Historisches Museum, Dresden - but see John Kennedy (1) Edinburgh.

KYLE, James. Canongate

1624, 8 Oct : Francis Multray (dagmaker) charged for keeping James
Kyle at work after he was discharged by the officer, and is
fined 40s. EBA Canongate Hammermen Recs.

1624, 9 Dec : admitted burgess by right of wife Rachael daughter to
Patrick Hamilton (dagmaker), burgess. Canongate Burgesses, s.v.

1625, 4 Oct : gunmaker, desiring to be made a freeman is appointed to
make 'ane ayrone cottred pistolat' as his essay. Admitted
freeman 14 Dec. EBA Canongate Hammermen Recs.

1635, 25 Mar : included in a list of apprentices and masters. Ibid.

Apprentice : David Wallace, booked 1626.

Son : George, dagmaker, admitted freeman, 1660.

LEARMONTH, John. St Andrews

1584, 26 Nov : booked apprentice to John Smith, gunner, for 6 years.
Whitelaw, p. 280 (St Andrews Hammermen Recs).

1593/4, 3 Jan : admitted freeman. Ibid.

1597 : listed as a member of the craft of hammermen. Ibid.

Apprentices : Alexander Pryde, booked 1594; Henry Wilson, booked
1609.

? maker of all or several of the firearms signed IL, dated 1602 to 1634
- but see also James Low, Dundee.

LEIGHTON, Alexander (Lichtoun, etc). Dundee

1587, 26 Dec : included as a gunmaker in a list of the masters of the
hammermen. Warden, Burgh Laws of Dundee, 473.

Apprentices : Robert Ramsay, booked 1588; John Guthrie, booked 1595.

LEPUS, Caspar or Jasper. Edinburgh

v. George Keppin.

LOGAN, David. Glasgow

1620, 29 June : admitted hammerman burgess as eldest lawful son of the
late Alexander Logan, burgess. Glasgow Burgesses, 55.

1620, 23 Aug : admitted freeman, hammerman. Lumsden & Aitken, History
of the Glasgow Hammermen, 286.

1643, 20 July : admitted guild brother. Glasgow Burgesses, s.v.

1646, 1 Aug : the treasurer ordered to give David Logan £24 for dressing
muskets for the regiment. Glasgow Burgh Recs., ii, 95.

LOGAN, William. Canongate

1625 : mentioned as servant to Robert Mosman, gunmaker. EBA Canongate
Hammermen Recs.

1626, 1 Aug : James Naysmyth, gunmaker, fined 40s. for receiving
John McBen and William Logan, unfreemen, in his booth. Ibid.

1641 : dagmaker, mentioned in will of Robert Mosman, died Oct 1641.

SRO CC 8/8/60, fos. 137r - 138r.

LOW, James. Dundee

1593, 2 Oct : gunmaker, son of James Low burgess, admitted freeman.

Whitelaw, p. 50 (Dundee Hammermen Lockit Bk).

1604 : collector of the crafts.

NB his father may either have been James Low, smith, admitted burgess in 1588 by right of his father James, member of the guild (NMASS Whitelaw MSS extracts from Dundee Burgess Roll) or James Low locksmith, included in a list of the masters of the hammermen in 1587 (Warden, Burgh Laws of Dundee, 473).

? maker of some or all of several firearms, marked IL, dating from 1602 to 1634 - but see also John Learmonth.

LOW, Richard. Dundee

1578 : guild brother by right of father, James Low, blacksmith.

NMASS Whitelaw MSS extracts from Dundee Burgess Roll.

1589, 30 Dec : son and heir of the deceased James Low, admitted freeman.

Whitelaw, p. 50 (Dundee Hammermen Lockit Bk).

Apprentice : Matthew Thomson, booked 1593.

? maker of pistol barrel and fittings, marked RL, in private collection.

LOW, William. Dundee

1588, 30 Sept : son of James Low, smith, made burgess gunmaker. NMASS

Whitelaw MSS extracts from Dundee Burgess Roll.

(1596-7) : mentioned in Wedderburne's Acct Bk, 60, 82.

1604 : deacon (contested). Maxwell, History of Dundee, 369.

1605 : deacon. Ibid., 311.

1606 : deacon. Warden, Burgh Laws of Dundee, 483.

Apprentice : Andrew Brown, booked 1590.

LOW, William. Perth

1607, 28 July : smith, admitted as a gunmaker, blacksmith and locksmith on payment of £40. NLS MS 19239, fo. 85v.

See also. William Low, Dundee.

McBEN, David (McBend). Stirling

1563-1611 : listed among the brethern admitted between these dates.

No trade specified. Whitelaw, p. 290 (Stirling Hammermen Recs).

1607, 8 April : admitted freeman gunmaker. Ibid.

1610, 23 Jan : calls himself dagmaker when signing a bond with other brethern of the craft. Ibid.

1613, 6 Dec : subject of complaint, with other Stirling Hammermen, by Alexander Gilchrist, locksmith in Torbreckis, for arresting him and taking locks from him on market days. RPC, x, 193.

Apprentice : Harry Marshall, booked 1611.

See also David McBend, Glasgow.

McBEN, David (McBend). Glasgow

1621, 17 Nov : admitted to the Incorporation of Hammermen as a stranger, dagmaker. Lumsden & Aitken, History of the Glasgow Hammermen, 286.

1626, Oct : testament of David McBend, younger, smith in Glasgow, who died Oct 1626, given up by himself. SRO CC 9/7/21. (Glasgow Reg. of Testaments, 295).

See also David McBend, Stirling.

McBEN, John (mcBend). Stirling

1563-1611 : included in a list of brethern of the craft admitted between these dates. No trade specified. Whitelaw, p. 290 (Stirling Hammermen Recs).

See also John McBen, Canongate and Glasgow. See also Appendix B.

McBEN, John (McBend). Canongate

1622, 11 Nov : servant to James Hart, deacon (dagmaker). EBA Canongate Hammermen Recs.

1626, 1 Aug : James Naysmyth, gunmaker, fined 40s for receiving
John McBen and William Logan unfreemen in his booth. Ibid.
1626, 6 Sept : to have no liberty nor to be made freeman until he
give satisfaction to the craft for his disobedience. Ibid.
See also John McBen, Stirling and Glasgow.

McBEN, John (McBend, McKen). Glasgow

1626, Oct : mentioned in the will of his brother David, q.v.
1627, 1 Mar : dagmaker, admitted burgess : fines lessened since he was
'ane necessar craftisman to be keipit be the toun'. Glasgow
Burgesses, 66.
1627, 24 Aug : admitted to the Incorporation of Hammermen, by
apprenticeship, (no craft specified). Lumsden & Aitken,
History of the Glasgow Hammermen, 286.
1630, Sept : testament of his wife, Janet Muir, who died Sept 1630,
given up by John McBen. SRO CC 9/7/24 (Glasgow Reg. of
Testaments, 369).
1638 : appointed collector of the hammermen. Lumsden & Aitken,
History of the Glasgow Hammermen, 387.
1639, 1 Nov : the collector ordered to pay him 10 marks for dressing
the muskets, mending some of the staffs, etc. Lumsden, Records
of Glasgow Trades House, 203.
1640, 4 Nov : paid £6 13s 4d for dressing the muskets. Ibid.
1642 : deacon. Lumsden & Aitken, History of the Glasgow Hammermen, 387.
Apprentices : George Moffet, booked 1630; Archibald McKay, admitted
burgess 1651.

See also John McBen, Canongate and Stirling. Also appendix B.

McCLELLAN, John. Edinburgh

1592/3, 6 Mar : son to John McClellan beside Dumbarton, apprenticed with
Alexander Adamson, dagmaker. Edinburgh Reg. of Apprentices, i, s.v.

