

Transactions
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A. E. TRUCKELL and W. F. CORMACK, FF.S.A.Scot.

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EDITORIAL

Contributions are invited on the Natural History, Antiquities, Archaeology or Geology of South-West Scotland or the Solway Basin and preference is always given to original work on local subjects. It may also be possible to provide space for Industrial Archaeology. Intending contributors should, in the first instance, apply to the Editors for "Instructions to Contributors." Each contributor has seen a proof of his paper and neither the Editors nor the Society hold themselves responsible for the accuracy of scientific, historical or personal information.

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The illustration on the front cover is of the Wamphray Grave Slab from the article, "The Early Church in Dumfriesshire," by the late W. G. Collingwood, in Volume XII (1924-25) of these Transactions.

This Volume is made with the assistance of a generous Carnegie Grant. The Society is also grateful to the Committee for Excavation and Field Work of the University of Newcastle upon Tyne for a Grant towards the publication of Mr Jobey's article.

THE ANTIMONY, BISMUTH, MOLYBDENUM AND TUNGSTEN MINERALS OF SOUTH-WEST SCOTLAND

by James Williams, F.S.A.Scot.

The elements which are the subject of this note are of some rarity and although some have been known in this area for many years others are of more recent discovery. Their rarity may be judged from the following terrestrial abundances :—

Element	Crustal Abundance
Antimony	0.2 grams/ton
Bismuth	0.2 g/t
Molybdenum	0.1 g/t
Tungsten	0.1 g/t

As can be seen from the above table the four elements have a comparable rarity as far as an average crustal abundance is concerned. However, Antimony is by far the most well known of the group, and this is very probably due to its occurrence in low-temperature hydrothermal veins where it would no doubt be encountered during earlier times in prospect work for lead and zinc. The other three elements however are almost always associated with acidic (granitic) rocks as one of the later products of crystallization occurring chiefly in pneumatolytic and high-temperature hydrothermal veins.

The various minerals which are derived from these four elements are noted below under the localities in which they occur in the three South-Western Counties.

Antimony Minerals

The Glendinning or Louisa Antimony Mine is situated near the head of the Glenshanna Burn (a tributary of the Meggat Water) in the parish of Westerkirk (Nat. Grid. Ref. NY312965). The ore was found in 1788 and extracted 1793-98, 1888-91 and 1919-22. Full details of the discovery and history of the mine are given in volume XLII of these Transactions.¹

The vein trends north-east and fades south-east at from 80° to vertical. The walls are horizontally slickensided and about four feet apart. The infilling consists mainly of breccia of country-rock (Silurian slate) cemented together with calcite and quartz with occasional strings of ore up to two inches in width. The primary antimony mineral is stibnite, Sb_2S_3 , which occurs in masses and strings. It occurs intimately admixed with lead (galena), zinc (sphalerite—mainly the black iron-bearing variety “marmatite” but some of the lighter, more translucent, “honey-blende” also exists), copper (chalcopyrites) and iron (pyrites) minerals. The other primary antimony minerals jamesonite ($\text{Pb}_4\text{FeSb}_6\text{S}_{14}$) and

1. The Glendinning Antimony Mine Louisa Mine). A. McCracken, T.D.G.N.H.A.S. III/42/140-8. See also the Geological Survey Memoir on Mineral Resources, Vol. XV, (1920), Arsenic & Antimony Ores, pp 54-6.

semseyite ($\text{Pb}_9\text{Sb}_8\text{S}_{21}$) also occur, but rarely. Semseyite is particularly so, and is reported and analysed in Dana, 7th ed., Vol. I, p.467.² The mineral is found as crystals associated with valentinite (specimen in the Royal Scottish Museum, Edinburgh).

Of the secondary minerals cervantite and valentinite can only be recorded in minor amounts encrusting upon stibnite.

Patrick Dudgeon records the following pseudomorphs :— (i) Cervantite after valentinite; and (ii) Cervantite after stibnite.³

The Knipes Antimony Mine⁴ is situated some three miles south south-east of New Cumnock (Nat. Grid. Ref. NS657104) in New Cumnock parish and near the centre of the small Knipes/Hare Hill granite mass. The vein was opened some time in the 1850's⁵ as a trial; but none of the ore appears to have been taken away—presumably due to the transport difficulties from such a remote situation. The vein, which is 12-18 inches in breadth runs north-south and is nearly vertical, consists of quartz penetrated by crystals of stibnite up to $2\frac{1}{2}$ -3 inches in length (smaller crystals in cavities often show the characteristic twisted form). Occasional masses and strings of the mineral can be found up to eight inches in thickness. All the common oxidation products of stibnite are present, viz. cervantite, valentinite, and kermesite. Cervantite is by far the commonest and often exists as pseudomorphs after stibnite. In the past there have been some doubtful records of cinnabar (Hgs) from this locality but these should be disregarded as mistakes for kermesite. There is a single specimen of jamesonite in the Royal Scottish Museum, Edinburgh, recorded as being from this deposit.⁶ Again this must be regarded with suspicion as there are no records of either iron or lead minerals from this vein.

Wanlockhead. At the Glen Crieve Mine, Wanlockhead (Nat. Grid. Ref. NS865134) Professor Heddle records that jamesonite is "said to occur"⁷—a single specimen labelled thus is preserved at Dumfries Museum and there are further two in the collections at the Royal Scottish Museum.

Crawthwaite in the parish of Tundergarth. A trial for stibnite is recorded in the Second Statistical Account for Dumfriesshire.⁸ It was "made in the bottom of a very deep glen on the estate of Crawthwaite,⁹ the property of George Graham Esq., by a level which remains open, or was so lately. (This account was written by the parish Minister in 1834). Antimony was actually found. It is probable the ore was not found in sufficient quantity to warrant the expense of further search.

This locality has not been checked in modern times.

2. Original publication by Smith in Min. Mag. 18, 355 (1919).

3. T.D.G.N.H.A.S. II/6/178.

4. Geological Survey Memoir on Mineral Resources Vol. XV, (1920), Arsenic & Antimony Ores, p. 56.

5. See Greg and Lettson's Mineralogy, London 1858, p. 357.

6. Dudgeon Collection, Reg. No. 1880/61.

7. Heddle's Mineralogy of Scotland, Vol. I, p. 15. But also see Greg and Lettson's Mineralogy (1858), p. 415.

8. Second Statistical Account for Dumfriesshire, parish of Tundergarth, p. 196.

9. There is no Crawthwaite on the modern 1 in. Ordnance maps but perhaps the glen at Nat.Grid.Ref. NY252830 near Crawthat Cottage is the location in question.

Kinharvie, parish of New Abbey. Patrick Dudgeon, in his "Notes on the Minerals of Dumfries and Galloway,"¹⁰ comments that "Antimonite (stibnite) was said to be found near that locality; I have looked for it very carefully, but never found a trace of it"—no modern record exists for this locality but Dudgeon felt that perhaps there had been some confusion with the manganese ores, which do exist in the Kinharvie Burn, "although there is little resemblance between these two minerals."

Molybdenum Minerals

Almorness Point, Parish of Buittle. (Nat. Grid. Ref. NX834516). This locality, which has yielded perhaps some of the finest Scottish Molybdenite (MoS_2), has unfortunately not been located in recent years. Although the vein is marked on the Institute of Geological Science's MS 6 inch to the mile geological maps it has not been located in the field due to the very difficult terrain and heavy undergrowth which exists on the Almorness peninsula. On the above mentioned geological maps the vein is marked "Graphite"—there is some evidence to suggest that this molybdenite was formerly mined under the impression that it was in fact graphite.¹¹

Screel, parish of Kelton. Molybdenite has recently been recorded as platelets up to $\frac{1}{2}$ inch across, in a quartz vein, four to six inches in thickness, which cuts through the granite on the south-eastern slopes of Screel Hill not far from Kirkmirran (Nat. Grid. Ref. NX797546). A little straw-yellow oxidation product also exists; this has been identified by X-ray diffraction techniques as Ferrimolybdate ($\text{Fe}_2\text{O}_3 \cdot 3\text{MoO}_3 \cdot 8\text{H}_2\text{O}$).

Lotus Hill, parish of New Abbey. (Nat. Grid. Ref. NX899683). Molybdenite has been recorded¹², associated with bismuthinite and pyrites, in quartz veins which cut the granite on the north-eastern slopes of Lotus Hill.

Lower Porterbelly Quarry, parish of Kirkgunzeon. (Nat. Grid. Ref. NX858656). Molybdenite exists as a surface coating, associated with pyrites, on hornfels, not far from the contact with the granite.¹³

Wulfenite (lead molybdate, PbMoO_4), has been recorded by Patrick Dudgeon of Cargen at **Lackentyre** (parish of Anwoth, Nat. Grid. Ref. NX556575) and **Pibble** (parish of Kirkmabreck, Nat. Grid. Ref. NX526507) Mines.¹⁴ In both cases apparently associated with some of the more complex lead and copper oxidation products.

Bismuth Minerals

Bismuth minerals are rare in South-West Scotland only having been recorded as the sulphide, Bismuthinite (Bi_2S_3), at **Lotus Hill** in the parish of New Abbey

10. T.D.G.N.H.A.S. II/6/176.

11. T.D.G.N.H.A.S. II/6/178.

12. T.D.G.N.H.A.S. III/47/191.

13. T.D.G.N.H.A.S. III/47/192.

14. There are four specimens from Lackentyre in the Dudgeon collection at the Royal Scottish Museum, Edinburgh—Reg. No. 1878/479. See also T.D.G.N.H.A.S. 1/6/38-9 and II/6/176.

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(Nat. Grid. Ref. NX899683) associated with pyrites and molybdenite in quartz veins through granite.¹⁵

Tungsten Minerals

Tungsten minerals are of very limited occurrence in South-West Scotland and have only been recorded as pale blue-green scheelite (CaWO_4) on Wolfram ($(\text{FeMn})\text{WO}_4$) in granite at **Craignair Quarry, Dalbeattie**. (Nat. Grid. Ref. NX819609).¹⁶

15. T.D.G.N.H.A.S. III/47/191.

16. Identified by X-ray diffraction techniques. T.D.G.N.H.A.S. III/47/192.

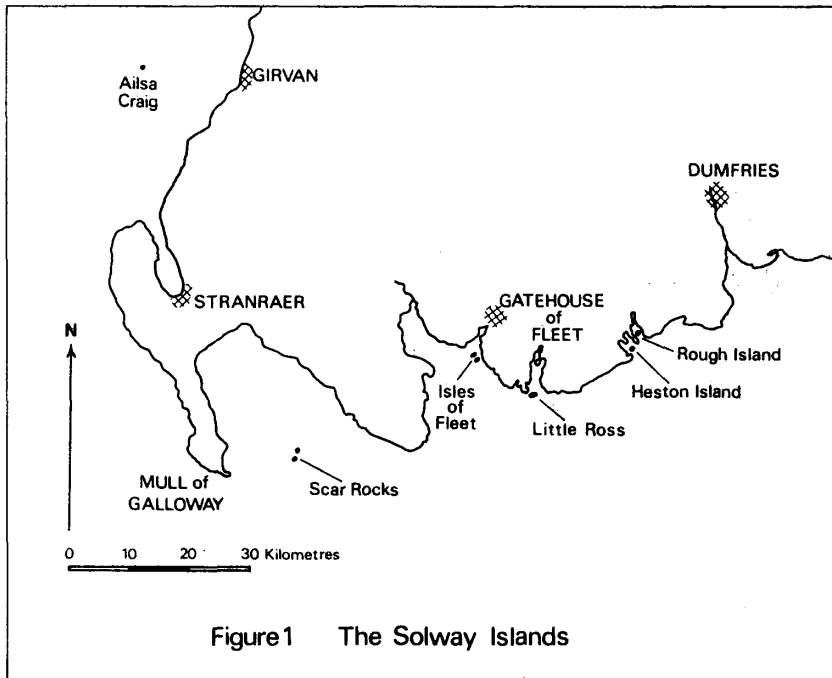
BREEDING BIRDS OF THE SOLWAY ISLANDS

By North Solway Ringing Group

Introduction

Few accounts of the several islands (Fig. 1) that are situated within the Solway Firth on the Scottish shore have been published, presumably because they are lacking in any great historical interest never having been inhabited for significant periods and their breeding bird populations have never been significant outwith a regional context. With the exception of Little Ross they do not appear to be focal points during migration periods and thus have failed to attract the attention of ornithologists in spite of their relatively easy access.

This short paper is not intended as a historical review of the birds that have occurred on these islands either as migrants or casual breeding species but to document surveys carried out during 1970 and 1974. The islands are dealt with from east to west and where available and significant some additional information gained from ringing the various species is given.



Rough Island—(54° 51' N, 4° 48' W)—is situated in Rough Firth near Rockcliffe, Kirkcudbrightshire. Owned by the National Trust for Scotland, it is administered as a Bird Reserve. Access can be obtained by walking at low tide and the extensive use by the public as a recreation site causes considerable

disturbance. It appears as a single low lying island 350 yards offshore about 500 yards long, 300 yards at its widest point and not rising above 50 feet above sea level. The northern third of the island is of granite the remainder of highly metamorphosed upper silurian with frequent porphyritic dykes. The vegetation is sub-arable with cultivation riggs and there has been ploughing into this century. Bracken predominates though a large central area of eroded grassy turf persists, bramble is widespread with a few isolated clumps of blackthorn and otherwise it is a normal maritime vegetation. At the north end there is a large flourishing area of Rose Bay Willow herb. Species present during 1970 and 1974 holding territory displaying or singing but lacking formal proof of breeding included single pairs of—Shelduck; Common Sandpiper; Great Black-Backed Gull; Lesser Black-Backed Gull; Common Gull; Blackheaded Gull; Skylark; Wren; Songthrush; Blackbird; Whinchat; Whitethroat; Dunnock; Chaffinch; Reed Bunting. The proximity to habitation should be noted. In both years records were received of Roseate Tern present during the breeding season. These seem to be unsubstantiated and are only mentioned here to show that they have been considered and not overlooked.

TABLE 1

Pairs of Breeding Birds: Rough Island 1970 and 1974

					1970	1974
Oystercatcher	...	...	...	...	2	2
Ringed Plover	...	...	...	...	4	2
Curlew	...	...	...	...	1	0
Lesser Black-backed Gull	...	...	...	...	1	0
Herring Gull	...	...	...	...	17	28
Common Tern	...	...	...	...	50-60	37
Arctic Tern	...	...	...	...	1	0
Rock Pipit	...	...	...	...	5	3

Heston Island—(54° 51' N, 4° 48' W)—is situated in Auchencairn Bay, Kirkcudbrightshire, is owned privately and designated as a Site of Special Scientific Interest (S.S.S.I.) by The Nature Conservancy Council. Access can be obtained at low tide during good conditions from Balcary Point of Almoriness by wading the Auchencairn Lane which often alters physiographically and is dangerous at times. It is rather a cake shaped island 1,000 yards from the nearest shore, 700 yards long by 400 yards wide and rises steeply to 100 feet above sea level. It consists of metamorphosed Upper Silurian with many dykes and mineralisation, the dykes are Porphyritic and there is an old copper working on the west side. The vegetation probably always has been pastoral and there is evidence of cultivation within the last decade although eroded in places it remains predominately grass covered and the former large tracts of bracken are being reduced by annual mowing. There is evidence of artificial distribution of

many plants including Cabbage Palms and New Zealand flax, e.g., otherwise the vegetation is a normal maritime one; e.g., *Armeria maritima*, *Silene maritima*, *Prunus spinosa*, *Hedera helix*, *Oenanthe crocata*, and largely covered by *Conopodium majus*, *Stellaria media*.

The Heston mussel rack almost a mile long is a feature of the approach to the island and as well as mussels, contains cockles, winkles, common and dog welk, razor shells, oyster shells and gapers.

TABLE 2 (a)

Pairs of Breeding Birds: Heston Island 1970 and 1974

					1970	1974
Cormorant	...	...	...	...	1	0
Kestrel	...	...	...	...	1	0
Oystercatcher	...	...	...	...	20	7
Ringed Plover	...	...	...	...	2	1
Redshank	...	...	...	...	4	0
Great Black-backed Gull	...	...	...	...	3	1
Lesser Black-backed Gull	...	...	...	...	375	142
Herring Gull	...	...	...	...	2127	474
Common Gull	...	...	...	...	5	0
Common Tern	...	...	...	...	2	0
Feral Dove *	...	...	...	...	7	12
Swallow	...	...	...	...	2	0
Meadow Pipit	...	...	...	...	5	2
Rock Pipit	...	...	...	...	7	4
Dunnock	...	...	...	...	1	0
Blackbird	...	...	...	...	1	0
Starling	...	...	...	...	3	7

The decreasing numbers of the larger gulls is contrary to the trends in other parts of Britain and they have retracted their distribution on the island, retiring from breeding on the top to concentrate on the periphery. Notwithstanding this reduced population (and presumably predation) tern species have not yet been able to colonise the island in spite of repeated attempts. Two adult Lesser Black-headed gulls recovered on Heston were previously ringed at Walney Island, Cumberland (J. Sheldon pers. comm.) suggesting reinforcement from there at one stage.

The breeding birds at Almorness Point and Balcary Point are appended since these areas are considered all part of one ecological system within the Bay.

(* None of the doves in the Solway fauna area showing the characteristics of Rock Dove are now in fact pure)

TABLE 2 (b)

Pairs of Breeding Birds: Almorness Point 1970 and 1974

					1970	1974
Great Black-backed Gull	...	...	...	...	1	2
Lesser Black-backed Gull	...	...	...	...	14	27
Herring Gull	...	...	...	...	327	132
Meadow Pipit	...	...	...	...	1	2
Rock Pipit	...	...	...	...	1	1

TABLE 2 (c)

Pairs of Breeding Birds: Balcary Point 1970 and 1974

					1970	1974
Fulmar	...	...	...	...	23	21
Cormorant	...	...	...	...	2	0
Lesser Black-backed Gull	...	...	...	...	14	26
Herring Gull	...	...	...	...	245	210
Razorbill	...	...	...	...	50	22
Guillemot	...	...	...	...	370	240
Black Guillemot	...	...	...	...	1	3
Rock Pipit	...	...	...	...	2	4

Little Ross Island—(54° 46' N, 4° 06' W)—is situated in Kirkcudbright Bay, Kirkcudbrightshire. Privately owned and grazed by both cattle and sheep at times, access is by boat either from Kirkcudbright or across "The Sound" which separates the island from Meikle Ross. It is a single island lying 430 yards off-shore, 700 yards long and 400 yards wide. It has exposed eroded cliffs up to 60 feet high and a small shingle beach in the north west corner. It is of Upper Silurian (Wenlock) with several dykes, mainly Lamprophyre. The vegetation is typically maritime with large areas completely covered with Redleg.

TABLE 3 (a)

Pairs of Breeding Birds: Little Ross 1970 and 1974.

					1970	1974
Partridge	...	...	...	...	1	2
Oystercatcher	...	...	...	...	7	7
Curlew	...	...	...	...	1	0
Great Black-backed Gull	...	...	...	...	2	4
Lesser Black-backed Gull	...	...	...	...	17	32
Herring Gull	...	...	...	...	740	240
Common Gull	...	...	...	...	4	0

Common Tern	...	...	...	...	2	0
Skylark	...	...	...	...	1	1
Swallow	...	...	...	...	2	0
Jackdaw	...	...	...	...	2	2
Blackbird	...	...	...	...	1	0
Dunnoek	...	...	...	...	1	0
Linnet	...	...	...	...	1	6
Meadow Pipit	...	...	...	...	4	2
Rock Pipit	...	...	...	...	11	4
Starling	...	...	...	...	3	2

As with the previous area the nearby populations on Meikle Ross are appended.

TABLE 3 (b)

Pairs of Breeding Birds: Meikle Ross 1970 and 1974

	1970	1974
Fulmar ...	6	8
Cormorant	34	27
Shag ...	8	10
Shelduck	1	1
Kestrel	1	0
Partridge	2	1
Oystercatcher	3	2
Lapwing	1	0
Common Sandpiper	1	0
Great Black-backed Gull	2	3
Lesser Black-backed Gull	7	4
Herring Gull	204	177
Kittiwake	42	64
Razorbill	60	38
Guillemot	17	24
Black Guillemot	2	3
Feral Dove	5	ca. 8
Skylark	1	1
House Martin	20	8
Jackdaw	ca. 17	ca. 10
Whinchat	1	0
Rock Pipit	4	2
Corn Bunting	2	0

Isles of Fleet—(54° 49' N, 4° 14' W)—are a group of four islands in Fleet Bay, Kirkcudbrightshire. Owned by the Cally Estates (except Ardwall Island which belongs to the McCullochs of Ardwall)—access to two can be obtained at low tide.

TABLE 4 (a) ISLES OF FLEET

No.	Island	Distance of shore	Length	Breadth	Height *
1	Barlocco	350 (yards)	520	270	25
2	Ardwall	400	800	500	109
3	Murray's Isles	1350	400	210	20
4	Murray's Isles	1400	185	92	20

* In feet above sea level.

They are of Silurian Greywacke. A Dolerite dyke crosses just north of the centre of Murray's Isles with at least three porphyry dykes at the south-west of Barlocco. Islands No. 1 and 2 are sub-arable, 3 and 4 are of exposed eroded rock. 1 and 2 have a typical maritime vegetation with a good grass sward being colonised by bracken. Ardwall boasts a wind pruned plantation of Scots Pine and on both 1 and 2 there is evidence of an artificial distribution of plant species.

TABLE 4 (b)

Pairs of Breeding Birds: Isles of Fleet 1970 and 1974

	Island No.				Total Pairs	
					1970	1974
Mallard	2				1	1
Red-breasted Merganser ...	2	3	4		4	3
Shelduck	1	2			12	5
Kestrel	2				1	0
Partridge	2				1	1
Moorhen	1				1	1
Oystercatcher	1	2		4	17	14
Ringed Plover	1	2			4	3
Curlew	2				1	0
Redshank	1				1	1
Great Black-backed Gull ...		3	4		45	37
Lesser Black-backed Gull			3	4	120	87
Herring Gull	1	2	3	4	327	243
Common Gull	1	2	3	4	60	34
Black-headed Gull	1				2	3
Common Tern	1				1	4
Arctic Tern	1				1	1
Sandwich Tern	1				1	2
Wood Pigeon	2				1	2
Skylark	2				1	2
Swallow	2				2	0
Wren	2				1	1
Songthrush	2				1	1

Blackbird	2	1	2
Robin	2	1	1
Willow Warbler	2	1	0
Dunnock	1 2	2	2
Meadow Pipit	1 2	5	4
Rock Pipit	1 2 4	10	8
Starling	2	4	9
Chaffinch	2	1	2
Reed Bunting	2	1	0

Non-breeding species noted in both summers included Common Scoter, Eider, Canada Goose, the latter in full wing moult with a total of 30 and 42 in the two surveys respectively.

Scar or Scaur Rocks—(54° 4' N, 4° 42' W)—are a group of islands in Luce Bay, Wigtownshire. Owned by the Crown, they are scheduled as an S.S.S.I. by The Nature Conservancy Council. They consist of "The Little Scars," a collection of some six rocks about 25 feet above sea level and "The Big Scar," a single rock about 300 feet long with a semi-detached stack 60-70 feet high. Laid down as mud at the bottom of an ocean trough they are formed of a fine grained, hard, blue grey schist traversed by bands of white quartz which are now badly weathered and shattered. There are few vegetation records outwith the lichen and seaweed species. Largely because they hold the only colony of breeding gannets in the Solway fauna area the rocks have been visited annually since 1968.

TABLE 5

Pairs of Breeding Birds: Scar Rocks 1968-1974

	1968	1969	1970	1971	1972	1973	1974
Gannet ...	437	450	500	480	430	471	482
Cormorant ...	10	12	14	2	6	5	1
Shag ...	24	32	34	23	17	48	48
Great Black-backed Gull	1	2	1	1	1	1	1
Herring Gull ...	37	42	47	30	27	58	35
Kittiwake ...	175	200	220	220	132	134	70
Razorbill ...	62	74	105	35	27	30	56
Guillemot ...	1207	1200	890	1670	689	1200	700
Black Guillemot	0	2	2	7	8	3	2

Since the peak count of 500 pairs in 1970 the Gannet population appears to have stabilised, the apparent fluctuations do not reach statistical significance and

there is no further visual extension of distribution on the rock. **Cormorants** have continued their long term decline as space was contested, although **Shag** have proved more adaptable by nesting nearer the edge on smaller ledges. **Herring Gull** has continued to fluctuate more widely but accurate surveys are very dependent on the date of the visit, it is perhaps significant that they feed almost entirely on the mainland and that broods of three have not yet been recorded in July, suggesting a slow recruitment. Since 1943 (150 pairs) the **Kittiwake** remained in fairly constant numbers. There is no indication why the 1974 survey was significantly lower except that an unusually high proportion of adults did not appear to breed. **Razorbill** and **Guillemot** are probably the most important species from an ecological point of view since both are vulnerable to pollution at sea. Unfortunately in spite of a similar breeding biology an accurate counting method has yet to be described, with the same observer there may be a 12.4% difference in any day depending on the time and weather and a 47.8% difference between counts taken during different months (April-July pers. ob.) in any year. It is now also generally accepted that even in undisturbed colonies there may be a natural egg-chick loss of up to 50%, thus although both Auk species are given in the tables as numbers of pairs they certainly cannot be counted as such and these data are an estimate from the number of adults present at a given time. With no conversion factors available in the present state of our knowledge this is based on the presence of a single adult near an egg or chick indicating a breeding pair.

In the seasons 1970-71 and 1972-73 there was good correlation with counts from the Scars and the auks on the nearest mainland station Mull of Galloway, decreases at the former being reflected as increases at the latter or vice versa. Our own view is that the colonies are ecologically similar and that to some extent marked fluctuations are symptomatic of disturbance at either site.

TABLE 6

Pairs of Breeding Birds : Mull of Galloway/Port Mona

			1969	1970	1971	1972	1973	1974
Fulmar	...	...	25	27	21	48	52	41
Cormorant	...	...	6	5	2	7	1	6
Shag	...	...	78	94	100	78	95	75
Great Black Backed								
Gull	...	...	3	2	1	2	2	1
Herring Gull	...	...	102	126	103	128	165	106
Kittiwake	...	...	416	436	421	447	432	577
Razorbill	...	...	151	164	208	171	156	251
Guillemot	...	...	ca.310	670	ca.262	286	167	609
Black Guillemot	...	...	5	4	5	2	1	8

Figure 2 traces the development of the gannetry since it was found, with additional information since **Young 1968** from estimates by local boatmen and from the visits 1968-1974. The data does not warrant full statistical treatment at this interesting stage, suffice to indicate with the figure an apparent four stage development; a very slow establishment period until 1941; a gradual steady increase thereafter to 167 nests in 1960, an estimated mean increase of 7.6 nests per annum, a marked rapid increase between 1960 and 1968 an estimated mean increase of 33.7 nests per annum, and between 1968 and 1974 a period of minor fluctuations following a peak in 1970. The solid curve placed by eye from the accurate nest counts on land, gives a reasonably good correlation with the estimates from the sea by local boatmen until the gannetry reached ca.200 pairs in 1962. Thereafter with a rapidly increasing population the mean of the estimates (dashed line) becomes much less accurate.

Since 1965 the North Solway Ringing Group has attempted to ring annual samples of gannets and other seabirds on the Solway islands and especially on the Scar Rocks. In addition, since it has long been thought that the Scars were colonised by gannets from Ailsa Craig (Fig. 1), expeditions were made to that island also. Table 7 gives the number of birds ringed on Scar Rocks from 1965-1974 excluding the gull species, and under "gannet" for the sake of convenience for this preliminary analysis we have lumped the Scar and Ailsa Craig figures together.

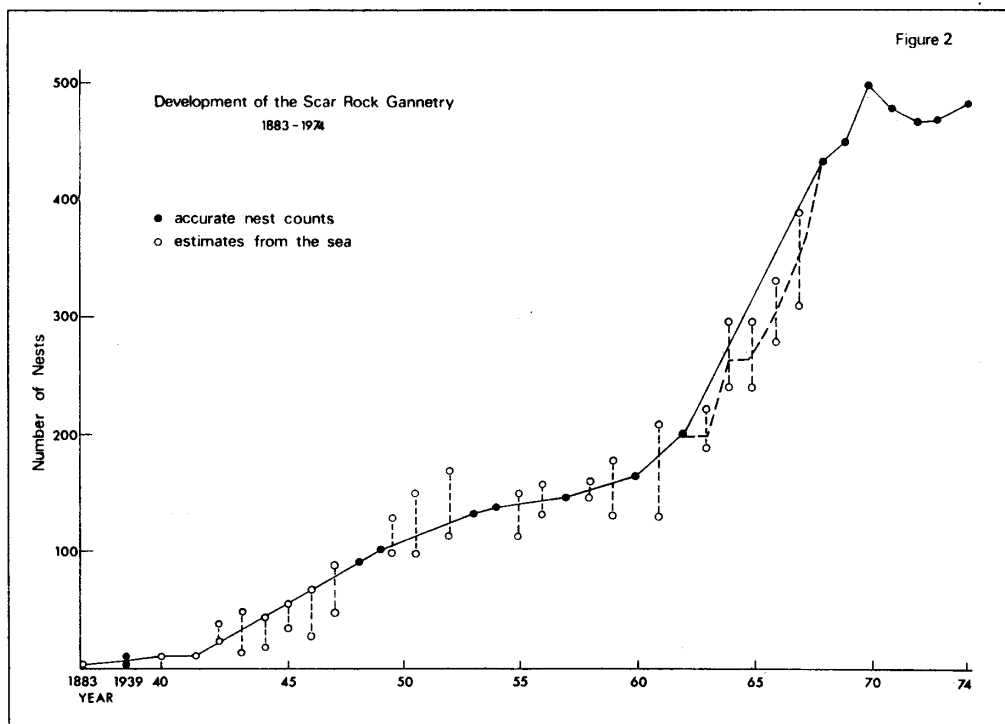


TABLE 7

Birds Ringed on Scar Rocks 1965-1974
(Including gannets ringed on Ailsa Craig)

			Gannet	Shag	Kittiwake	Guillemot	Razorbill
1965	...	...	100	—	20	97	2
1966	...	...	—	—	—	—	—
1967	...	...	—	—	—	—	—
1968	...	...	213	20	6	4	6
1969	...	...	470	28	5	30	6
1970	...	...	349	—	32	1	—
1971	...	...	248	23	20	113	3
1972	...	...	20	8	—	—	1
1973	...	...	—	11	—	—	—
1974	...	...	189	50	—	—	14
Total(s)	...		1589	140	83	246	30
Recovered	...		75	17	—	10	—
%	...	...	5.4	23.9	—	4.1	—

The numbers ringed are no indication of the numbers available and in such small samples give no correlation to trends within populations. Numbers and species ringed are entirely dependent on the date of visit, weather, expertise of the ringers present and other vagaries. The sample marked and recovery rates of most species are not yet significant although individually interesting and must await a future analysis. Only the gannet has produced immediate results with a recovery rate of 5.4%. This is calculated (Table 7) from recoveries reported by 1st May 1973 and excluding birds ringed in 1972 and 1974. It could be claimed that little emphasis can be placed on such small samples. Our own view is that there is no excuse for the continued ringing of any species unless the progress is continually reviewed and balanced against the cost, even if this leads to future contradiction from larger numbers. Thus it is necessary to be almost speculative before commitment on a long term study. The return of 75 recoveries from 1589 ringed gannets gives a reporting rate of 5.4%, which agrees with 5.4% from the complete British data in the definitive work by **A. Landsborough Thomson** 1974. Ignoring the four records of birds recovered in coastal waters before they could possibly fly (square areas in Fig. 3), the reporting rate is considered high since the reporting rate is an absolute minimum of the birds found. Controls of breeding adults on the Scar Rocks from birds ringed there as nestlings has confirmed a return to breed on the natal island. Presumably this high mortality indication would be a significant factor when considering future recruitment to the colony. Unfortunately the numbers available do not allow a more detailed breakdown and comment on the age of individual birds at reporting.