1629, 6 June : John McClellan, unfreeman, in respect of his seducing the dagmakers' servants to work to him, it was concluded that no free brother should suffer him to work in their booths or borrow and lend with him or work themselves to him under pain of 40s. EBA Canongate Hammermen Recs.

MACKIE, John. Canongate

1636, 5 Nov : son to John MacKie in Elie, apprenticed to Mungo Mosman, dagmaker, for 6 years. EBA Canongate Hammermen Recs.

MacLEAN, David. Stirling

1607, 26 Oct : gunmaker, appointed with three others to advise the deacon for a year to come. Trans. Stirling Nat. Hist. & Archaeol. Soc., (1927), 34.

MAILLING, David. Elgin

1643, 9 Oct : David Mailling, younger, gunsmith in Elgin, ordered not to leave the burgh without the magistrates' licence on pain of £40. Elgin Recs, i, 279.

MALCOLM, Walter. Canongate

1627, 9 Jan : lawful son of Robert Malcolm, burgess of Canongate, entered apprentice to Thomas Glen, dagmaker, for 6 years. EBA Canongate Hammermen Recs.

MARSHALL, Hary. Stirling

1611, 1 Jan : son to John Marshall, litster, booked apprentice to David McBen. Whitelaw, p. 290 (Stirling Hammermen Recs).

MASON, Lues. Edinburgh

1637, 17 May : son to Lydia Bruce, spouse to William Mylne, in St Paul's wark, apprenticed with Thomas Bruce, dagmaker. Edinburgh Reg. of Apprentices, ii, s.v.

(MATHESON, John). Edinburgh

1601, 21 Sept : booked apprentice to Patrick Kennedy. EBA Edinburgh
Hammermen Recs, iii, 115r.

MAYNE, David. Canongate

1589, 12 Sept : testament of David Mayne dagmaker in Canongate who died
upon the sea between Leith and Kinghorn, intestate, upon
12 Sept 1589. Given up by Margaret Rannald his mother in name
of and on behalf of Alexander Mayne his lawful brother,
sum of inventory £40
debts owing by defunct £14 13s 4d
free geat £25
SRO CC 8/8/20. (Edinburgh Reg. of Testaments, i, 189).

MILLAR, John. Edinburgh

1634, 7 May : son to John Millar in Abergerrivan (? Abbey Ruin), apprenticed
with David Clark, dagmaker. Edinburgh Reg. of Apprentices, i, s.v.
1634, 4 July : apprenticeship registered by hammermen. EBA Edinburgh
Hammermen Recs, iv, 52r.
1646, 28 Jan : made burgess, dagmaker, as apprentice to the late David
Clark, dagmaker burgess. Edinburgh Burgesses, i, s.v.
1646, 27 March : gunmaker, admitted freeman with consent of the dagmakers
and lorimers. His essay was a brass buckle and an arrowhead.
1668 : described as deceased when his son John was made freeman dagmaker.
Whitelaw, p. 152.

Apprentices : Patrick Simpson, booked 1646; James Millar, son, booked
1649; George Flebairne, booked 1651.

MILLAR, John. Glasgow

1649, 16 Aug : admitted hammerman, burgess, as apprentice of late Thomas
Millar, dagmaker, and now of his widow. Glasgow Burgesses, 130.

1649, 2 Sept : admitted to the Incorporation of Hammermen as a
dagmaker. Lumsden & Aitken, History of the Glasgow Hammermen,
287.

1656, 18 Sept : admitted guild brother, dagmaker, by right of his wife
Margaret, lawful daughter of the late Robert Kincaid, maltman,
burgess. Glasgow Burgesses, 130.

MILLAR, Thomas. Glasgow

1622, 17 Sept : admitted to the Incorporation of Hammermen. Lumsden
& Aitken, History of the Glasgow Hammermen, 286.

1623, 24 July : admitted hammerman, burgess, as eldest lawful son of
John (sic) Millar, hammerman, burgess. Glasgow Burgesses, 60.

1631, 12 Aug : testament of Marion Paterson, spouse of Thomas Millar,
dagmaker, burgess, registered. Glasgow Reg. of Testaments, 394.

1637 : deacon. Lumsden & Aitken, History of the Glasgow Hammermen, 387.

1649, 16 Aug : deceased, when his apprentice, John Millar, was admitted
burgess. Ibid., 130.

Apprentice : John Millar, admitted burgess 1649.

MILLAR, William. Dundee

1596, 8 June : son of Ewing Millar in Atholl and Apprentice to Patrick
Ramsay gunmaker, admitted freeman. Whitelaw, p. 51 (Dundee
Hammermen Lockit Bk).

MITCHELL, Robert. Edinburgh

1593, 20 Nov : dagmaker in Leith, paid £10 in part payment for his
upset. EBA Edinburgh Hammermen Recs, iii, 77v.

MOFFET, George. Glasgow

1630, 1 Mar : lawful son of the late James Moffet in Cairnhill, booked
apprentice to John McBen hammerman, for 7 years, and 2 years for
'meat and fee'. Indenture dated 2 Feb. Lumsden, Records of
Glasgow Trades House, 139.

MONCRIEFF, Andrew. Perth

1586/7, 24 Jan : lorimer and gunmaker, admitted freeman. NLS

MS 19239, fo. 57r.

1592, 21 Sept : dispute between Andrew Moncrieff, lorimer, and David Bow.

Ibid., fo. 57v.

MONCRIEFF, George. Canongate

1644, 31 Dec : son to John Moncreiff, coachman, entered apprentice to George Turner, dagmaker, for 6 years. EBA Canongate Hammermen Recs.

1647, 14 Aug : apprentice to George Turner, fined 40s for assaulting Lancelot Stevilo. Ibid.

MOSMAN, James. Canongate

1640, 18 May : lawful son to the late John Mosman in Edinburgh entered apprentice to Mungo Mosman (1) dagmaker, for 9 years. EBA Canongate Hammermen Recs.

1648, 28 Feb : sometime apprentice to the late Mungo Mosman to serve the remaining years of his apprenticeship with George Turner, dagmaker. Ibid.

1651, 16 Oct : set an essay consisting of 'ane sufficient pistoll with ane iron ratch and ane timber stok'. Admitted freeman, 23 Oct. Ibid.

1652, 12 Aug : admitted burgess, as apprentice to Mungo Mosman, burgess. Canongate Burgesses, s.v.

MOSMAN, John. Canongate

1643, 27 June : younger son to John Mosman in Haitelaw entered apprentice to Mungo Mosman younger for 6 years. EBA Canongate Hammermen Recs.

MOSMAN, Mungo (1). Canongate

1630, 15 May : lawful son of Robert Mosman, dagmaker, admitted to his essay, viz 'ane outred plain irne pistolet with ane plain timber stock'. Admitted freeman 21 May. EBA Canongate Hammermen Recs.

1630, 22 Sept : admitted burgess as son to Robert Mosman, dagmaker, burgess. Canongate Burgesses, s.v.

1637-8 : boxmaster. EBA Canongate Hammermen Recs.

1641-44 : deacon in these years.

1646, 30 Mar : testament of, dagmaker, burgess, registered. Edinburgh Reg. of Testaments, ii, 290. (Died October 1645 : SRO CC 8/8/61, fos. 371r-372r).

1647, 15 July : James Cuthbertson (q.v.) his apprentice, sought to transfer to Alexander Wilson. EBA Canongate Hammermen Recs.

Apprentices : George Turner, booked 1630; Alexander Somerville, booked 1633; John MacKie, booked 1636; James Mosman, booked 1640; James Cuthbertson, booked 1642.