The mode of death (Table 8) shows that 24 (32.0%) were reported as "found dead." Some of these could well be birds that were either killed during fishing operations, shot, or oiled, it is not possible to assign all numbers to specific headings.

TABLE 8

Mode of Recovery of Ringed Gannets

			Total	Found Dead	Killed		Shot	Oiled
					Fishing	Caught		
Scar Rocks	...		35	8	8	10	8	1
Ailsa Craig	...		40	16	12	7	3	2
Total(s)	...		75	24	20	17	11	3
%	...	...	100	32.0	26.6	22.6	14.6	4.0

A minimum of 20 (26.6%) were known to have died from factors directly attributable to current commercial fishing practices, being either found dead in trawls or taken on baited fish hooks. One such recovery had the additional information that the ringed bird reported was one of sixty taken that day, presumably by the same boat. It would be surprising if they are being caught regularly in such numbers, that the people involved would allow such valuable protein to be wasted and perhaps it would repay study on the continental fishing grounds (Fig. 3) to ascertain whether or not some might well be "fishing for gannets." 17 (22.6%) were reported as being "caught" and this too is open to wide interpretation and might well more properly belong in the former category, at least one can assume that before they could be caught by hand, that they would be exhausted, weak or dying in any case. Similarly from the 11 (14.6%) that were known to be shot, there are unsubstantiated reports that these may have been killed to provide gut analysis on fish species for fishermen. It is certainly gratifying that so few as 3 (4.0 %) were found oiled (some oiled birds of course may have been "found dead" or "caught" without mention of oiling). Worthy of special mention is 107.7846, recovered four months after being ringed on Ailsa Craig as a nestling, found in the stomach of a shark caught twenty miles off Tan Tan, Morocco.

Figure 3 plots the geographical distribution of recoveries and shows an initial dispersion south from the Irish Sea to the English Channel, a large proportion of recoveries in the Bay of Biscay and the Portuguese coast, and a definite penetration of the Mediterranean east to Malta and to Northern Africa with three found south of the Cape Verde Islands in Dakar and Gambia, the furthest south of any British ringed gannet reported to date.

TABLE 9
Monthly and Zonal Distribution of Gannet Recoveries

Month No.		May					Dec.					April	
		5	6	7	8	9	10	11	12	1	2	3	4
	Totals												
Scar Rocks	(35)	2	1	1	2	3	15	5	—	2	—	2	2
Ailsa Craig	(40)	1	—	2	3	12	7	5	1	3	1	—	5
Total(s)	(75)	3	1	3	5	15	22	10	1	5	1	2	7
%	(100)	4	1.3	4	6.6	20.2	29.4	13.4	1.3	6.6	1.3	2.6	9.3
Zone 1	(15-20%)	3	4	2	3	2	1	—	—	—	—	—	—
Zone 2	(36-48%)			2	—	11	16	1	—	2	1	—	3
Zone 3	(18-24%)					2	5	6	—	1	—	1	3
Zone 4	(6-8%)							3	1	1	—	1	—

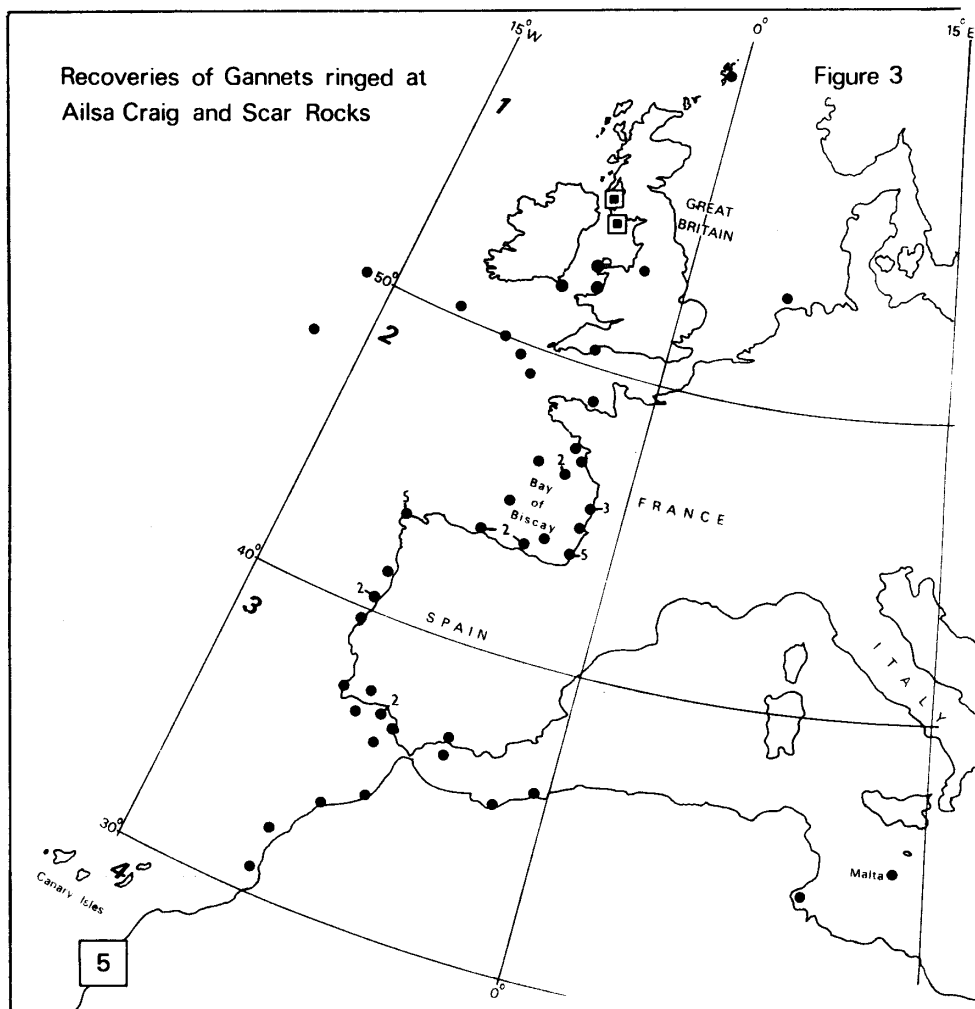


Table 9 gives the monthly distribution of all recoveries and the monthly distribution by zone as in Fig. 3. This clearly shows the bulk of recoveries (63%) as reported in the three months September, October and November with relatively fewer during December, January and February (9.2%) when presumably the birds are still in Southern European waters. It would be interesting to know if this coincides with inactivity of fishing fleets. Considering the distribution by zone: in 1 there are no recoveries after October by which time most birds will have dispersed; in 2 most of the recoveries are birds taken in September and October after reaching mid European and Northern Mediterranean waters with no records during May and June; in 3 there are no records in south European waters or southern Mediterranean shores until September and in zone 4 there are no records in Northern Africa and to the south until November and none between April and November.

It would be wrong to over simplify an extremely complex distributive movement since dispersal is closely linked with age and affinity to the breeding area. As stated above such analyses rely on larger and thus more reliable data.

Summary

The breeding bird populations of the Solway Islands are documented together with figures from some mainland stations that are considered ecologically linked. Contrary to national trends, overall the larger gull species are decreasing but this has not yet led to the establishment of other groups. More extensive data on the Scar Rocks and its gannetry is available and this is documented together with a preliminary analysis of the development of the gannetry and the results from ringing there and at Ailsa Craig. A high recovery rate was found closely linked with the populations dispersal to European fishing grounds. Further work is required in monitoring the development of the colony in future and a sustained effort to ring annual samples is imperative and could answer many questions. Not least that of practical conservation measures that could be taken to improve the rate of recruitment to the population.

Acknowledgements

The North Solway Ringing Group wishes to express its thanks to the Dumfries and Galloway Antiquarian and Natural History Society for financial support towards the cost of rings. We are pleased to record practical assistance from the local boatmen W. Brawls and M. McGuire, who also provided estimates for Scar Rocks when it was not possible to land, and from Douglas Scott (Nature Conservancy Council, Edinburgh) who drew the figures. Without encouragement and help from Mr A. E. Truckell, M.B.E., and W. F. Cormack, W.S., F.S.A.Scot., this short contribution would not have been eased into print.

References — Landsborough Thomson, A., *British Birds* 7 (3) 89-103, 1974.
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BEAKER POTTERY AND ASSOCIATED ARTIFACTS IN SOUTH-WEST SCOTLAND

By J. N. Graham Ritchie and Ian A. G. Shepherd.

In 1970, as one of a series of contributions in these Transactions listing some of the groups of artifacts from South-West Scotland, a catalogue of Beaker ware was prepared and an attempt was made to place in context the earliest of the pottery types of broadly second-millennium date (Ritchie, 1970 a and b; references given in these papers have not been repeated here). It is appropriate to review what is currently thought about this ceramic type in the light of more recent discoveries in this and in adjacent areas, and also to try to place the pottery from the south-west into a framework similar to that proposed by Lanting and van der Waals (1972) in their review of the corpus of British Beakers published by Clarke (1970). A more detailed discussion of associated and related artifacts is also included, as these throw considerable light on the external connections of the south-west at this period.

Dr Stewart in her classic paper on "A New Analysis of the Early Bronze Age Beaker Pottery of Scotland" in 1934 concluded that "the beaker ceramic on the west owes its provenance to maritime enterprise. The small number of the examples and their sporadic distribution over a relatively wide area are additional proof of the character of this movement. On the west the beaker folk were explorers. They did not come to colonise or settle, they came in a spirit of curiosity which, though it meant no cultural supremacy, is a notable commentary upon a type of migratory spread which is almost unique in prehistory. On the west the beaker folk had no individuality. They are quickly assimilated by the chambered cairn culture which, though by this time stagnant, was by no means defunct. The very fact that their ceramic is found in the older sepulchres is proof that their impression was evanescent". Whereas "on the east coast there is no evidence of contact with a pre-existing neolithic population, and beaker cultural supremacy is firmly established" (Crichton Mitchell, 1934, 161) to a large extent the reason for this dichotomy is that the majority of those Beakers from the eastern part of Scotland have been found by chance in individual cists as a result of agricultural activities, or in cists within cairns or barrows, often during 19th century excavation. In the west, on the other hand, the much smaller body of Beaker ware that exists has been discovered during a number of excavations of chambered cairns and ring cairns as well as in more normal round cairns or individual cists. For South-West Scotland and Argyll, Abercromby could include only nine spots on his distribution map (1904, 366) and today (taking sand-dune sites as a single spot) the number would be somewhere over 60; Bryce's excavations of the chambered cairns of Arran in the first decade of this century, Fairbairn's work at Muirkirk in the 1920s and Mann's important work on the sand-dune areas from Coll to Luce Bay, have all added considerably to the body of Beaker material since Abercromby's day.

In 1902 Abercromby surveyed the problems of arranging British Bronze Age pottery in chronological order and listed some of the problems: "(1) scantiness of sepulchral furniture, (2) and when it exists, the uncertainty of its exact age; (3) in later times an almost absolute deficiency of any sort of accompaniment with the sepulchral vessel. Therefore, we are forced to fall back on some subsidiary method. First of all the large ceramic types, of which many examples exist, must be arranged typologically in their probable order of development from simpler to more complex forms. Each type will represent a certain period of time, and may be thought of as a vertical line or column, and all the types together may be imagined as parallel lines or columns of different lengths, beginning at different altitudes and terminating for the most part at different levels" (1906, 57). Abercromby's work on Beaker typology is mentioned more as an act of pietas than as the prelude to a motif by motif attack on the pottery of South-West Scotland; but it is interesting to note that he suggested that pottery types might be thought to represent interlocking columns of archaeological time—an idea not too far removed from the broad chronological steps of Lanting and van der Waals (see below) or Clarke's ingenious table (1970, 273, fig. xiv). An examination of the types of sites from which Beaker ware has been discovered may be equally rewarding. Can each type of site be thought to represent a certain period of time? Can the makers of such pottery be thought to have been assimilated by the builders of chambered cairns as Stewart thought? Perhaps a more confused development of sites and pottery styles will emerge, but it will show that the impression that the makers of Beaker pottery left on the west of Scotland was more permanent than Stewart envisaged.

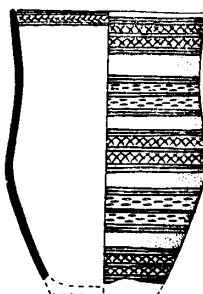
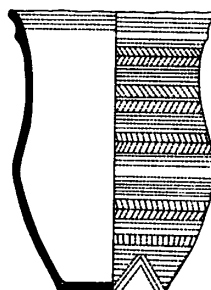
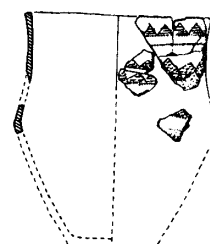
In South-West Scotland and Argyll four broad categories of site may be explored: sand-dune and settlement sites, chambered tombs, individual cists and cairns and ring-cairns. Tantalisingly little is known about the sites in sand-dunes either as settlements or as midden deposits (either as Northton in Harris or Udal on North Uist) which could provide environmental evidence as well as producing a less grave-orientated collection of pottery. Typical of what has been recorded is Lethbridge's visit to Sanna Bay, Ardnamurchan (1927, 173). "There are two main layers of occupation and probably several smaller deposits. Neither of the big layers is more than a few inches thick and the two are separated by perhaps two feet of sand. They appear to be more or less continuous for several hundred yards. At one spot the sand was blown clear of the top layer . . . Not far away the lower midden was well exposed. It was composed of limpet shells with a very few minute fragments of bone. Flint flakes and those of basalt were not uncommon on the surface of the midden. Sticking out of the top of the stratum" were several fragments of what is now described as All-Over-Cord ornamented Beaker. Several worked flint implements including a barbed-and-tanged arrowhead were also collected. Lethbridge concluded "no human bones lay about and the impression was given that the whole series of relics were part of the litter on the floor of a dwelling place" (1927, 174). What are presumably

1-2

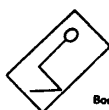
21. AOC 1800,
Knockdoon, Wigtown.20. AOC 1799,
Knockdoon, Wigtown.