? maker of all-metal globular butt pistol, MM 1631, in the National Museum, Edinburgh, and also (?) wooden stocked fishtail butt pistol, MM 1645, in the Royal Scottish Museum, Edinburgh, but see also Mungo Mosman (2).

MOSMAN, Mungo (2). Canongate

1633, 10 July : son of the late James Mosman in Baite-lane, entered apprentice to Robert Mosman, dagmaker, for 5 years. EBA Canongate Hammermen Recs.

1639, 10 Oct : admitted burgess as apprentice and servant to Robert Mosman, dagmaker, burgess. Canongate Burgesses, s.v.

1640, 23 Aug : admitted to his essay, 'ane outred pistole with ane irne rathe and ane tymber stock'. Admitted freeman, 3 Sept. EBA Canongate Hammermen Recs.

1642, 31 May : 'The craft in ane voyce forlandes Mungo Mosman (and three others) fra their officarschip for the quhilk they haif payit ilk ane 20 marks'. Ibid.

1645 : deacon. SRO CC 8/8/62, fos. 114r-115v.

1648 : deacon. EBA Canongate Hammermen Recs.

1664, 28 Mar : described as deceased when his son-in-law, William Orrock, wright, was admitted burgess. Canongate Burgesses, s.v. Orrock.

Apprentices : John Kello, booked 1642; John Mosman, booked 1643;
William Wilson, booked 1644.

? maker of wooden stocked fishtail butt pistol, MM 1645, in the Royal Scottish Museum, Edinburgh - but see also Mungo Mosman (1).

MOSMAN, Robert. Canongate

1613, 4 May : included in a list of members of the craft. EBA Canongate Hammermen Recs.

1616, 8 May : elected master of the craft. Ibid.

1624-5 : deacon, in the second of these years as colleague to Robert Newlands. Ibid.

1642, 7 July : testament of, dagmaker, burgess, registered. Edinburgh Reg. of Testaments, ii, 290. (Died October 1641 : SRO CC 8/8/60, fos. 137r-138r).

Apprentices : William Walker, booked 1616; William Mosman, booked 1624; Patrick Wood, booked 1626; Mungo Mosman (2), booked 1623; Alexander Wilson, booked 1635; Thomas Wilson, booked 1640; William Whyte, admitted freeman 1645.

Servants : William Walker, referred to 1625; William Logan, referred to 1625.

Son : Mungo (1), dagmaker, admitted freeman and burgess, 1630.

? maker of a wooden stocked lemon butt pistol, RM 1625, in the National Museum, Edinburgh and a pair of similar pistols, RM 1630, formerly in the Schwarzburg in Thuringia.

MOSMAN, William. Canongate

1624, 13 July : entered apprentice to Robert Mosman, dagmaker for

6 years. EBA Canongate Hammermen Recs.

1634, 19 April : admitted to his essay, viz. 'ane outred pistolet'.

Admitted freeman, 24 April. Ibid.

1634, 18 Sept : admitted burgess by right of his wife (Katherine),

daughter to Thomas Glen, dagmaker, burgess. Canongate Burgesses,

s.v.

1642-3 : boxmaster. EBA Canongate Hammermen Recs.

1646, 20 May : testament of, dagmaker, burgess, registered. Edinburgh

Reg. of Testaments, ii, 290. (Died September 1645 : SRO

CC 8/8/62, fos. 114r-115v).

Apprentices : Simon Cok, booked 1634; James Sinclair (2), booked 1640;

Patrick Blackie, booked 1642.

MUIR, Alexander. Edinburgh

1598, 26 Sept : admitted burgess, dagmaker, as second son of the late

John Muir, portioner, burgess. Edinburgh Burgesses, i, s.v.

? maker of pair of wooden stocked fishtail butt pistols, AM 1611, in

the Historisches Museum, Dresden, and lock of long gun, c. 1630

in the National Museum, Edinburgh.

MUIRHEAD, Patrick. Edinburgh

1598, 5 Sept : described as dagmaker in Leith when his son Mungo was

apprenticed to Joseph Leirmonth, baxter. Edinburgh Reg. of

Apprentices, i, s.v.

MULTRAY, Francis. Canongate

1614, 23 April, 2 May : accused of an unspecified offence against the

craft which he refused to admit having committed. EBA Canongate

Hammermen Recs.

1615, 3 May : dagmaker, elected deacon. Ibid.

1621, 10 Nov, 14 Dec : fined 40s for refusing to book his servant.

Ibid.

1622, 9 Oct : ordered to book his servant, George Bruce, q.v. Ibid.

1623, 15 Jan : makes a complaint against his servant George Burne

(Bruce?) who had feed himself to Thomas Glen, dagmaker, without
his master's knowledge. Ibid.

1624, 8 Oct : charged with keeping James Kyle (q.v.) at work after he
has been discharged by the officer : fined 40s. Ibid.

1625, 10 Mar : John Stevenson (q.v.) charged with wronging his master,
Francis Multray, by taking in work without his knowledge and
taking payment for it. Ibid.

1625, 5 Dec : fined 40s for receiving William Walter, servant to Robert
Mosman, then deacon. Ibid.

1635, 25 Mar : included in a list of apprentices and their masters.
Ibid.

Apprentice : Hew Duncan, booked 1626.

Servants : John Clemene, booked 1619; George Bruce, booked 1622;

John Stevenson, mentioned 1625; Robert Smith, mentioned 1626.

MULTRAY, Walter. Canongate

1635, 25 Mar : described as apprentice of Thomas Glen (dagmaker) in a
list of apprentices and their masters. EBA Canongate Hammermen
Recs.

MURRAY, Simon. Canongate

1637, 9 Mar : wright, admitted burgess as apprentice to the late
Robert Hamilton, gunstocker, burgess. Canongate Burgesses, q.v.

NAYSMYTH, James. Canongate

1613, 4 May : listed among the brethern of the craft. EBA Canongate
Hammermen Recs.

1614, 4 May : elected a master of the craft. Ibid.

1614, 6 July : Walter Smith (q.v.) servant of James Naysmyth, dagmaker,
fined 20s for taking a customer from Thomas Glen's booth. Ibid.

1618, 25 Sept : complaint by Walter Smith, servant and apprentice to
James Naysmyth, that his master had not fulfilled his part of
the indentures of apprenticeship. Ibid.

1626, 1 Aug : complaint by the dagmakers against James Naysmyth for
receiving John McBen and William Logan (q.v.), unfreemen, in his
booth. Fined 40s on 8 Aug and excluded from the society for
obstinacy in this matter on 6 Sept. On giving full satisfaction
for all his wrongs he was received back into the society on
15 Sept. Ibid.

Apprentice/servant : Walter Smith, mentioned 1614, 1618.

NAYSMYTH, John. Edinburgh

1589, 25 April : described as living in the SE quarter. No trade given.

EBA Reg. of Extents, i.

1591, 28 Sept : described as dagmaker when his apprentice Alexander

Crawford was booked. Edinburgh Reg. of Apprentices, i, s.v.

Apprentice : Alexander Crawford, booked 1591.

NAYSMYTH, William. Edinburgh

1592, 23 May : son to David Naysmyth in Hillhead, apprenticed with

Patrick Kennedy, dagmaker. Edinburgh Reg. of Apprentices, i, s.v.

NEWLANDS, John. Edinburgh

1584, 19 Dec : apprentice to Alexander Adamson, locksmith. EBA Edinburgh

Hammermen Recs, ii, 244v.

1588, 20 Sept : son to late John Newlands, apprenticed with Alexander

Adamson, dagmaker. Edinburgh Reg. of Apprentices, i, s.v.

NISBET, John. Canongate

1645 : dagmaker, burgess of Canongate, appears as cautioner to the will of Katherine Anderson, wife of Edward Anderson, cutler in Canongate, who died in 1645. SRO CC 8/8/62.

PACKOK, James. Falkirk

1622, 30 Oct : Chrstian Watson, wife of James Packok, dagmaker in Falkirk, accused of being a witch. G.I. Murray, Records of Falkirk Parish (Falkirk, 1887), 31.

PATERSON, John. Canongate

1641, 22 June : lawful son of Thomas Paterson in Langedrum, entered apprentice to George Turner, dagmaker, for 6 years. EBA Canongate Hammermen Recs.

1650, 29 April : servitor to George Turner set an essay, viz 'ane sufficient pistoll with ane iron ratch and timber stok'.
Admitted freeman, 17 May. Ibid.

1652, 12 Aug : admitted burgess as apprentice to George Turner, burgess.
Canongate Burgesses, s.v.

PATON, James. Canongate

1646, 12 Dec : son to Thomas Paton, miller at Temple, apprenticed to David Wallace, dagmaker, for 6 years. EBA Canongate Hammermen Recs.

PATON, Robert. Canongate

1641, 18 Oct : son to Thomas Paton in Temple, entered apprentice to Thomas Forrester, dagmaker, for 6 years. EBA Canongate Hammermen Recs.

PETTIGREW, sir James (priest). Stirling

1502 : paid for devising a knok (clock) at Stirling. TA, ii, 159.

1507/8 : payments to him and his workmen in Stirling for work on guns,
in particular 27 April 1508 : 40s for making a culverin for
James IV. Ibid., iv, 95, 101, 112, 116, 117.

1511-13 : working a gold mine at Crawfordmuir. Ibid., iv, 273, 375,
396, 408, 409, 412; ADCP, 38-39.

PETTILLOK, John. Dundee

1595, 2 May : son of John Pettillok in Sketlim, booked apprentice of
John Carail gunmaker. Whitelaw, p. 51 (Dundee Hammermen
Lockit Bk).

PHILP, Andrew. Dundee

1589, 6 Nov : son of John Philp in Lour, booked apprentice to James
Alison (1) gunmaker and deacon of the craft. Whitelaw, p. 51
(Dundee Hammermen Lockit Bk).

1596-7, 8 March : admitted freeman. Ibid.

Sons : James, admitted freeman 1629; Robert, admitted freeman 1637.

? maker of barrel of all-metal fishtail pistol, IL 1620, in the Musée de
l'Armée, Paris and long gun, AP 1635, in the National Museum, Edinburgh.

PHILP, James. Dundee

1629, 12 Jan : dagmaker, son of Andrew Philp dagmaker, admitted freeman.
Whitelaw, p. 51 (Dundee Hammermen Lockit Bk).

(PHILP, Robert). Dundee

1637, 17 Feb : son of Andrew Philp, dagmaker, admitted freeman. No
craft given. Whitelaw, p. 51 (Dundee Hammermen Lockit Bk).

PRENT, John. Dundee

1588, 19 Nov : son of the deceased John Prent, smith at the Sadillstane,
booked apprentice to Andrew Alison, gunmaker. Whitelaw, p. 51
(Dundee Hammermen Lockit Bk).

PRYDE, Alexander (1). St. Andrews

1594, 13 Nov : lawful son to James Pryde at Lawthoker Mill, booked
apprentice to John Learmonth gunmaker for 6 years. Whitelaw,
p. 280 (St. Andrews Hammermen Recs).

1601, 12 Sept : son to James Pryde in Over Kelly admitted freeman.
Ibid.

1641 : deceased when his son Alexander (2) was admitted freeman. Ibid.

Apprentice : Thomas Pryde, booked 1611.

Son : Alexander (2) admitted freeman 1641.

? maker of long gun, AP 1635 in the National Museum, Edinburgh, and barrel
of all-metal fishtail butt pistol, AP 1620 (lock IL), in the
Musée de l'Armée, Paris - but see also Andrew Philp, Dundee.

PRYDE, Alexander (2). St. Andrews

1641 : admitted freeman. Whitelaw, p. 280 (St. Andrews Hammermen Recs).

1656-8, 1660-1, 1663-71, 1675-8 : deacon. Ibid.

Apprentices : Andrew Edie, booked 1647; James Scott, booked 1654;

John Russell, booked 1663.

PRYDE, Thomas. St. Andrews

1611 : son of George Pryde, maltman, booked apprentice to Alexander
Pryde (1) gunmaker. Whitelaw, p. 280 (St. Andrews Hammermen Recs).

1618 : admitted freeman. Ibid.

RAE, William. Canongate

1596 : dagmaker, burgess of Canongate, witness to the will of George
Richmond, dagmaker burgess of Canongate, q.v.

RAMSAY, David. St. Andrews

1594 : son of George Ramsay, Langraw, apprenticed to Henry Smith,
gunmaker. Whitelaw, p. 280 (St. Andrews Hammermen Recs).

RAMSAY, Hew. Dundee

1587, 26 Dec : included as a gunmaker in a list of the masters of the hammermen. Warden, Burgh Laws of Dundee, 473.

Apprentices : James Ramsay, booked 1588; John Ramsay, booked 1592.

RAMSAY, James. Dundee

1588, 14 June : son of the deceased Alexander Ramsay at the Milltown of Cluny, booked apprentice to Hew Ramsay, gunmaker. Whitelaw, p. 52 (Dundee Hammermen Lockit Bk).

RAMSAY, John. Dundee

1592, 30 May : son of the deceased Alexander Ramsay, captain in Brechin, booked apprentice to Hew Ramsay, gunmaker. Whitelaw, p. 52 (Dundee Hammermen Lockit Bk).

RAMSAY, Patrick. Dundee

1587, 26 Dec : deacon of the hammermen and gunmaker in a list of masters of the craft. His father, Silvester, is listed as a smith. Warden, Burgh Laws of Dundee, 473.

1588, 7 Aug : Patrick Ramsay, smith, made gunner in charge of the ordnance in St Mary's tower (under Thomas Davidson, principal master of it). Also in charge of the clock. Maxwell, History of Dundee, 212-13, 267, 368-71.

1603 : deacon. Maxwell, History of Dundee, 369.

1604 : deacon, in place of William Low. Ibid., 369.

1611 : deacon. Warden, Burgh Laws of Dundee, 483.

Apprentices : William Greig, booked 1591; Patrick Balcanquhall, booked 1595, William Millar, admitted freeman 1596.

? maker of long gun, PR 1599, in National Museum, Edinburgh.

RAMSAY, Robert. Dundee

1588/9, 11 Jan : son of Robert Ramsay in Panbryde, booked apprentice to Alexander Leighton, gunmaker. Whitelaw, p. 52 (Dundee Hammermen Lockit Bk).

RAMSAY, Thomas. Perth

1593, 12 Feb : gunmaker, admitted freeman on payment of £20. NLS
MS 19239, fo. 59r.

See also Thomas Ramsay, Dundee.

RAMSAY, Thomas. Dundee

1594-5, 13 Jan : gunmaker, son of Silvester Ramsay, admitted freeman.
Whitelaw, p. 52 (Dundee Hammermen Lockit Bk).

RATHMAN, George. Canongate

1594 : dagmaker in Canongate, witness to the will of Alexander Wedderspoone, cutler, there, who died in 1594. SRO CC 8/8/27.

REID, George. Ayr

1619-20 : £20 for keeping the clock and ringing the curfew bell.
Ayr Burgh Accts, 273.

1623-4 : paid £6 for 'dichting' and dressing the town's muskets.
Described as a smith. Ayr Burgh Accts, 28.