Knockdoon, Wigtown.

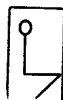
3

232. N/MR 1561,
Nether Largie South
(ARG 23), Argyll.231. N/MR 1558,
Courthill, Dalry, Ayr.Achnacreebeg (ARG 37),
Argyll.

4



Boatbridge



N2 1552

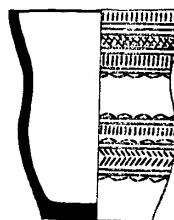
Boatbridge Quarry,
Lanark.484. N2 1582,
Pottaloch, Argyll.

Fig. 1—Development of Beakers in South-West Scotland, Steps 1-4. Adapted from D. L. Clarke, D. V. Clarke, A. S. Henshall and J. N. G. Ritchie. Scale 1 : 6.

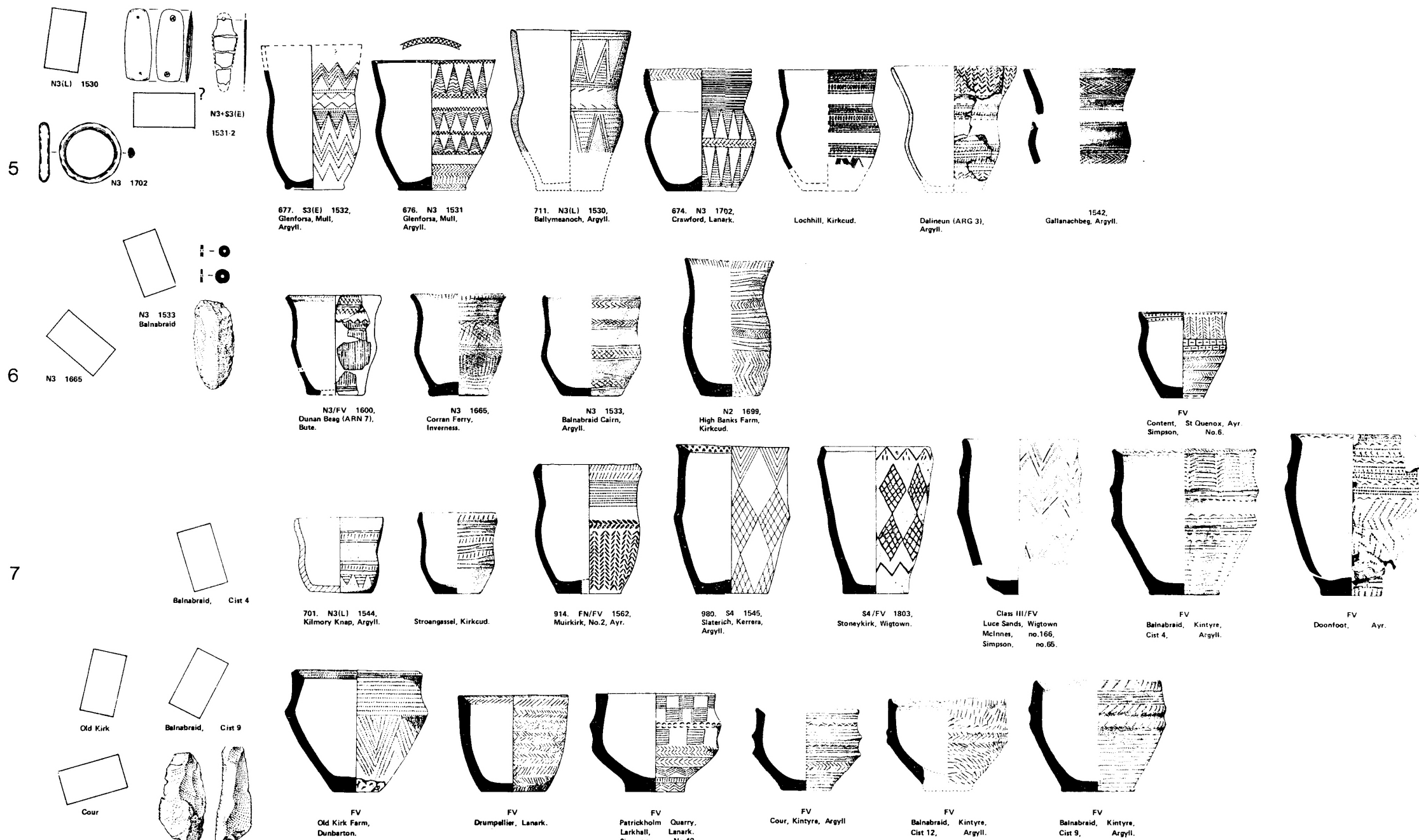


Fig. 2—Development of Beakers in South-West Scotland, Steps 5-7 and beyond. Adapted from D. L. Clarke, A. S. Henshall, L. Masters, A. Morrison, J. N. G. Ritchie, J. G. Scott, M. Scott and D. D. A. Simpson. Scale 1 : 6.

the remains of settlement sites or middens have been discovered in the dunes on the islands of Coll and Tiree, at Sanna Bay and Cul na Croise on the Ardnarmurchan peninsula and at Shewalton, Ayrshire and Luce Sands, Wigtownshire. The majority of the pottery represented is All-Over-Cord and European Bell Beaker.

The excavations of nine chambered cairns have produced Beaker pottery (less recognisable sherds have been found in a number of others) and a substantial part of a Beaker has been discovered in one long cairn (Lochhill, Kirkcudbright). In some earlier excavations, such as Cragabus (ILY 3), it is not possible to relate the pottery to any particular phase in the construction of the tomb. But with more recent and more scientific excavations such as Cairnholy I and II (KRK 2 and 3) All-Over-Cord and Bell Beaker sherds can be precisely related to the sequence of construction. At the latter site sherds of five Beakers were found on a layer of paving over an earlier deposit indicated by incised Neolithic sherds. At Cairnholy I sherds of late Neolithic, Beaker ware and a plano-convex flint knife were found in the antechamber associated with cremated bone. The excavators felt that the blocking in front of the entrance and filling the façade had not been built until after the burials with late Neolithic and Beaker sherds had been deposited in the tomb, and the Neolithic ware within the stones of the blocking suggests that the Beaker users alone were not responsible for the final blocking of the tomb (Piggott and Powell, 1949, 134).

At Nether Largie South (ARG 23) the Beaker deposits cannot be firmly associated with the blocking but clearly antedate it (Greenwell, 1866, 341-6; Ritchie, 1970b, 44); at Dalineun (ARG 3) inhumation burials and two of the Beakers antedate the blocking, and one Beaker, again associated with an inhumation rite, was found partly amongst the stone blocking of the chamber, though presumably antedating the construction of the small cist with its cremation burials and the final blocking of the tomb. In view of the similarity of the two Beakers and the presence of sherds of one both in the blocking and in the chamber deposits, the two events within the chamber are not likely to have been long separated (Ritchie, 1970b, 50-1). At Achnacreebeag (ARG 37), on the other hand, the Beaker sherds, associated with jet disc-beads and flint objects are clearly associated with the filling and final blocking of the passage grave (Ritchie, 1970b, 36). The jet belt-slider from Beacharra, Kintyre (ARG 27), found in the filling of the tomb at least 0.6 m above the level of the floor, may suggest that this tomb also was deliberately sealed at a date within the second millennium BC (Scott, 1964, 149-50; McInnes, 1968, 143). Among other earlier Neolithic sites on which Beaker ware has been found mention may be made of the long cairn of Lochhill, Kirkcudbright, where sherds of a single vessel were found mixed with the stones near the top of the cairn about mid-way along its central axis (Masters, 1973, 97); the chambered cairns of Mid Gleniron I (WIG 1), Dunan Beag (ARN 7), Dunan Mor (ARN 8), Giants' Graves (ARN 11) and Glecknabae (BUT 4) have also produced Beaker sherds (Corcoran, 1969, 48;

Henshall, 1972, 375-8, 384-5, 411-14, ill. p. 304 and 306). If the Beaker pottery from the chambered tombs of South-West Scotland were set out in the sort of sequence recently envisaged by Lanting and van der Waals (1972), one would find a variety of styles represented and little correlation between style and position in the sequence of tomb-construction. The All-Over-Cord and European Bell Beakers of stages 1-2 certainly appear in pre-blocking deposits at Cairnholy I and at Dalineun, vessels of stages 3 and 5 in secondary deposits at Nether Largie South, Dalineun, Achnacreebeag and Lochhill. But the association of Beaker pottery with chambered tombs shows that, far from being "assimilated by the chambered cairn culture" as Stewart suggested, an examination of the stratigraphy of such tombs sometimes suggests that the deliberate blocking and final use of the chamber may be due to Beaker influence. In the comparative absence of radiocarbon dates, such evidence, as well as a good deal of decorative-motif-juggling, is our only indication for the complex inter-relationships of this period.

In providing alternative typologies for different "focus" areas of Britain. Lanting and van der Waals offer schemes which have the advantage of placing individual Beakers into broad regional steps; they emphasise the degree of continuity of development of shape and decoration within each region. Thus, instead of a small number of Beakers with a multiplicity of group names (Ritchie, 1970a, 132), the vessels can be seen in a regional developmental series (Figs. 1 and 2). Lanting and van der Waals stress how subjective and impressionistic such a typology is (1972, 35) and they are dealing with areas of primary and presumably intensive settlement by the makers of Beaker wares. In a region such as South-West Scotland and Argyll only steps 1-2 can be thought to indicate the arrival of groups of people possibly from outside Britain—the makers of All-Over-Cord and European Bell Beakers. Steps 3-7 may represent not only people spreading from other areas of the south and west at any stage in the sequence but also regional development in an area at some remove from the primary settlement. Vessels of steps 1-2 may be illustrated from Knockdoon, Wigtownshire (Fig. 1). Beakers of step 3 are described as being of "more slender proportions and displaying a richer variety of decorative motifs" (Lanting and van der Waals, 1972, 36); only two Beakers compare readily with those of step 3, Nether Largie South (ARG 23) and Courthill, Dalry, Ayrshire, but from its profile that from Achnacreebeag (ARG 37) might also be included.

Beakers of step 4 are characterised by a definite neck "either by a sharp bend or contrasting decoration, or by both, but the neck has not yet grown much in proportion to the rest" (Lanting and van der Waals, 1972, 36); on the Beakers from Boatbridge Quarry, Lanarkshire, and Poltalloch, Argyll, the neck is emphasised by an undecorated zone between the belly and the base of the neck. In the next step an even more accentuated and proportionately longer neck appears with a sharp bend at its base, while in the sixth step the neck loses its identity from the body and the whole pot is more cylindrical than in earlier stages. It is to steps

5 and 6 that the majority of Beakers in the South-West and Argyll belong, suggesting an increased stability in the settlement of the area. In step 7 "the neck and body fuse entirely" (Lanting and van der Waals, 1972, 37) and the decoration shows no differentiation of zones (e.g. Stroangassel, Kirkcudbright; Stoneykirk, Wigtownshire; Slaterich, Kerrera, Argyll: Figs. 2 and 4).

Some fourteen individual interments, apparently unassociated with a covering cairn or barrow, have been recorded in South-West Scotland, and the majority of the Beakers of steps 4-7 have been associated with individual burial-deposits. Chronologically these range from what may be taken to be among the earliest vessels—those with All-Over-Cord decoration from Knockdoon, Wigtownshire (Fig. 1) to such late Beakers as that from Stoneykirk, Wigtownshire (Fig. 4) associated with 187 jet disc-beads and a triangular toggle. Useful associations are few. Two All-Over-Cord Beakers were discovered at Knockdoon in a strange and fascinating mortuary structure described by Mann in the *Palace of History* (1911, 830). The two Beakers were within 0.3 m. of one another and were associated with cremated bones. They were placed "on a flooring of oak-bark and encased in a small dome-like hut about 4½ feet (1.4 m.) in diameter and 3 feet (0.9 m.) in height. The walls of the structure were of oak-bark in long strips and thin boarding of oak wood. The top was immediately under the surface". Mann further records that the structure had been slowly carbonised. The two Beakers (Fig. 1) are now in Glasgow Art Gallery and Museum, but it is unfortunate that no further information or plans exist for the enclosing structure.

About 1883 during the construction of the Free Church at Salen, Mull, Argyll, several cists were discovered; in one was found a small All-Over-Cord Beaker accidentally "broken to pieces by falling into the trench," and more had crumbled to dust by the time it reached Edinburgh (Duns, 1883, 84-5). Associated with it, however, were two small fragments of arsenical copper; the metal objects are too small to be positively interpreted, but fragments of a dagger blade or of earrings have both been suggested.

Examples of individual cist burials of stage 4 of this extension of Lanting and van der Waals' scheme to South-West Scotland and Argyll are Boatbridge Quarry, Lanarkshire, and Poltalloch, Argyll. Two cists were discovered at Boatbridge, both aligned NE-SW and both covered with double capstones; the cist containing the Beaker (Fig. 1) held the crouched inhumation of an adult (DES 1971, 28). The cist at Poltalloch provided more information about single-grave burial than most examples in the south-west (Cregeen, 1961). The four slabs were covered by a large and heavy slab of stone; within, a "tightly crouched skeleton lay on pebble-covered floor, and although the spine and some other bones had gone, it was possible to establish that it had lain on its right side facing east, the arms folded.... Before the deposition of the corpse a fire had been lighted in the grave. Traces of fire and pieces of charcoal remained on the floor. There was no question, however, of cremation and the fire must have

served a ritual purpose in the burial ceremony." The Beaker (Fig. 1) was placed alongside the head of the corpse.

Among the individual deposits of stage 5 is the Beaker from Lochhill, Kirkcudbright, found in the top of the long cairn (Fig. 2). The precise associations of the Beakers from Callachally, Glenforsa, Mull, Argyll, are rather uncertain (Fig. 2); although the Beakers are said to have been found together and apparently associated with a bronze blade, there is no good evidence of the association of the vessels with a cist still visible at Callachally, and a two-holed bracer is said merely to have been found on the same farm (Ritchie, 1970b, 51). Another rather unsatisfactory site is that at Crawford, Lanarkshire, where a burial was found in a cist under a cairn; there is no reason, however, to doubt the association of the Beaker (Fig. 2) with the bronze ring and "human bones half burned" (see also p. 27).

Cists containing Beakers of stages 6 and 7 include Corran Ferry, Inverness-shire, possibly associated with a strike-a-light, Kilmory Knap, Argyll, and Slaterich, Kerrera, Argyll (Fig. 2). It may be interesting to note that whereas in Lanarkshire the distribution patterns of Beakers and Food Vessels are almost mutually exclusive (Ritchie, 1970a, 135), in the coastal areas they are found in



Fig. 3—Beaker from Victoria Park, Whiteinch, Glasgow (drawn by Mrs M. Scott). Scale 1 : 3 — see Corrigenda.