RICHMOND, George. Canongate

1596, Sept : testament of the late George Richmond, dagmaker burghess of Canongate, died Sept 1596, given up by Margaret Jack his widow who he nominates his only executrix. Witnesses: John Haldane, dagmaker, burghess of Edinburgh; Patrick Hamilton, dagmaker, burghess of Canongate; John Jaffray, cutler, burghess of Canongate; Andrew Wornock, dagmaker, burghess of Canongate; John Kello, dagmaker, burghess of Canongate; William Rae, dagmaker, burghess

of Canongate. Debtors: David Young, dagmaker, Edinburgh.

Creditors: Andrew Smith, dagmaker; Robert Stanley, dagmaker.

SRO CC 8/8/30. (Edinburgh Reg. of Testaments, i, 234;

Whitelaw, pp 299-300).

ROB(ERT)SON, John. Canongate

1628, 18 Mar : son to the late William Robson in Easter Duddingston

booked apprentice to James Sinclair dagmaker for 6 years.

EBA Canongate Hammermen Recs.

ROLLOCK, John. Canongate

1623, 24 Nov : booked apprentice to Thomas Glen, dagmaker, for 6 years.

EBA Canongate Hammermen Recs.

RULE, John. Canongate

1631, 26 May : dagmaker, admitted burgess as son to the late Alexander

Rule, tailor, burgess. Canongate Burgesses, s.v.

SCOTT, Alexander. Edinburgh

1596, 30 Mar : booked apprentice to David Clark, dagmaker. EBA Edinburgh

Hammermen Recs, iii, 85v.

SCOTT, Andrew. Edinburgh

1627, 11 July : son to John Scott, stabler, apprenticed with David Clark,

dagmaker. Edinburgh Reg. of Apprentices, i, s.v.

1627, 29 Aug : apprenticeship booked by the hammermen. EBA Edinburgh

Hammermen Recs, iii, 345r.

SIMPSON, Patrick. Edinburgh

1646, 28 Oct : son to Arthur Simpson, burgess of Wigtown, apprenticed

with John Miller, dagmaker. Edinburgh Reg. of Apprentices, i, s.v.

1647, 7 Nov : apprenticeship booked by the hammermen. EBA Edinburgh

Hammermen Recs, iv, 138v.

SINCLAIR, James (1). Canongate

1614, 6 July : charged along with 8 others of great riot and offence in that they drank 'ane aproun' to Robert Douglas's (cutler) apprentice. Each fined 6s 8d and discharged from work until paid. EBA Canongate Hammermen Recs.

1616, 27 June : set an essay of 'ane outrid pistilet' and admitted freeman on 18 July. Ibid.

1616, 18 July : gunmaker, acknowledged a debt due to Patrick Hamilton his master of 10 weeks service which he bound himself to pay. Ibid.

1620, 17 July : complaint by James Sinclair, dagmaker, against Robert Cooper, servitor of William White, cutler, who he accused of calling back from his window a gentleman who was agreeing with him for the dressing and mending of some work. White fined 40s. Ibid.

1647, 20 July : fined 40s for keeping an unbooked apprentice. Ibid.

Apprentices : Patrick Cruickshank, booked 1625; James Sturgeon, mentioned 1626; John Rob(ert)son booked 1628; his son Andrew, booked 1648.

? maker of pair of all-metal globular butt pistols, IS 1633, in Skokloster Castle, Sweden - but see also John Sinclair, Canongate, and John Smith (2), Perth.

SINCLAIR, James (2). Canongate

1640, 13 Feb : lawful son to James Sinclair in Westhill of Innerpeffrey, entered apprentice to William Mosman, dagmaker, for 5 years. EBA Canongate Hammetmen Recs.

1642, 25 June : complaint given in by William Mosman against James Sinclair his apprentice for certain wrongs for which he is unlauded 40s. Ibid.

1646, 2 Dec : set an essay, viz 'an outred pistole with ane tymber
stok'. Admitted 9 Dec. Ibid.

1648, 20 Jan : admitted burgess as apprentice of William Mosman, burgess,
Canongate Burgesses, s.v.

SINCLAIR, John. Canongate

1623, 22 Oct : gunmaker, petitioned to be admitted freeman, his essay
to be 'ane utred pistolat'. Admitted freeman 30 Oct. EBA
Canongate Hammermen Recs.

1624, 25 June : charged with keeping an unbooked apprentice. Ibid.

1625, 9 May : admitted to be officer of the craft. Ibid.

1625, 9 July : officer of the craft, accused of sundry faults and
warned. Ibid.

1626, 25 Nov : ordered to book his apprentice. Ibid.

1642, 16 Sept : fined 40s for receiving James Clark to work for him,
not being feed. Ibid.

1648, 17 Oct : essay master (for Thomas Wilson, dagmaker). Ibid.

Apprentices : Henry Kello (2), booked 1627; John Stewart, booked 1646.

? maker of pair of all-metal globular butt pistols, IS 1633, in
Skokloster Castle, Sweden - but see also James Sinclair (1),
Canongate, and John Smith (2), Perth.

SMITH, Alexander. Brechin

1645 : gunsmith, locksmith and lorimer (information extracted from
Brechin Hammermen's Book by Angus District Archivist).

(SMITH, Andrew). Perth

1593/4, 15 Jan : admitted master as eldest son of John Smith (1),
lorimer and gunmaker. No craft stated. NLS MS 19239, fo. 58v.

SMITH, Andrew. (?) Canongate

1596 : creditor to the will of George Richmond, dagmaker burgess of
Canongate, q.v. NB. his place of work is not mentioned.

Son : Robert Smith, feed to Francis Multray, gunsmith, 1626.

SMITH, Henry (Harry). St. Andrews

1585/6 : admitted freeman. Whitelaw, p. 280 (St. Andrews Hammemermen
Recs).

1596-8, 1601-3 : deacon. Ibid.

1598, 8 May : gunner and burgess of St. Andrews appointed his majesty's
armourer for life, 'anent the making and mending of his hienes
hagbuttis, pistollettis, arce and pellok bowis and all uther yrne
wapinis alsweill for defence as plesour, thair pertinentis and
furnitour'. Whitelaw, p. 280 (SRO PS 1/70, fo. 187). NB. he
was paid with the other gunners in Edinburgh Castle as an ordinary
smith, £6 per month (SRO E21/74-75, fo. 91r, etc).

1608 : name struck out of list of council members of St. Andrews
Hammermen Craft. Whitelaw, p. 280 (St. Andrews Hammermen Recs).
Ceased to be paid as royal smith some time between July 1606 and
May 1611. SRO E21/78, fo. 60; E21/79, fo. 57r.

Apprentices : John Cunningham, booked 1588-9; David Ramsay, booked 1594;
William Wilson, booked 1608.

SMITH, James. Glasgow

1635, 19 Feb : admitted hammerman, burgess, as lawful son to deceased
James Smith, hammerman. Glasgow Burgesses, 90.

1635, 6 Mar : admitted to the Incorporation of Hammermen as a dagmaker,
Lumsden & Aitken, History of the Glasgow Hammermen, 287.

1649, 2 July : testament of, hammerman, burgess. Glasgow Reg. of
Testaments, 458.

NB. his father was possibly a clockmaker (see RPC, vii, 553) and not a dagmaker as suggested by Whitelaw (p. 241).

SMITH, John. St. Andrews

1581, Nov : gunner, witness to testament of late Christian Donaldson, sometime spouse to James Brown, smith, citiner of St. Andrews.

SRO CC 8/8/10.

1584 (or 5?) : gunmaker, deacon. Whitelaw, p. 281 (St. Andrews Hammermen Recs).

1585, 20 Dec : gunner, died. Ibid.

Apprentice : John Learmonth, booked 1584.

SMITH, John (1). Perth

1593, 15 Jan : described as lorimer and gunmaker when his son Andrew was admitted master. NLS MS 19239, fo. 58v.

Sons : Andrew, admitted 1593; John, admitted 1606.

SMITH, John (2). Perth

1606, 10 June : gunmaker and locksmith admitted freeman as son of John Smith. NLS MS 19239, fo. 84r.

1635, 24 Sept : gunner, discharged from all working in the cutler craft in time coming under pain of confiscation. Ibid., fo. 112v.

SMITH, John. Ayr

1612-13 : paid £14 13s 4d for taking down the moon under the Tolbooth clock, dressing it and putting it back, and for dressing the town's muskets. Ayr Burgh Accts, 255.

1606-18 : various payments for keeping and repairing the clock.

Described as snapmaker or snapper. Ibid., passim.

1615-16 : paid £4 10s for going to Irvine 'anent the casting of the town's bell. Ibid., 261.

SMITH, Robert. Canongate

1626, 24 Feb : son to Andrew Smith, gunmaker, feed by Francis Multray, gunsmith. EBA Canongate Hammermen Recs.

1626, 1 May : complaint by Patrick Mitchell, cutler, against Robert Smith, servant to Francis Multray, and others, not upheld. Ibid.

SMITH, Walter. Canongate

1614, 6 July : servant to James Naysmyth, dagmaker, charged with coming to Thomas Glen's booth with a pistol in his lap and taking a gentleman away with him. Fined 20s and discharged from work until he paid. EBA Canongate Hammermen Recs.

1618, 25 Sept : complains against his master James Naysmyth for not fulfilling his part of the indentures of apprenticeship. Ibid.

SMITH, William. Canongate

1582, 30 Oct : dagmaker, was made burgess by right of his wife, a daughter of Edward Preston, burgess. Maitland Misc., ii, 349.

SMITH, William. Aberdeen

1630, 1 Sept : Admitted burgess gunmaker, described as 'eldest son to Andrew Smith hammerman, burgess. Whitelaw, 38 (Aberdeen Burgess Roll).

SOMERVILLE, Alexander. Canongate

1633, 21 Mar : son to James Somerville, gardner, entered apprentice to Mungo Mosman (1), dagmaker, for 6 years. EBA Canongate Hammermen Recs.

1643, 28 Sept : admitted burgess as son to James Somerville, gardner, burgess. Canongate Burgesses, s.v.

1643, 16 Oct : admitted to his essay, viz 'ane outred pistoll'.
Admitted freeman, 20 Oct. EBA Canongate Hammermen Recs.

Apprentice : Archibald Gibson, booked 1644.

SPENS, Peter. Edinburgh

1560, 10 Nov : Cuthbert Burrell paid 20s for his apprentice, Peter

Spens. Whitelaw, p. 174 (Edinburgh Hammermen Recs).

1574, 25 Dec : admitted burgess, lorimer by right of his wife Agnes,

eldest daughter of John Garland, slater. Edinburgh Burgesses,

i, s.v.

1575, 13 June : admitted master lorimer. EBA Edinburgh Hammermen Recs,

ii, 239r.

1583-93 : described as smith in the SE quarter, from 1588, dagmaker.

EBA Reg. of Extents, i.

1593, 10 May : fined along with Alexander Adamson (q.v.) and David Edgar

for buying unfreemen's work.

1605, 31 July : described as deceased when Peter Henderson was admitted

burgess. Edinburgh Burgesses, i, s.v.

Apprentices : Bartilmo Spens, booked 1580; Mathew Watson, booked 1584;

John Acheson, booked 1586; Peter Henderson, booked 1592/3;

Adam Spens, booked 1595/6 (of which only Watson is known to have worked as a dagmaker rather than a lorimer).

STANLEY, Robert. Canongate

1596 : dagmaker, listed as a creditor to the will of George Richmond,

dagmaker burgess of Canongate, q.v.

1621, 11 July : testament of, gunstocker in Leith Wynd, registered.

Edinburgh Reg. of Testaments, ii, 380. (Died 3 April 1621 :

SRO CC 8/8/51, fos. 82v-83r).

STANLEY, William. Stirling

1563-1611 : listed among the brethern of the craft admitted between

these dates. No trade given. Whitelaw, p. 291 (Stirling

Hammermen Recs).

1599 : described as gunsmith in a list of masters of crafts of this

date. Ibid.

STEVENSON, John. Canongate

1614, 6 July : with eight others fined 6s 8d for great riot and offence
in drinking 'ane aproun' to Robert Douglas's (cutler) apprentice.
EBA Canongate Hammermen Recs.

1617, 18 April : Patrick Hamilton, gunsmith, ordered to return a gun
to him. Ibid.

1617, 7 May : dagmaker, admitted to his essay, viz. 'ane outred pistolet'.
Admitted freeman, 13 May. Ibid.

1625, 10 March : charged with wronging his master, Francis Multray, by
taking in work without his knowledge and taking payment for it.
Fined 40s. Ibid.

1643, 28 Sept : admitted burgess as son to Thomas Stevenson, burgess.
Canongate Burgesses, s.v.

STURGEON, James. Canongate

1626, 1 May : apprentice to James Sinclair, complained against by
Patrick Mitchell, cutler, but his complaint not upheld. EBA
Canongate Hammermen Recs.

1630, 27 Nov : son to Charles Sturgeon, admitted to his essay, viz.
'ane outred pistolet of irne'. Ibid.

1633, 18 May : promised to pay £10 fee to the officer, Alexander Brown,
cutler. Ibid.

TAILOR, Andrew. Dundee

1626, 16 Oct : son of Andrew Tailor in Drumkilbo, booked apprentice
to John Carail, gunmaker. Whitelaw, p. 52 (Dundee Hammermen
Lockit Bk).

1634, 22 Sept : admitted freeman. Ibid., p. 52.

1662 : died, testament given up by his relict, Isabel Brown.

SRO CC 3/3/6.

THOMSON, James. Dundee

1627, 18 Dec : gunmaker, lawful son of Andrew Thomson, maltman burgess of Dundee, and apprentice to Robert Alison, gunmaker, burgess, admitted freeman. Whitelaw, p. 52 (Dundee Hammermen Lockit Bk).
? maker of lock on long gun in the National Museum. See also James Thornton and John Tweedie.

THOMSON, Mathew. Dundee

1593, 29 Dec : son of Thomas Thomson in Drone booked apprentice to Richard Low, gunmaker. Whitelaw, p. 52 (Dundee Hammermen Lockit Bk).

1610, 20 Sept : admitted freeman. Ibid., p. 52.

THOMSON, William. Perth

1594, 21 May : gunmaker, admitted freeman. NLS MS 19239, fo. 60r.

See also William Thomson, Edinburgh.

THOMSON, William. Edinburgh

1606, 26 Mar : described as deceased dagmaker when his son Thomas was booked apprentice (skinner). Edinburgh Reg. of Apprentices, i, s.v.

1600, 31 May : testament of Marion Coutts, lawful spouse of William Thomson, dagmaker, outwith the West Port. Edinburgh Reg. of Testaments, i, 62.

THORNTON, James. Dundee

1626, 14 Feb : son of John Thornton in Glamis, booked apprentice to Patrick Alison, gunmaker. Whitelaw, p. 52 (Dundee Hammermen Lockit Bk).

1631, 2 Sept : blacksmith, made burgess at request of the Earl of Kinghorn. NMAS Whitelaw MSS extracts from Dundee Burgess Roll.
? maker of lock on long gun in the National Museum. See also James Thomson and John Tweedie.