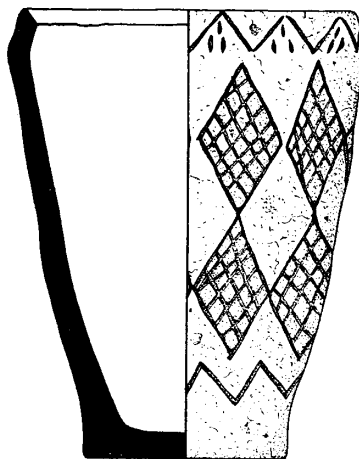


Fig. 4—Beaker from Stoneykirk, Wigtownshire (drawn by Mrs M. Scott). Scale 1 : 3 — see Corrigenda.

the same compact areas of settlement or burial, and clearly at Slaterich for example, where a Beaker of stage 7 and a Food Vessel were found in almost adjoining cists, there is no reason to think of any great chronological or cultural divide.

The impression of the continuing sanctity of, or at least interest in, chambered cairns by the makers of Beaker pottery, is one that finds a parallel in the round cairns and ring-cairns that begin with a Beaker burial. One example is the cairn at Balnabraid, Kintyre, Argyll, where a cist with a Beaker, two jet disc-beads and a flint knife, appears to have formed the focus for a later series of cist burials, three with Food Vessels and two deposits with Cinerary Urns. Another example is the cairn at Limefield, Lanarkshire (DES 1967, 59); see also Ritchie, 1970a, 145; Morrison, 1968, 117-18).

The sites at Muirkirk, Ayrshire, formerly described as hut-circles, appear to be burial sites of ring-cairn or enclosed-cremation-cemetery type and to be comparable in general terms to that at Limefield. A type of site which may be related to the ring-cairn traditions represented by these examples is the kerb-cairn, a low platform of stones with disproportionately large kerb-stones. Only one such cairn has produced datable finds, Cairnpapple, West Lothian, where two Beakers of stage 5 accompanied an extended inhumation and a series of wooden objects (Piggott, 1948, 88-90).

If the approach outlined by Lanting and van der Waals for Beaker pottery has any validity in the south-west, and it should be remembered that all it pretends to do is to outline a series of subjective steps, it is possible that a similar scheme might be offered for the heterogeneous collection of pottery known as Food Vessels (D. D. A. Simpson, 1965). As for Beaker ware, the south-west is not an area of outstanding invention or of innovation in the development of Food Vessel ceramic, and it is possible that a similar mixture of outer influence and indigenous development may be traceable, subjective though this may be. Associations are possibly even fewer than with Beaker ware and it should be noted that several of those listed by Simpson cannot be substantiated (D. D. A. Simpson, 1965, 25-6); the two vessels from Baillieston were not found in the same cist, they were discovered separately without any associated material (Maxwell, 1940, 287-8); nor were the three vessels from Knocken found in the same cist (Young, 1897, 500); at High Banks Farm, the Beaker and Food Vessels are from different sites and the former was not covered by a cairn (Hamilton, 1891, 24-5); the association of the Wetherhill vessel and urn is at best unproven (Baird, 1917). This is not to deny any associations, however, and Food Vessel ware has been discovered on sites where both earlier and later wares occur; at Kirkburn, Lockerbie, for example, one of the comparatively small number of Food Vessels from the south-east of this region was found in a cemetery which included both Beaker and Cinerary Urn deposits (Cormack, 1963, 110, 124). At Palmerston, Dumfries, an undecorated vessel was associated with a flat cemetery of Cinerary Urns, apparently set out in a roughly circular formation. Also in the south, at Drannadow, the association of two Food Vessel cists under a complete cairn may be instructive. The chronological overlap of the two pottery styles is generally accepted, though it is not possible in the south-west of

Scotland to demonstrate stratigraphically the discovery of a Food Vessel in an earlier context than a Beaker, or indeed in a position that suggests contemporaneity. But the merging of styles is typified by that of nomenclature in the Beaker-Food Vessel class outlined by D. D. A. Simpson (1965, 35-7) and several vessels already mentioned were included in this group (e.g. Knockdoon, step 1-2; Glenluce, step 7). A tradition of height is apparent in some late vessels such as Slaterich, Stoneykirk and Glenluce, though the squat Beakers of step 7 show that height is not the only criterion.

It might be possible to hazard a guess that such Food Vessels as Doonfoot, Ayrshire and Balnabraid cist 4, belonging to Scott's Machrie Vase group (Davidson and Scott, 1967, 166-70), may be not far removed in time from the tall Beaker-Food Vessels mentioned above. Certainly the false-relief rim-decoration of Slaterich and the incipient cordons of the Glenluce vessels find ready parallels. If this were so, the satellite Food Vessels at Balnabaird (cists 9 and 12) might be thought to provide the next rung of the ladder, as tentatively envisaged on Fig. 2. But there is too little concrete information to continue this type of analysis further.

There are few radiocarbon dates to give any indication of absolute chronology: a step 4 Beaker from Chatton Sandyford, Northumberland, is associated with a stake setting burnt before the deposition of the Beaker; analysis of the charcoal from stake holes provided a date of 1670 bc $\pm$ 50 (GaK -800) (Jobey,

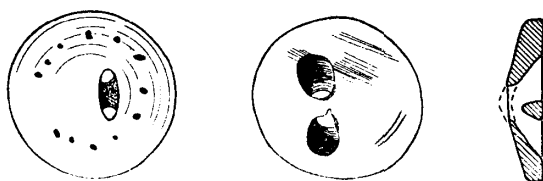


Fig. 5—V-bored jet button, Marshalmark Hill, New Cumnock, Ayrshire (drawn by Miss A. Tuckwell). Scale 2 : 3.

1968, 30). Two radiocarbon dates from the Beaker levels at Northton, Harris, provide a broad chronological equation with step 5, as both are associated with Clarke's Northern British series; the dates are 1654 bc $\pm$ 70 (BM-706) and 1531 bc $\pm$ 54 (BM-707) for the earlier and later levels respectively (Burleigh et al, 1973). Two beakers of step 7 are associated with radiocarbon determinations of a considerably later date, Ashgrove and Balbirnie, Fife, of 1000 bc $\pm$ 150 (Q-764) and 1330 bc $\pm$ 90 (GaK - 3425). This may suggest that instead of envisaging horizontal steps of Beakers and Food Vessels, the complex inter-relationships could only be represented by a series of interlocking horizontal and vertical bands. Step 7 certainly (and step 6 possibly) running parallel as it were with many forms of Food Vessel. Certainly the different forms of Food Vessel that might broadly be

contemporary appear to defy the simple form of presentation outlined for Beakers. At Drumpellier, Lanarkshire, for example, it seems likely that all the cists would be inserted into the circular construction-trench at the same time and thus the three (or possibly four) surviving vessels should broadly be contemporary—yet they are very different (Morrison, 1971, 22-6). Thus, as the numbers of vessels increase as the second millennium progresses (either because of an increase in population or merely because of higher chances of survival) their typological and chronological relationships cannot be presented in the simple way outlined for Beaker pottery. And this may in itself cause sobering reflection on the validity of any such finds-analysis (JNGR).

Most of the Beaker-associated artifacts in the south-west come from cist burials, of which the example from Mainsriddle, Kirkcudbright, has the best documented burial pattern; it contained an adult male, crouched on his left side, orientated to the east and facing south (Truckell, 1957). This is the classic burial pattern for a Beaker male, as shown by an analysis of the East Yorkshire burials (Tuckwell, 1970, 16). The equally characteristic pattern for a female Beaker burial can be seen in a cist from Ferniegair, Hamilton, Lanarkshire, which, although unaccompanied by a Beaker, contained a female crouched on her right, orientated west and facing south (Miller, 1947, 17). The moss, *Polytrichum Commune*, covering this body provides a further Beaker link, recalling the copious moss and leaf remains with a dagger and step 7 Beaker in cist 1 at Ashgrove, Fife (Henshall, 1964a) and the "matty substance" covering the skeletons associated with Beakers of step 5 in cist 1, Broomend of Crichton, Aberdeenshire (Chalmers, 1868).

The most striking feature of the Beaker associations from the south-west is their consistent date, mirroring the chronological bias of the Beakers themselves. Very nearly all the artifacts can be assigned to step 5, 6 or 7. Only three of four objects are any earlier. The fragments of arsenical copper from Salen, Mull, found with an All-Over-Cord Beaker and a flint flake (Duns, 1883, 84-5) could belong to the earlier half of the Beaker period. While probably earlier than step 5, but in an uncertain relation with the step 3 Beaker from the same tomb, are the five barbed-and-tanged flint arrowheads found in the chambered cairn of Nether Largie South (ARG 23) (Greenwell, 1886, 341-7; Henshall, 1972, 355-40, ill. p. 302).

The unassociated dagger from Mid Torrs, Glenluce (G. Wilson, 1880, 137, fig. 13), and possibly also the dagger from Low Torrs, Glenluce, listed by Coles (1969, 91), is a rhomboidal dagger, of Clarke's Class iii, with no evidence of rivets surviving. This may be paralleled by the dagger from West Lilburn, found in a cist with a reflexly concave button and a step 4 Beaker (Collingwood et al, 1946).

The most important find in South-West Scotland from step 5 is the bar armlet from Crawford, Lanarkshire (Anderson, 1883, 451) which provides a date, in Beaker terms, for the Migdale phase of Scottish Early Bronze Age industrial activity. Through this link the Migdale hoard, with its six similar armlets and

other characteristic types, is tied in to step 5, in effect the beginning of the latter half of Beaker development. Furthermore, the occurrence of Migdale types in such Food Vessel graves as Kinneff, Kincardineshire (Anderson, 1883, 449-50) or Ratho, Midlothian (D. Wilson, 1863, 319, 454) provides a useful step 5/Food Vessel equation for at least the beginning of the latter pottery type.

A step 5 date can also be claimed for the Melfort spacer-plate necklace and ribbed bracelets through the links of the latter with the Migdale **manchette** or spacer (Coles, 1969, 72). This early dating for spacer-plate necklaces need not cause surprise, for their traditional grouping in "rebated cist/Wessex 2" times (Scott, 1966, 40-1) can be queried. Leaving aside the questionable status of the divisions of the Wessex material, such rebated cists merely provide **termini post quos non** for the grave goods they contain. And that many spacer-plate necklaces were in use over a considerable period prior to burial is indicated by the heavy wear visible on spacers and beads and by the replacements and repairs carried out on some necklaces, e.g. Boghead, Fetteresso or Pitreuchie (Coutts, 1969, 163, 221). A thorough reconsideration of the chronology of jet necklaces is in preparation.

The discovery of a bronze band armlet and a solid bronze ring from Cairntable, Ayrshire, should be considered alongside the Crawford bar armlet. Henshall has discussed three parallels for the Cairntable armlet (1964b), while a probable fourth can be cited from Berden, Essex, found with a step 6 Beaker (Maynard and Benton, 1921). It is of interest that the Cairntable armlet is decorated with a herring-bone motif common on Irish decorated axes of Harbison's Ballyvalley and Derryniggin types (1969, 67, fig. 3, D, la), and this motif is also found on a Coles type Bb axe from near Nairn (Coles, 1969, 84, fig. 10, 3). As for the Cairntable solid bronze ring, it seems to have been either a miniature version of the Crawford armring, or, perhaps more likely in view of its 32 mm diameter, a bronze version of a belt ring (Clarke, 1970, 185), bringing to mind the bronze ring of similar dimensions, but flimsier make, found "just above the hip" of the skeleton from Hunmanby, Yorkshire (Greenwell, 1890, 18-19, fig. 7). As Coles equates his type Bb axes with many of the Ballyvalley type (1969, 10), which type appears to be broadly contemporary with Wessex (Harbison, 1969, 78, fig. 6), and in view of the Berden grave and the Migdale connections of the axe with the band armlet from Mill of Laithers (Coles, 1969, 51, fig. 39, 21-2), a step 5 to 6 bracket for the Cairntable find is suggested. From Callachally, Mull, come two step 5 Beakers, an archer's bracer and a single-rivet dagger. The dagger is nominally of Clarke's class iii (1970, 260) which includes such step 4 examples as Kelleythorpe C38 (Londesborough, 1852, 251-8, pl.xx), but is most closely related to a group of Northern Irish stray finds (Piggott, 1963, 73-4, fig. 16, nos. 5, 7-9) which may have survived until relatively late in Beaker terms, as they are similar to one from Yettingdon, Devon, which was found with a stone battle axe (Piggott, 1963, 79, fig. 17, 5-6; Clarke, 1970, 185-6). Axes of this, Roe's Woodhenge, type are first found in step 6 (Lanting and van der Waals,

1972, 37, figs 1 and 3). The other Callachally find, the two-holed archer's bracer, also has Northern Irish parallels and belongs to one of the two North British bracer variants whose chronology in terms of Lanting and van der Waals' scheme is not now so exclusive as that formerly suggested by Clarke (1970, 186, 261).

Beaker archery equipment is not common in graves in the south-west, but one bracer has been found in a non-Beaker context at Ferniegair, Hamilton, Lanarkshire, where a four-holed example was discovered in a Cinerary Urn (Miller, 1947). This find is very like the Lancaster Moor deposit of a two-holed bracer and decorated Cinerary Urn both inside a large urn (Harker, 1877). At Mount Zion, Milngavie, Dunbartonshire, were discovered a Collared Urn inverted over a cremation, two bone beads, two bone toggles and one leaf and four barbed-and-tanged arrowheads (Callander, 1908, 218). Piggott has suggested a Food Vessel/Wessex date for the beads and toggles (1958), while the contemporaneity of at least part of the Cinerary Urn complex and Wessex/late Beakers is now accepted (Longworth, 1961, 289-90). The Ferniegair bracer is similar to one found at Cruden, Aberdeenshire, with two skeletons, seven barbed-and-tanged arrowheads, two flint knives and two step 5 Beakers (D. Wilson, 1863, 75-6).

Characteristic of steps 5 and 6 in other Beaker focus areas is the fine flint dagger (Lanting and van der Waals, 1972, 40), an unassociated example of which was discovered in a cairn at Glenochar, on Crawford Moor, Lanarkshire (*Proc. Soc. Antiq. Scot.*, xcvi (1964-6), 337, pl. xlv, i).

The flint strike-a-light from the cist in the cairn at Auchencairn, Closeburn, Dumfriesshire, with a step 5 Beaker, is in keeping with the custom of including fire-making equipment in later Beaker graves (Clarke, 1970, 184). A good parallel is the Lesmurdie, Banffshire, cist containing a strike-a-light, an iron ore nodule, two flint scrapers and a step 5 Beaker (Robertson, 1854, 207-8). The Beaker from Corran Ferry, Inverness-shire, may have been accompanied by a strike-a-light, but the excavation seems to have been rather haphazard (Ritchie 1970b, 52-3).

The re-used decorated slab covering the step 5 cist at Wester Yardhouses has been recently discussed by MacLaren (in Ritchie, 1970a). The only other Beaker burial with a re-used decorated cist slab is that from Upper Mains of Catterline, Kincardineshire (Reid and Fraser, 1924); the parallel cited by Crichton Mitchell (1934, 145) from the cist at Coilsfield, Tarbolton, Ayrshire, which contained a Food Vessel (J. Y. Simpson, 1865, 27-8, pl. xiii, i) is not a particularly close one.