(TRAILL, John). Dundee

1597, 13 Sept : 'Sauld to John Traill and William Lowis wyffis gunmakeris twa boundis lynt...'. Wedderburne Acct Bk, 82.

Possibly this is a mistake for John Traill, a prominent Dundee merchant.

TURNER, George. Canongate

1630, 30 June : son to William Turner, blacksmith in St. Ninians Row, entered apprentice to Mungo Mosman dagmaker for 6 years. EBA Canongate Hammermen Recs.

1637, 24 Aug : admitted burgess as apprentice to Mungo Mosman, dagmaker, burgess. Canongate Burgesses, s.v.

1639, 21 May : admitted his essay, viz. 'ane pistolet with ane irne rathe sufficiently maid and stokit in tymber outred'. Admitted freeman, s8 June. EBA Canongate Hammermen Recs.

1642, 3 May : elected officer. Ibid.

1642, 31 May : 'the craft in ane voyce forlandes George Turner (and four others) fra their officership for the quhilk they haif payit ilk ane 20 merks'. Ibid.

1643, 2 Sept : Thomas Forrester (dagmaker) and George Turner, having a controversy, agree to submit it to the judgement of the deacon. Ibid.

1650, 10 June : appointed King's armourer in succession to Henry Smith (q.v.) 'anent the making and mending of his hieness hagbuttis, pistollettis, arce and pellet bowis and all iron weapons, als well for defens as offenss, thair pertinentis and furnitour'. Whitelaw, p. 209 (SRO PS 1/116, fo. 166).

1660, 4 Jan : acted as essaymaster for Hugh Somerville. EBA Canongate Hammermen Recs.

1661, 16 Dec (and 1 Mar 1662): testament of, dagmaker, burgess, registered Edinburgh Reg. of Testaments, ii, 410. (Died September 1661 : SRO CC 8/8/70, fos. 171v-172v, 228v-230r).

Apprentices : John Turner (his brother), booked 1640; George Moncreiff,
booked 1644; George Kyle, booked 1646.

Son : William Turner, gunsmith, admitted burgess 1662.

TURNER, John. Canongate

1640, 13 Feb : entered apprentice to George Turner, dagmaker, his
brother, for 5 years. EBA Canongate Hammermen Recs.

TWEEDIE, John. Canongate

1628, 8 April : son to late James Tweedie, sometime baillie of Peebles,
entered apprentice to William Walker, dagmaker, for 6 years.
EBA Canongate Hammermen Recs.

1635, 25 Mar : included in a list of apprentices and masters. Ibid.
? maker of lock on long gun in the National Museum. See also
James Thomson and James Thornton.

TWEEDIE, Robert. Canongate

1627, 9 Jan : lawful son to William Tweedie, burgess of Canongate,
entered apprentice to William Walker, dagmaker, for 5 years.
EBA Canongate Hammermen Recs.

VAUS, William. Edinburgh

1596, 1 June : admitted burgess, dagmaker, by right of his wife Agnes,
daughter of the late Steven Boyes, baxter. Edinburgh Burgesses,
i, s.v.

WALKER, William. Canongate

1616, 9 Nov : entered apprentice to Robert Mosman gunmaker for 6 years.
EBA Canongate Hammermen Recs.

1625, 5 Dec : Francis Multray, dagmaker, fined 40s for receiving William
Walker, servant to Robert Mosman. Ibid.

1626, 10 June : dagmaker, apprentice to Robert Mosman, admitted to his
essay, viz 'ane outred pistolet'. Admitted freeman, 17 June.
Ibid.

1635, 25 Mar : included in a list of apprentices and masters.

1639, 12 Nov : Thomas Nicoll elected boxmaster in respect of the decease of William Walker, last boxmaster. Ibid.

Apprentices : Robert Tweedie, booked 1627; John Tweedie, booked 1628; Thomas Foster, booked 1633.

WALLACE, David. Canongate

1626, 16 Oct : son to Robert Wallace, tailor, burgess of Canongate, entered apprentice to James Kyle, dagmaker, freeman, for 6 years. EBA Canongate Hammermen Recs.

1638, 1 June : dagmaker, apprentice of James Kyle, admitted to essay, viz. 'ane sufficient outred pistolet with ane irne rathe and tymber stock'. Admitted freeman, 22 June. Ibid.

1639, 7 Mar : admitted burgess as son to deceased Robert Wallace, tailor, burgess. Canongate Burgesses, s.v.

1640, 4 May : elected officer. EBA Canongate Hammermen Recs.

1656, debtor to the estate of Richard Hamilton, dagmaker in the Coldtoun (Calton), who died 1656. SRO CC 8/8/69.

Apprentices : Cuthbert Carruthers, booked 1643; James Paton, booked 1646; Francis Henderson, admitted 1659.

WALLACE, Nicoll. Edinburgh

1602, 9 Nov : admitted burgess, dagmaker, by right of his wife Isobel, daughter of John Mathie, bonnetmaker. Edinburgh Burgesses, i, s.v.

WALLACE, Robert. Preston (East Lothian)

1609, 29 July : dagmaker, referred to in an assault charge. RPC, viii, 340, 356.

WATSON, Mathew. Edinburgh

1584, 12 June : booked apprentice to Peter Spens, lorimer. EBA

Edinburgh Hammermen Recs, ii, 244r.

1594, 13 July : a freeman's son, admitted to his essay, viz. 'ane hagbut, ane dag and ane snap to be all perfytlie outred'. Admitted freeman 28 Jan. Ibid., iii, 79v, 81r.

1594/5, 20 Jan : admitted burgess, dagmaker, second son of the late John Watson, smith. Edinburgh Burgesses, i, s.v.

WATT, John. Edinburgh

1574/5, 19 Jan : admitted burgess, smith, as son and heir of the late John Watt, smith. Edinburgh Burgesses, i, s.v.

1575 : admitted freeman of the hammermen as a locksmith. Whitelaw, p. 161 (Edinburgh Hammermen Recs).

1583-92 : described as a smith in the SW quarter. EBA Reg. of Extents, i,

1590, 12 Sept : admitted guild brother, smith, deacon of the hammermen, 'ane auld burges befoir the decreit arbitrall'. Edinburgh Burgesses, i, s.v.

1591/2, 16 Mar : St. Roche's acres set to John Watt, dagmaker. Edinburgh Burgh Recs (1589-1603), 61.

1596, 17 Dec : the deacon of deacons, John Watt, smith, raised the whole crafts in arms for defence of the king, sitting in session in the tolbooth, upon a rumour that he was to be murdered. Dalyell, Fragments, 39-40.

1598, 17 Nov : John Watt, dagmaker, made water baillie at a salary of £100 yearly. Edinburgh Burgh Recs (1589-1603), 237.

1598, 15 Dec : agrees to remove from the yards of the Sciennes at Candlemas. Ibid., 239.

1601, 17 April : Alexander Slowman, merchant (and next door neighbour) apprehended for the alleged slaughter of John Watt who died suddenly on the Burghmuir. Ibid., 178, 284-5.

1601, 29 July : testament of, dagmaker, burgess, registered.

Edinburgh Reg. of Testaments, ii, 422. (Died April 1601 :

SRO CC 8/8/35).

Apprentices : Alexander Adamson, booked 1575; Simon Watt, booked 1593.

WATT, Simon. Edinburgh

1593, 23 Oct : son to John Watt in Kilwinning in Woodside, apprenticed

with John Watt, dagmaker. Edinburgh Reg. of Apprentices, i, s.v.

WHITBREW, Alexander. Stirling

1633, 11 Mar : booked apprentice to John Frisall, dagmaker. Whitelaw,

p. 291 (Stirling Hammermen Recs.)