Among the Beaker finds attributable to step 6, ornaments and dress attachments are prominent. The Limefield V-bored jet button heads a whole series of button finds from South-West Scotland, which themselves lack Beaker association. The Limefield button belongs to the large-conical group of circular flat-based buttons with diameters greater than 25 mm (Shepherd, 1973, 6) and is

similar to the stray finds from Crawford Moor, Lanarkshire, and Marshmark Hill, New Cumnock, Ayrshire, and to the one in the short cist at Holmains, Dalton, Dumfriesshire. This type of V-bored button has a distinctly northern British bias, occurring most frequently in Yorkshire and Scotland; it is first found in a step 3 context, but has a *floruit* in steps 5 and 6 (Shepherd, 1973, 21-4). The association of the Limefield button with a Beaker and a cremation is of interest in view of the rarity of this rite in a Beaker context and the fact that the only other button-Beaker-cremation association is with a similar large-conical button at Broxa 4, Yorkshire (Stickland, 1950, 87). The Marshmark Hill button is decorated with a circle of rough dots on its conical face (Fig. 5). Decorations of any kind are uncommon on British buttons, the closest parallel being an unpublished stray find from "North Riding, Yorkshire," now in the Yorkshire Museum. Both buttons can be paralleled ultimately at the prolific Globular Amphora amber-working site of Schwarzort on the Baltic coast of western Lithuania (Gimbutas, 1956, 180, pl. 39).

Another type of button, the small-conical type with a diameter less than 25 mm is represented at three findspots in South-West Scotland, Auchlochan, Lanarkshire (Greenshields, 1864, 32), Low Torrs (G. Wilson, 1881, 262-76) and Luce Sands (Callander, 1916, 218), both in Wigtownshire. This button type has a generalised distribution in England but is not widely represented in Scotland at all. The Kirkcaldy find of twelve small-conical buttons and a step 7 Beaker is probably the best known example of this type (Childe, 1944). These buttons lasted from step 4 to step 7 with a *floruit* in the last two steps (Shepherd, 1973, 24-31). Finally, mention should be made of the anomalous bun-shaped jet button from Mid Torrs, Wigtownshire, which has a broken V-boring in its base (Munro, 1902, 468).

V-bored buttons occur primarily in Beaker contexts in Britain; however, their ultimate origins are European and pre-Beaker (Kleyn, 1968). A variety of types occurred in Britain and probably served as decorative and prestigious fasteners for pouches, belts, cloaks, leggings and tunics; however, it is not possible to assign specific functions to any particular button type.

Other dress fastening are represented by the bone pulley-ring from Mainsriddle (Truckell, 1957; Stevenson, 1957). Its distinctive shape and material links it to examples from Broomend of Crichton, cist 1 (Chalmers, 1868) and Clinterty (Abercromby, 1902, 383), both in Aberdeenshire. Their distinctive grooves assign them to Clarke's class IIIb (1970, fig. 143), while the Beakers with the Aberdeenshire rings can be classed as step 5. The radial incised lines visible on the Mainsriddle and Clinterty rings (Clarke, 1970, figs. 662 and 661) connect them to such class IIIa examples as one of the pair from Ysgwennant Denbighshire, found with two step 6 Beakers (Day, 1972, 30-3); while the grooves on their perimeters may suggest some relationship with the series of convexo-concave jet rings, sometimes with lateral perforations, found, for example, in a cist near Yarrow Kirk, Selkirkshire (Smith, 1857, 484), Kilfedder, New Luce

(Callander, 1933, 31), Luce Bay, Wigtownshire (Scott, 1966, 35, fig. 17) and Lockton Pastures, Yorkshire (Elgee, 1930, 112). That these curious rings were related in function to pulley rings and more especially to the grooved perimeter types IIIb and IV is further suggested by one of the two rings from Oxtedde Bottom, Sussex (Curwen, 1954, fig. 42), which stands, typologically, between grooved rings and pulley rings. It is interesting to note that whereas pulley rings are traditionally conceived of as belt fasteners (e.g. Clarke, 1970, 265), the Mainsriddle ring was found "among the bones of the left hand" (Truckell, 1957, 113).

Cist No. 6 in the cairn at Balnabraid, Argyll, contained a step 6 Beaker, a flint flake knife and two disc-beads of jet whose affinities have recently been discussed in some detail (Ritchie, 1967, 93). Disc-beads, occurring either in small numbers or as necklaces of over two hundred beads, are generally regarded as late Beaker/Food Vessel in date. One rough disc-bead was found with a step 7 Beaker and two flint flakes in a cist at Sutton Bank, Thirsk, Yorkshire (Fawcett, 1938, 418), while 50 such beads, part of an archer's bracer and a finely made plano-convex knife came from cist 1 at Dalmore, Alness, Ross-shire (Jolly, 1879), which grave group could readily be step 6 in date. The Balnabraid flint knife has been compared (Ritchie, 1967, 93) to the one found with the jet spacer-plate necklace from Inchmarnock, Bute (Marshall, 1963). It has previously been suggested that such necklaces could date from step 5. At this juncture, it is appropriate to note that the finds from the south chamber of the cairn of Dunan Beag (ARN 7) included a triangular necklace-terminal, a similarly shaped pendant of jet and a step 6 Beaker (Bryce, 1909, 341-50; Henshall, 1972, 375-7, ill. p. 304). The sole step 7 association in South-West Scotland is the Stoneykirk, Wigtownshire, necklace of 187 jet disc-beads and a triangular toggle (Mann, 1902) which can be compared with the newly discovered necklace of 211 disc beads which accompanied a sub-Beaker (S4 step 7), two triangular jet pendants and a skeleton in cist 4 at Barns Farm, Dalgety, Fife (Watkins, 1973, 134).

There are a number of single finds of riveted daggers from the south-west: Knappers, Kilbowie, Dunbartonshire (Davidson, 1935, 352); Carlochan, Kirkcudbrightshire (Anderson, 1878, 454); Glenboig, Lanarkshire (Davidson, 1935, 357) and Luce Sands, Wigtownshire (G. Wilson, 1889) 95). These are more or less similar to the dagger from Cairn Greg, Linlathen, Angus, which was found in a clay-luted cist under a cairn (Anderson, 1878, 448-9, 455). Dagger graves, including Dunragit, Glenluce (which contained a three-rivet example) and Moleigh or Cleigh (Ritchie, 1968) have been discussed by Henshall (1968).

There remain to be mentioned two sites with probable Beaker pottery. The association of a flint knife with two flint flakes and two "uncertain" Beakers in cist 4 at Limefield recalls the discovery of one flint knife and one flint flake with a step (?) 4 Beaker at Persley Quarry, Aberdeenshire (Clarke, 1970, 442, 512). Similarly, the two "possible Beaker" sherds from Mollance, Kirkcudbright-

shire, found in a cist with a vase-shaped Food Vessel can be compared with the association of a Beaker and a Yorkshire Vase Food Vessel at Edington Mill, Chirnside, Berwickshire (Craw, 1914, 330-3).

In conclusion, of the four types of site associated with Beaker pottery in South-West Scotland, the third type, cist burials, contained the majority of Beaker artifacts. As a result our picture of Beaker activity in this area depends on that range of artifacts selected for funerary deposition. However, from this limited material three conclusions can be made which confirm and amplify the picture gained from the pottery evidence. Firstly, one can see in this region the tangible impact of the Beaker society and its lasting presence. The gradual decline in the use of chambered tombs together with the rise in distinctive and formalized burials within cist graves are indications of the progressive settlement by a mature community rather than of "evanescent" explorers. Secondly, the stages of development within the Beakers are largely in step with the sequence in other focus areas, although there may be few representatives of some of the stages. A measure of internal development of the Beaker type within the south-west region can be seen without need to resort to the political inroads required by such schemes as Clarke's. Thirdly, a series of external contacts runs right through the Beaker period in South-West Scotland, linking the region not simply to the rest of Scotland, but ultimately to Beaker groups in England, Ireland and the Netherlands. An Irish connection is constantly present, from the stray examples of "impact phase" Irish type broad-butted axes found in the extreme south-west (Coles, 1965, 87; 1969, 2-3) to step 5 and a link with the Hiberno-Scottish bronze trade. The concentration of the Beaker-associated metalwork from South-West Scotland in step 5 is doubtless linked with the expansion and diffusion of the Migdale industry at this time. The Beaker rhomboidal dagger from Mid Torrs has eastern and southern connections of step 4 date, while the various dagger graves, although lacking Beakers, belong in, and provide a link with, the general Scottish late Beaker tradition (Henshall, 1968). Similarly, further indications of contact and interchange with other Beaker groups are the type IIIb bone pulley-ring, the V-bored buttons, the Auchencairn strike-a-light (which appears in fashion here as promptly as in other regions) and the sexually-differentiated burial patterns cited earlier. Thus although the south-west may not present any neatly definable craftsmen's burials, or any ostentatious displays of Beaker wealth, features of certain other regions, the existent Beakers and their associated artifacts do seem to demonstrate a fair degree of internal continuity and external involvement (IAGS).

ADDENDA and CORRIGENDA to RITCHIE, 1970a

- No. 32 For Mossplant read Mossplatt.
- No. 34 Fig. 3 is a more accurate representation of this Beaker drawn for this paper by Mrs M. Scott.
- No. 37 This Beaker is not lost but in Mr G. Appleby's collection of objects originally excavated by Mr L. McL. Mann and it has been drawn by Mrs M. Scott with Mr Appleby's kind permission (Fig. 4).
- Cairny, Lanarkshire, NS 851665. DES 1969, 56.
- Possible Beaker fragment beneath cairn on SW perimeter, part perhaps of a zone of decoration bounded by horizontal impressions and infilled with diagonal lines or chevrons.

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THE ANGLES IN SCOTLAND AND THE MOTE OF MARK

By Lloyd Laing

School of History, University of Liverpool

SUMMARY

The 1973 excavations at the Mote of Mark, Rockcliffe, Kirkcudbright, produced possible evidence for a seventh century Anglian occupation. This evidence is reviewed, along with the historical background for the Anglian occupation of Scotland, and this is followed by a discussion of the archaeological evidence apart from sculptured stones for this occupation. A descriptive catalogue of Anglian finds from Scotland is given.

The Mote of Mark

Since the excavations of Dr Alexander Curle in 1913¹ the Mote of Mark at Rockcliffe, Kirkcudbright, has been known as one of the archaeologically most important secular sites of the Early Christian period in Scotland. The excavations of 1913, however, posed a great many problems, not the least of which was the date of the occupation of the site and the nature of the defences. Accordingly, excavations were carried out on the site for a period of six weeks in 1973, under the direction of the writer, and an interim report has already been published.²

The 1973 excavation showed that contrary to Dr Curle's belief, there was no occupation of the site in the Iron Age. The first occupation probably took place late in the fifth century, when a group of Britons decided to occupy the small, rocky hill and subsequently to defend it with a timber-laced rampart.^{2a} Before excavation the rampart was visible only for short stretches of its circuit, and then appeared as no more than a low bank from which a few stones, some vitrified, protruded. Excavation showed, however, that originally the rampart must have stood as much as ten feet wide, attaining a similar height, and must have been composed of granite and sandstone boulders mixed with a little earth, with a timber facing which was anchored into the body of the rampart by tie beams. No certain trace of the tie beams were found in the section cut into the rampart on the N side of the fort, where it was best preserved, but the presence of timber-work was clearly shown by the vitrification of the face of the rampart which preserved in it at one point the impression of a rectangular timber upright (Plate 1). A preliminary examination of the vitrified material by the Geophysics Laboratory of Liverpool University³ suggests that to result in the stone fusing into this condition, a temperature of between 750° and 1200° was necessary. The cause of this vitrification will be considered presently.

¹ Curle, 1913-14.

² Laing, 1973.

^{2a} See Appendix B *infra*.

³ Information in litt. from Dr. Geoffrey Brown, who is carrying out the examination.

The excavation indicated that the rampart was broken at two points. The first break was for an entrance on the S side of the fort, facing the estuary, which would have given immediate access to the central hollow on the hill which appears to have been the main occupation area. In excavation this entrance appeared simply as a break in the rampart blocked subsequently with a bank of stones and midden material; apart from a fairly substantial burnt timber from near the base of this blocking and a considerable quantity of charcoal from the blocking itself there was no structural evidence for the nature of the gate. It should be said, however, that limitations of time prevented total investigation of the area, and in any case the rear of the entrance area had been disturbed by the 1913 excavations, which found at this point extensive timber work, including a 'rail'.⁴ The second break, not investigated in 1973 but excavated by Curle in 1913⁵ seems to have been a postern in the NW angle of the fort, furnished likewise with some kind of timber gateway.

The character of the site is reminiscent of many Dark Age citadels, notably Dunadd, the capital of the Dalriadic Scots in Argyll and the reoccupied fort at Dinas Emrys, Caernarvonshire; in all three the defenders chose a small rocky outcrop with natural fortifications. The character of the man-made fortifications at Mote of Mark are, however, in quite a different tradition from those of the Scottish nuclear forts or their Welsh counterparts, for here we have a type of defence with timber lacing only matched at present at South Cadbury in Somerset, traditionally the Arthurian 'Camelot'. Here the 'Stony Bank' though more substantial is in many ways similar to the Mote of Mark defences.⁶ It should be noted that the Cadbury rampart with its associated timber gateway has been seen as a survival of Roman military traditions.⁷

The British occupation inside the defences does not concern us here; it would appear that the central hollow on the hill was further defended by a rough stone revetment and in the hollow itself probably stood insubstantial timber round huts wherein the occupants worked bronze and iron and less certainly gold and silver as well as shale, bone and probably glass. Pottery of Class E, imported from the region round Bordeaux, and imported Rhenish glass, as well as one sherd of Gaulish D Ware, provide a date for the British occupation within the sixth century, which is confirmed by the character of the objects that were being made from the moulds used on the site.

The next event in the history of the site is the firing of the rampart which caused it to vitrify. All the evidence suggests that the rampart was fired from the outside of the fort, not by the accidental spread of fire from a hearth or a burning building inside the defences. This is shown by the fact that all the signs of vitrification are on the outside of the fort wall, and there is no sign of scorching on the old land surface on the inside, which there probably would have been had the fire spread from the inside outwards. It is at this point that the S

⁴ Curle 1913-14.

⁵ *Ibid.*

⁶ Alcock, 1971, 222-3; Alcock, 1972, 175-7.

⁷ Alcock, 1972, 176.

entrance was blocked—pieces of vitrified material were incorporated in the mass of the blocking, along with large quantities of animal bone, an iron knife, some sherds of pottery and glass, some pieces of slag, and an iron ferrule. These almost certainly came from a midden which we know to have accumulated almost immediately adjacent to the gateway in and around a curious three-sided stone structure that may at some stage have served as a barbican. In addition, the rampart contained mould fragments and a bronze casting of four conjoined rivets which came from a nearby metal-working area. At the bottom of the emergency rampart, under a substantial carbonized timber, was the fragmentary mould for a mount decorated with interlace, which could hardly be much earlier than the end of the sixth-century or the beginning of the seventh.

The evidence from the interior of the fort suggests that the British occupants were continuing to work metal and use imported pottery and glass until around 600 or possibly slightly later, at which time the rampart was fired. Following the firing, the old entrance was hurriedly blocked using material scraped up from the adjacent fort interior and old stones from the rampart.