WHITE, Adam. Stirling

1592, 8 Sept : dagmaker, married Margaret, daughter of Thomas Lawson,

traveller. Northern Notes & Queries, vi (1892), 167.

WHITE, William. Canongate

1643, 28 Sept : admitted burgess as son to William White, tailor (?),

burgess. Canongate Burgesses, s.v.

1645, 25 Feb : lawful son to William White, cutler, freeman, and

apprentice to the late Robert Mosman dagmaker, admitted to his

essay, viz. 'ane outred pistoll with ane tymber stok'. Admitted

last day of Feb. EBA Canongate Hammermen Recs.

WILSON, Alexander. Canongate

1635, 3 July : son to Laurence Wilson in Corneistoun, entered apprentice

to Robert Mosman dagmaker, for 5 years. EBA Canongate Hammermen

Recs.

1643, 10 April : apprentice to the late Robert Mosman, admitted to his

essay, viz. 'ane outred irne pistolet'. Admitted freeman

13 April. Ibid.

1643, 28 Sept : admitted burgess as apprentice to Robert Mosman,
dagmaker, burgess. Canongate Burgesses, s.v.

1647, 15 July : James Cuthbertson, apprentice of the late Mungo Mosman(1),
wishes to transfer to him. EBA Canongate Hammermen Recs.

1669, 18 Feb : with Thomas Gray q.v. and other Canongate gunsmiths,
contracted to supply muskets to Edinburgh Castle. Whitelaw, p. 211
(SRO E26-28/76, 22).

Apprentices : Rolland Wilson, booked 1643; (?) James Cuthbertson,
formerly with Mungo Mosman (1); Alexander Logan, booked 1648.

WILSON, Archibald. Stirling

1640, 31 Jan : booked apprentice to Andrew Ker (dagmaker). Whitelaw,
p. 291 (Stirling Hammermen Recs).

WILSON, Henry. St. Andrews

1609, 20 May : lawful son of William Wilson baxter, booked apprentice
to John Learmonth gunmaker for 6 years. Whitelaw, p. 281
(St. Andrews Hammermen Recs).

WILSON, John. Stirling

1644, 24 July : booked apprentice to Andrew Ker, dagmaker. Whitelaw,
p. 291 (Stirling Hammermen Recs).

WILSON, Patrick. Canongate

1633, 18 July : son to late Patrick Wilson in Gosford, apprenticed to
William Black, dagmaker, for 7 years. EBA Canongate Hammermen
Recs.

1645, 13 Mar : admitted burgess, by right of wife, Lucretia, daughter
to John Stevenson (dagmaker), burgess. Canongate Burgesses, s.v.

1646, 5 Nov : dagmaker, admitted to his essay, viz. 'ane outred pistoll
with ane tymber stock'. Admitted 14 Nov.

Apprentice : William Robertson, booked 1647.

WILSON, Rolland. Canongate

1643, 19 Dec : son to Laurence Wilson in Cormeistoun, entered apprentice
to Alexander Wilson, dagmaker, for 6 years. EBA Canongate
Hammermen Recs.

WILSON, Thomas. Canongate

1640, 3 Dec : son to Laurence Wilson in Cormeistoun, entered apprentice
to Robert Mosman, dagmaker, for 6 years. EBA Canongate
Hammermen Recs.

1648, 17 Oct : apprentice to late Robert Mosman, serving forth his time
with Mosman's widow, Margaret Fender, was admitted to his essay,
viz. 'ane sufficient outred pistoll with the rathe of irone and
ane tymber stock'. Admitted 20 Oct. Ibid.

1660, 8 Mar : acted as essay master for George Kyle. Ibid.

Apprentices : John Wilson, admitted burgess 1659; Hugh Somerville,
admitted freeman 1660; Lawrence Wilson, admitted burgess 1673.

WILSON, William. St. Andrews

1608 : son of Robert Wilson, St. Andrews, apprenticed to Henry Smith
(gunmaker) and his wife, Elspeth Brydie. Whitelaw, p. 281
(St. Andrews Hammermen Recs).

WOOD, Patrick. Canongate

1626 : booked apprentice to Robert Mosman (dagmaker). EBA Canongate
Hammermen Recs.

WORNOCK, Andrew. Canongate

1596 : dagmaker, burgess, appears as a witness to the will of George
Richmond, dagmaker, burgess, q.v.

YOUNG, Alexander. Glasgow

1629, 17 Sept : admitted hammerman, burgess and freeman, gratis.

Glasgow Burgesses, 74.

1629, 23 Sept : admitted to the Incorporation of Hammermen as a stranger,
dagmaker. Lumsden & Aitken, History of the Glasgow Hammermen, 287.

YOUNG, David. Winchburgh

1596 : dagmaker, debtor to the will of George Richmond, dagmaker,
burgess of Canongate, q.v.

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As far as practicable, the titles of the major sources used in this thesis have been abbreviated in the text in conformity to the List of Abbreviated Titles of the Printed Sources of Scottish History to 1560 published as a supplement to the Scottish Historical Review for October 1963. Other titles of original sources have been abbreviated using the same criteria adopted by the List. In all cases these works are listed below under their abbreviated form and not under the names of their authors or editors.

Section III lists all the works used which give information on surviving pieces of artillery, firearms and other weapons, items of metalwork, etc., cited as comparisons. Section IV gives sources for the descriptions and analyses of fortifications mentioned in the text.

I ORIGINAL SOURCES

Manuscripts

- EBA Annuity Tax Roll (1634-5).
- EBA Canongate Hammermen Records.
- EBA Edinburgh Hammermen Records.
- EBA Register of Extents (of Edinburgh and the other royal burghs), vols 1 and 2.
- NLS MS 19239 Perth Hammermen Records.
- NMAS Soc Antiq MSS no 533. Papers relating to Mons Meg.
- PRO SP 52/25 'The names of suche, as were in the castell of Edingborow when it was rendred: the 28 of May. 1573'.
- SRO CC (etc) Commissariat testaments.
- SRO E 21/-, E 22/- Unpublished Treasurer's accounts.
- SRO E 34/21 Building accounts for the fort on Inchkeith and at Eyemouth.

SRO E 96/- Miscellaneous papers on artillery, etc.

SRO GD 248/30/3 Inventory of the Laird of Grant's 'Guncage', 1720.

SRO PS 1/- Unpublished Privy Seal records.

Published Works

Aberdeen Council Register Extracts from the Council Register of the
Burgh of Aberdeen (Spalding Club, 1844-8).

ADC The Acts of the Lords of Council in Civil Causes, edd. T. Thomson,
et al, (Edinburgh, 1839, 1981-).

ADCP Acts of the Lords of Council in Public Affairs 1501-1554, ed.
R.K. Hannay (Edinburgh, 1932).

AMW Accounts of the Masters of Works, ed. H.M. Paton (Edinburgh, 1957-).

APS The Acts of the Parliaments of Scotland, ed. T. Thomson & C. Innes
(Edinburgh, 1814-75).

N Ayr Burgh Accts Ayr Burgh Accounts, 1534-1624, ed. G.S. Pryde (Scot. Hist.
Soc. 1937).

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85-125.

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(Edinburgh, 1881-8).

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and Mary, Queen of Scots, 1547-1603, ed. J. Bain, et al. (Edinburgh,
1898-).

Cal State Papers Domestic Calendar of State Papers, Domestic Series, of
the Reigns of Edward VI, Mary, Elizabeth, 1547-1580, ed. R. Lemon,
et al (London, 1856-).

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and Mary Queen of Scots 1547-1603, edd. J. Bain, et al. (Edinburgh,
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