The next stage is marked by the deliberate dismantling of the remains of the rampart and the revetment of the hollow. The stones were thrown down the

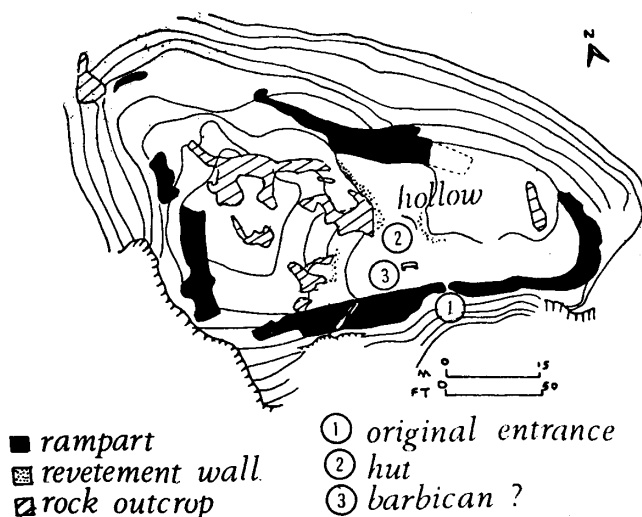


Fig. 1. Mote of Mark: General Plan

side of the hill, where they can still be seen—it seems hardly likely that the vast numbers of stones on the slope, many of them vitrified, were the result of natural decay, as had this been the case one might have expected a much wider spread to the rampart and a more gradual rickle of stones, mainly overgrown. If confirmation of the deliberate destruction is necessary, it is provided by the fact that the revetment was already denuded when a post-destruction layer of cobbles was laid down over the central hollow and also the denuded tail of the

bank. The finds from above these cobbles show that they could not have been laid down centuries after the British occupation, but were laid down almost immediately on top of the existing occupation level, with the result that pottery, glass and other residuals became mixed up with the stones and in some cases lay on top of them.

That this occupation was probably Anglian is shown by a number of finds, including two runic inscriptions, listed below. The evidence of these seems fairly clear; at some point early in the seventh century the fort was fired, probably by attackers, and the entrance was hurriedly blocked. This seems to have been of no avail; the fort was taken, the defences dismantled, and the hollow cobbled over. As there were no certain structures associated with the cobbles (though a rectangular clay floor excavated by Curle in 1913 and located by us in 1973 may have been associated), it seems probable that this occupation was of an impermanent character, and may even have been of a few squatters with their animals. The evidence suggests that attackers and squatters were probably Anglo-Saxons.

The Anglian Period Finds from the Mote of Mark

The most notable finds that can be attributed to the Anglian period are two runic inscriptions.⁸ The first is on a fragment of polished ox-rib bone with soot staining 42 m.m. long. The inscription, in Anglian runes, reads:

ᚱᚷᚲᚲ

i.e., 'Athili . . .' and appears to be the first part of a proper name. Unfortunately this did not come from any archaeological context, but was found just below the foot of the rampart near the original entrance on the S side of the fort (where 1 is marked on Fig. 1). It has been recently fractured, and the evidence suggests that it was found by a visitor to the site, snapped and thrown away. It could either have come from the top of the emergency rampart, or, more probably, from the midden that accumulated in the 'barbican'. The second runic inscription came from Curle's backfill of the barbican midden. It has not yet been deciphered, and is engraved on a piece of sandstone which may have once been a piece of a quern, though this remains uncertain.

The finds from above and between the final phase cobbles are the only finds which can be regarded as belonging to the supposed Anglian phase on the site. As might be expected, most of these represent residual material from the British phase, and several, it is suspected, have in fact found their way into the topsoil in the hollow through being eroded down from now lost habitation on the higher ground on either side. This residual material comprises mainly sherds of 'E' ware, small fragments of mould, glass and a scatter of flints. Apart from this however there are a few finds which would be quite in keeping with an

⁸ For information on the runic inscriptions I am indebted to Dr. R. I. Page, whose preliminary report has been followed here.

Anglian context. The first is a fragment of a large bead in rock crystal, with bevelled edges, a type found in Anglo-Saxon graves of the seventh century and not known in the Celtic West. Another fragment of a bead has green and white cables; this type is not found in Britain in Celtic contexts, though it is known in Ireland and Scandinavia, but again occurs in Saxon graves. There are a few sherds of pottery in a friable fabric fired to orange-buff or with a black interior and red exterior. Though bearing a superficial similarity to E Ware they have their closest parallels in Anglian material from Northumbria. Finally, iron tweezers from Curle's backfill is very similar to tweezers from Saxon graves, for example the Abingdon cemetery⁹, and there is a fragment of a bone comb¹⁰ with ring-and-dot ornament, again of Anglian type.

The Angles in Scotland

The starting point for any review of the Angles in Scotland must be the career of Urien (Urbgen) of Rheged. Urien is an historical figure, a member of the Coel line, who is known to have been ruling Rheged in the late sixth century. The exact extent of Rheged is not easy to determine, but it certainly seems to have included the area round Carlisle and the Eden Valley, much of Dumfriesshire and Kirkcudbrightshire, and possibly Wigtown, part of Ayrshire and much

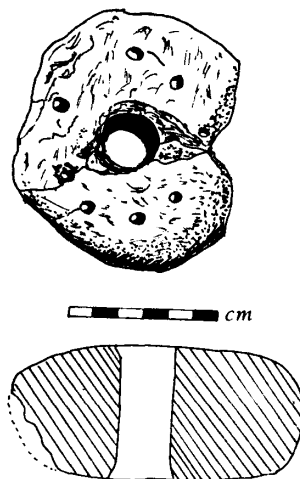


Fig. 2. Clay Loom-weight, of characteristic Anglo-Saxon type from Yetholm, Roxburgh

of northern Cumbria as well.¹¹ If this is so, Urien must certainly have been ruler over the Britons who occupied the Mote of Mark, and indeed the princely character of the finds from the site suggest that in the late sixth century it was the stronghold of someone of importance in Urien's court. Urien figures in the

⁹ Leeds, 1936, Pl. X.

¹⁰ Leeds, 1936, Pl. X.; West, 1969, Fig. 10, 2.

¹¹ Kirby, 1962, 80; Chadwick, 1949, 144 160.

poems of Taliesin¹², and the *Historia Brittonum* records that Urien and other leaders of the Coel line combined against the Angles of Bernicia, and that in a subsequent campaign Urien was killed by the other Coelings because they were jealous of his military capacity.¹³ According to the *Historia*, Urien besieged the enemy for three days and nights in an island called *Metcaud*, which a later passage suggests was Lindisfarne or one of the adjacent islands.¹⁴ Urien probably died around 590, and Rheged probably declined thereafter.¹⁵

Up to this point there is no suggestion of Anglian occupation; in the following reign of Aethelfrith of Bernicia (592-616) the Anglian annexation of considerable areas of Lowland Scotland seems to have taken place. Bede tells us that Aethelfrith ravaged the Britons more than any of his predecessors, and so great was his success that Aedan of Dalriada fought him in 603 only to be defeated at *Degsastan*.¹⁶ Documentation is sparse for the following years, but it seems that the battle left the Bernicians masters of the east Lothians¹⁷ and also probably Rheged, which vanishes from documents. By the time of Edwin the Northumbrians had gained control of the Isle of Man;¹⁸ to do so they must have also controlled the Carlisle region and the Solway. The annexation of Man seems to have been complete by around 620, and it is likely that in the years following *Degsastan* the Northumbrians concentrated their efforts on gaining a firm control of south-west Scotland rather than the east.¹⁹ Somewhat earlier (c.600) there had been pagan Angles around Hoddum, apparently at peace with the Britons, if we can rely on the twelfth century *Life of Kentigern* by Jocelyn.²⁰ By 638 Rheged was securely under Anglian domination, following the marriage of Oswiu, the brother of the Northumbrian king Oswald, to Riemmelth, the great-granddaughter of Urien²¹.

The conquest of the remainder of the Scottish lowlands rapidly followed. Strathclyde was conquered by Ecgrith if not by one of his predecessors, and though it was lost again when Ecgrith was defeated and killed at Nechtsmere in 685, south-west Scotland still remained in Anglian possession.²² Around 720 an Anglian bishopric was established at Whithorn which was to last until 803 or later.²³ It is likely Whithorn was still in Anglian territory in 875 when Bishop Eardulf of Lindisfarne took the body of Cuthbert there.²⁴ Around 750 Kyle in southern Ayrshire seems to have been annexed by Eadbert of Northumbria,²⁵ having previously been part of Strathclyde. The annexation of eastern Scotland had been completed by the beginning of Ecgrith's reign, and

12. Williams, 1960, *passim*.

13. Mommsen, 1894, 206; Discussed in Kirby, 1962, 80 and Hunter-Blair, 1958, 151.

14. Hunter-Blair, 1958, 151.

15. Kirby, 1962, 80.

16. Bede, H.E. I, 34.

17. Jackson, 1959, discusses the annexation of the Lothians.

18. Bede, H.E., II, 5.

19. Hunter-Blair, 1958, 160.

20. *Vita Kentigerni*, cap. xxxii.

21. Kirby, 1962, 81.

22. *Ibid.*, 82.

23. *Ibid.*

24. *Ibid.*

25. *Baedae Continuatio*, s.a. 750

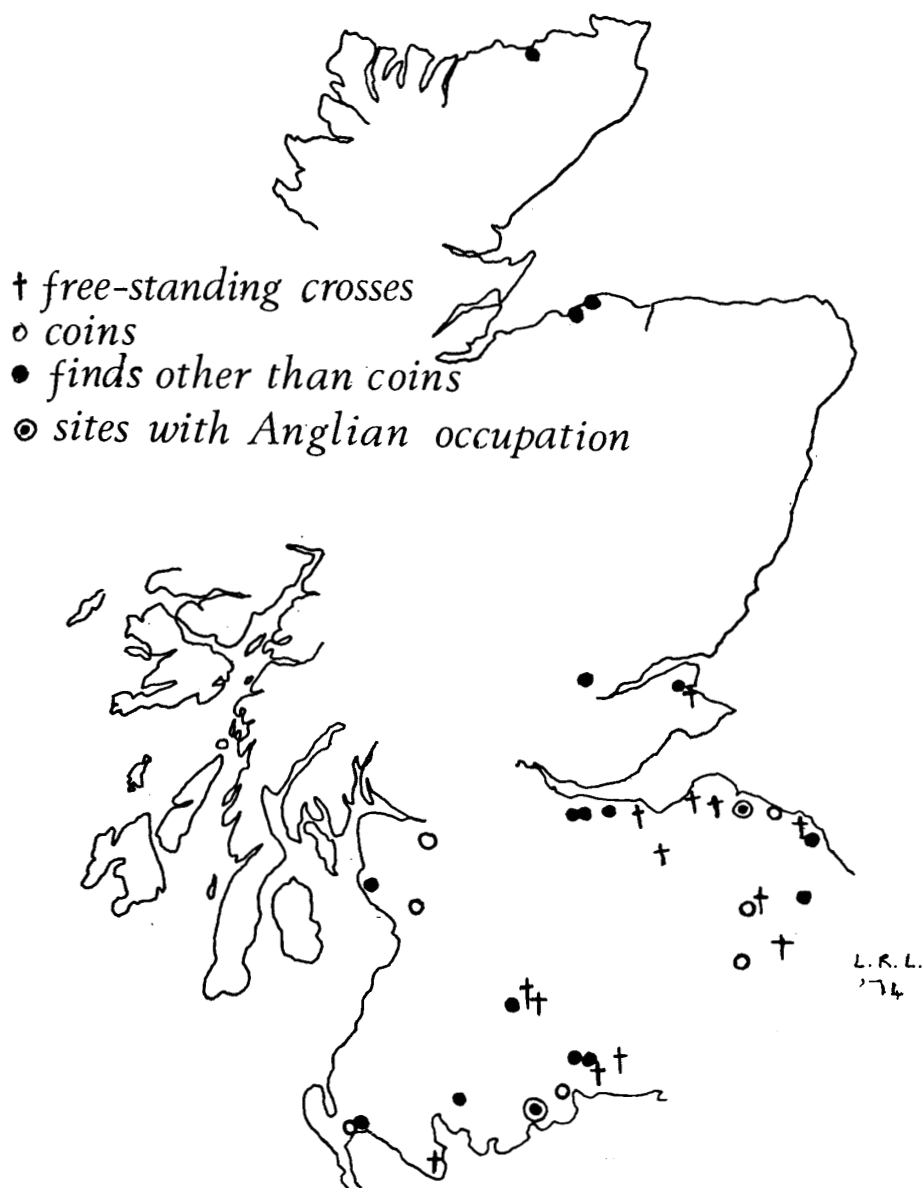


Fig. 3. Distribution of Anglo-Saxon material in Scotland.

the monastery of Abercorn on the Forth around 680 became the seat of an Anglian bishop, Trumuini.²⁶

During the seventh century the Angles waged intermittent war with the Picts, but do not seem to have gained a foothold north of the Forth.²⁷ The last of the long series of battles was that fought by Berctfrid in 711, which ended in Anglian victory. From that point on the influence of the Church led to friendlier relations between Picts and Angles, which is symbolized by Nechton IV sending for craftsmen from Monkwearmouth and Jarrow to help him build a church, and asking for the advice of Ceolfrith abbot of Monkwearmouth and Jarrow on the keeping of Easter.²⁸

Nechtansmere marks the start of the decline of Anglian control in Scotland. An area designated 'Cumbria' which may have included part of South-West Scotland was leased by Edmund to Malcolm I in 945, marking the start of the new phase of Scottish acquisition of Anglian territory.²⁹ Edgar probably gave Lothian to Kenneth II in the third quarter of the tenth century,³⁰ and the final loss of Anglian territory in Scotland came in 1016 (or 1018) at the Battle of Carham when Malcolm II defeated a Northumbrian army under the Earl of Northumbria and added the remaining land between Forth and Tweed to Scotland.³¹

The Archaeological Evidence—Anglian Material in Scotland

Virtually all the archaeological evidence for the Anglo-Saxon settlements and occupation in Scotland takes the form of sculpture, notably a series of free-standing crosses starting with that from Ruthwell, Dumfriesshire. These sculptures have been discussed at some length in a number of studies, including several important papers that have appeared in these *Transactions*, and for this reason are omitted here.³²

There are virtually no known Anglian settlement sites in Scotland: the only Anglian site to have been excavated in Scotland is that at Doon Hill, Dunbar, East Lothian, where an Anglian hall was found to replace an earlier British one.³³ A site similar in character to Doon Hill has been located by aerial photography at Hogbridge, Peeblesshire,³⁴ but the identification is not certain. There is some evidence, however, that the Angles were responsible for the introduction of a system of agriculture employing cultivation terraces, which are found widely scattered in southern Scotland, and some of which may date from the eighth century.³⁵

Virtually all the archaeological material of Anglo-Saxon origin dates from the late Saxon period (i.e. ninth-tenth century), and a proportion of it seems to

²⁶ Hunter-Blair, 1958, 169.

²⁷ Henderson, 1967, 51-59.

²⁸ *Ibid.*, 60.

²⁹ Dickinson, 1961, 38.

³⁰ Stenton, 1947, 365.

³¹ Dickinson, 1961, 39.

³² Cramp, 1961; Radford, 1954; Baldwin-Brown, 1937; Collingwood, 1927, etc.

³³ Hope-Taylor, 1966, 176-7.

³⁴ RCHAM *Inventory of Peeblesshire*, I (1967), 36 and 79.

³⁵ *Ibid.*, 39.

have been found north of the Forth-Clyde line. The close links between Pictland and Northumbria following the reform of the Pictish Church by Nechton mac Derilei around 710 may have led to a certain amount of trading between Pictland and Northumbria, but without doubt most of the Anglian finds from northern Scotland found their way there as Viking plunder and cannot be regarded as evidence of direct contact with Anglo-Saxon England. Viking activity certainly would account for such pieces as the Burghead drinking horn mount from Moray (see below) and in the south might also account for the Talnotrie Hoard from Kirkcudbright, though if Talnotrie is a Viking plunder hoard it is rather unusual in character.

In the list that follows objects that are certainly Anglo-Saxon are given first in chronological order; a number of more dubious pieces are discussed individually thereafter. No attempt has been made to list all the possibly Anglo-Saxon beads from Scotland; it is virtually impossible with a great many types of Early Christian period beads to be certain which are Anglo-Saxon, and only two finds are included which are of types that are never normally found on 'Celtic' sites.

1. **The Tynron Doon Bracteate.** This object is a fragment of a gold bracteate pendant with filigree ornament which was found at Tynron Doon, Dumfriesshire, in the re-occupied hillfort. It has recently been described and discussed in some detail by Williams in these *Transactions*,³⁶ and the detailed description need not be repeated here. It might, however, be pointed out that the closest parallel for the Tynron Doon bracteate is one from the seventh-century coin hoard found at Milton Regis, Kent, in 1916.³⁷ The coins were silver *sceattas*, and are unlikely to be earlier than the end of the seventh century,³⁸ but the bracteates may be earlier. One of the bracteates has a bird- or serpent-headed device which is reminiscent of the symbol of Wodan/Odin which appears on the Bacton coin pendant from Norfolk,³⁹ on one of the Sutton Hoo helmet mounts (where it adorns the helmet of a warrior) and on a number of Scandinavian objects.⁴⁰ The character of the bracteates suggests that they were, in fact, old when they were buried, and a date around the mid-seventh century seems likely for them; a similar date should probably be assigned to the Tynron Doon object.
2. **Polygonal bead, Mouswald, Dumfriesshire.** This dark blue bead has coloured ends (predominantly red and yellow) and is of a type not found in Celtic areas. Unpublished, National Museum of Antiquities of Scotland, Reg. No. FS 45. Similar beads come from several pagan Saxon cemeteries.
3. **Dalmeny Necklace, Midlothian.** This necklace of beads was found in a cist and is usually regarded as Anglian.⁴¹ The beads, however, are not particularly distinctive. The nature of the burial, without other associated grave-

³⁶ Williams, 1973.

³⁷ Anon, 1926, 446-7.

³⁸ Thompson 1956, No. 269.

³⁹ Speake, 1970, 11.

⁴⁰ Ibid, 11-13.

⁴¹ Baldwin-Brown, 1915, 332-8.

goods, indicates that it is not a pagan Saxon deposit, nor is the character in keeping with a Christian Saxon grave.

4. **The Dalmeny Harness Pyramid, Midlothian.** This is a gold hollow-worked pyramid, originally filled with a copper or bronze core. The top is flattened for inlay with garnet, and garnet inlays are also found at each angle. It is 20 mm. in height, tapering to 5 mm. There are no paillons under the garnet. The side panels are decorated with gold filigree work. National Museum of Antiquities, Reg. No. FE 50. It was found in Dalmeny Churchyard. This pyramid belongs to a small group of early seventh century Anglo-Saxon ornamented pyramids. One came from the Thames,⁴² another from the cemetery at Sarre in Kent,⁴³ yet another from Broomfield, Essex,⁴⁴ and finally there is the famous pair from the Sutton Hoo ship burial.⁴⁵ There is also a series of less ornamental pyramids from various Anglo-Saxon sites in England, and a further Continental series.⁴⁶ There has been considerable debate about the precise function of these objects, but they appear to have been connected in some way with the securing of the scabbard to the belt or the sword within the scabbard.⁴⁷ (Plate II).
5. **The Collin Whetstone, Dumfriesshire.** This object in Dumfries Burgh Museum appears to be the top part of a ceremonial 'whetstone' or mace, similar to that from Sutton Hoo⁴⁸ and the much more worn example from Hough (Loveden Hill), Lincolnshire.⁴⁹ Another was found in North Wales.⁵⁰ In many ways it is a more sophisticated work than the Sutton Hoo whetstone. It is made of fine-grained grey micaceous sandstone, and is 10 cm. high. (Plate III.) It is probably of similar date to the Ruthwell Cross (also see Appendix A, *infra*).
6. **The Yetholm, Roxburgh, Loomweight.** This unpublished object in the National Museum of Antiquities (Reg. No. IG 1 1971 190) is an almost complete annular loomweight of clay, fired brown, red and black and containing a certain amount of straw in the fabric. It is decorated with eight punched holes. This is a characteristic Anglo-Saxon find, and is of 'Intermediate' type, which would place it in the Middle Saxon Period (i.e. eight-ninth century). Pagan Saxon loomweights as a rule are ring-shaped, late Saxon loomweights are bun-shaped with a relatively small central hole.⁵¹ This example compares with one from the Middle Saxon site of Maxey, Northants. (Fig.2.)⁵²
7. **'Whitby' Strap End, Reay, Caithness.** This is one of a series of bronze strap ends from Scotland decorated with 'Trehiddle' style late Saxon ornament. This was found at Sandside Links. It has been suggested that these strap

⁴² Davidson, 1962, 86.

⁴³ *Archaeologia Cantiana*, VII, (1889), 310.

⁴⁴ *Victoria County History of Essex*, I, 320; cited in Davidson, 1962, loc. cit.

⁴⁵ Bruce-Mitford, 1968, 66.

⁴⁶ Davidson 1962, 85-6.

⁴⁷ Werner, 1955, 31.

⁴⁸ Bruce-Mitford, 1968, 21.

⁴⁹ Green, 1968. Pl. IX 6.

⁵⁰ Kendrick, 1941. This one however is almost certainly Celtic and probably ninth century.

⁵¹ This typology originally outlined by Wheeler, 1935, 154-5; see also Dunning et al. 1961, 24-5.

⁵² Addyman, 1964, Fig. 12, 14.

- ends served as bookmarks.⁵³ National Museum of Antiquities, Reg. No. IL 673.
8. **'Whitby' Strap End, Stevenson Sands, Ayrshire.** Of similar general type to 7. National Museum of Antiquities, Edinburgh, Reg. No. BMC 292.
 9. **'Whitby' Strap End, Coldingham Priory, Berwickshire.** Similar to the foregoing. Now in private possession.⁵⁴
 10. **Group of Six 'Whitby' Strap Ends, Luce Sands, Wigtownshire.** In the National Museum, not numbered, Reg. BH.
 11. **'Whitby' Bronze Pin.** Raquet-headed pin decorated with ring-and-dot ornament. Discussed in these *Transactions*, p. 65. From Blackhall House. Strathtay, Perth. National Museum Reg. No. FC 234.
 12. **Burghhead Silver Drinking Horn Mount, Moray.**⁵⁵ This object is decorated again in 'Trewiddle' style, and is closely comparable to the objects from the Trewiddle Hoard itself.
 13. **Sword, Torbeckhill, Ecclefechan, Dumfriesshire.** This object was published by Greig,⁵⁶ following Curle,⁵⁷ as a Viking sword, but it was noted in Part VI of *Viking Antiquities* that this attribution was erroneous.⁵⁸ In fact, the sword is of a type current in England in the ninth century.⁵⁹ It was found in 1913 on top of a mound, a couple of feet below the surface. It had no associations.⁶⁰ It has a three-lobed pommel, decorated with stamped ornament, and has a curved guard. The type is that termed (erroneously) by Wheeler the 'Wallingford' type, after a similar hilt in the Ashmolean Museum,⁶¹ then thought to be from Wallingford, but in fact from Abingdon, Berks.⁶² There are similar swords from the Thames at Westminster and and from the River Witham, Lincolnshire.⁶³ The type may have been taken from England to Scandinavia, where a variant with a less curved pommel and guard developed.⁶⁴
 14. **The Talnotrie Hoard, Kirkcudbright.**⁶⁵ Although this hoard may have been buried by a Viking, most of the objects from it are Anglo-Saxon. It was buried between 865 and 875, and included a pair of silver raquet-headed pins, pierced for a joining chain, as on the Witham Pins,⁶⁶ a 'Whitby' strap end of silver, a coin weight, an Anglo-Saxon spindle whorl, four pence of Burgred of Mercia and two fragments of oriental coins along with one Frankish.⁶⁷ In addition there were six Northumbrian bronze sceattas. The hoard also contained a plain gold finger ring, a circular piece of jet, a piece

53 Wilson, 1961, 97-8; Peers & Radford, 1944, 55-56.

54 Wilson, 1964, 33, Fig. 3.

55 Wilson, 1961, Pl. XXIX, b and discussion.

56 Greig, 1940, 13-14 and Fig. 2.

57 Curle, 1913-14b, 335.

58 Shetelig, 1954, 108.

59 Davidson, 1962, 56.

60 Wheeler, 1927, 34.

61 Wheeler, 1927, loc. cit.

62 *Oxoniensia*, XVII-XVIII (1952-3), 261.

63 Davidson, 1962, 53.

64 *Ibid.*, 54.

65 Maxwell, 1912-13.

66 Wilson, 1964, Pl. XVIII.

67 Stevenson, 1967, xiii.

of glass, an agate and a lump of wax. Apart from these objects the hoard included a circular hollow bronze pin head, decorated with filigree in panels, at the intersections of which were settings for inlays, one of which was still in position. This is the only Scandinavian type of object in the hoard. It can be paralleled by a silver pin from a Norse burial from Ballinaby, Islay,⁶⁸ and the ornament also has its counterpart in the Terslev find from Zeeland⁶⁹. The weight is probably Norse-Irish, and compares in general terms with the series from Kilmainham-Islandbridge, Dublin.⁷⁰ It can also be compared with the stylistically more remote pieces from a Norse burial at Kiloran Bay, Colonsay.⁷¹

15. **The Cramond Runic Ring.** This is a plain bronze ring, 21 mm. in diameter, 5 mm. wide, slightly damaged due to corrosion. The inscription round the outside is very worn, and is in Anglian runes with serifs. It may date from the ninth century. The inscription is difficult to read, but seems to include a maker's formula with a variant of the word *worhte*, 'made'.⁷² National Museum of Antiquities, Reg. No. NJ 19.
16. **The St Andrews Runic Ring.** This bronze ring was found in the churchyard of the Abbey at St Andrews in 1847, and has a bezel with a runic inscription which is difficult to read.⁷³ It is probably also of late Saxon date.⁷⁴ National Museum of Antiquities, Reg. No. NJ 15. Although usually accepted as genuine, there is a slight doubt that it is in fact as early as the late Saxon period.
17. **The Culbin Sword Pommel, Moray.**⁷⁵ This is a hollow cast bronze sword pommel, 56 mm. long and 5 mm. high, excluding the attachment pins which are 20 mm. long. It has sockets for inlays on the top with a median groove, and settings for inlays on the front along with two panels of multi-strand interlace. The reverse is plain apart from a band of hatching (Plate IV). National Museum of Antiquities, Reg. No. B1. It was found at Culbin Sands. It is difficult to be certain whether this pommel is Anglo-Saxon or Scandinavian. The shape is one which is found widely in Migration Period Europe, particularly in England and Scandinavia, in the later sixth and early seventh century. The type of interlace used is not common in England, the sharp-angled turns being more a feature of Scandinavian work, however the motif that appears on the pommel can be matched fairly closely on a strap end of the early seventh century from North Elmstall, Yorks,⁷⁶ and a similar pommel of the late sixth century with some interlace ornament is known on a sword from Coombe in Kent.⁷⁷ Very similar interlace also appears on a

⁶⁸ Anderson, 1883, 27, Fig. 22; Grieg, Fig. 18; Anderson, 1879-80, 53.

⁶⁹ Friis-Johansen, 1912, Pl. I-II

⁷⁰ Shetelig, 1940.

⁷¹ Grieg, 1940, Fig. 32.

⁷² Page in Wilson, 1964, 75; Stephens, 1866-1901, iii, 216.

⁷³ Wilson, 1863, 331.

⁷⁴ Wilson, 1964, 112.

⁷⁵ Callendar, 1932-33, 33-34.

⁷⁶ *Med. Arch.* VIII (1964), Pl. XIX e.

⁷⁷ Davidson & Webster, 1967, Figs. 3-4.

⁷⁸ *Ibid.* 30, Fig. 11.

belt mount from Bifrons, Kent,⁷⁸ and on a mount from Eastry,⁷⁹ also in Kent. The use of hatching as a border can be matched on Anglo-Saxon pommels, and the use of inlays is a feature of several Kentish pommels of the period, including one from Sarre.⁸⁰

18. **The Cullykhan Spindle Whorl, Banff.** A biconical spindle whorl from the Pictish fort of Cullykhan, Banff, has been identified as Anglo-Saxon.⁸¹ While this is quite possible, not enough is known about Pictish material culture to make the identification positive.

Apart from the foregoing list of objects, there are a number of finds of Anglo-Saxon coins from Scotland. Leaving aside those that are from purely Viking hoards, there remain a bronze Northumbrian sceatta of Osebeht from Jedburgh, Roxburghshire,⁸² a group of four bronze sceattas from Luce Sands, Wigtown,⁸³ a gold plated thrymsa of the seventh century (possibly a contemporary copy) from Buston Crannog, Ayrshire⁸⁴ and a penny of Edgar from the chambered tomb at Lochill, Dumfriesshire.⁸⁵ Apart from these strays there is a hoard of copper sceattas from Paisley⁸⁶ and another from Jedburgh,⁸⁷ both of the mid-ninth century. What is probably a ninth century hoard of about 90 coins with ornaments is recorded from Bongate, Roxburghshire,⁸⁸ and a tenth-century hoard from Cockburnspath, Berwickshire, found possibly with a rosary in the churchyard, is probably an Anglian deposit.⁸⁹ The latest coins in that hoard were of Aethelstan.

The distribution map of all the above finds taken along with the distribution of Anglian crosses shows an expected pattern (Fig. 3). The main concentration is in Bernicia, and is predominantly coastal, with a further concentration in Dumfriesshire extending into Galloway. Even allowing for the fact that several finds may be unconnected with the Anglian occupation of the Lowlands, the list in some measure shows that there are a few finds at least which can be related, which was not fully apparent to writers on the Anglian occupation even a decade or so ago.⁹⁰

79 Aberg, 1928, 173, Fig. 307.

80 Davidson, 1962, Fig. 44 (Pl. VII).

81 Grieg, 1972.

82 Stevenson, 1967, xii; R.C.H.A.M. *Inventory of Roxburghshire*, 1 (1956), 39.

83 Cormack, 1965, 149-150, which lists other possible coins from the same source.

84 Munro, 1882, 190; Stevenson, 1955, 283.

85 Unpublished; shown to me by the excavator, Mr Lionel Masters.

86 Thompson, 1956, 113 (no. 302).

87 Stevenson, 1967, loc. cit.

88 Thompson, 1956, 16 (no. 46).

89 Stevenson, 1967, xvii.

90 Cf. Radford, 1962, 130 or Hunter-Blair, 1958, 149.

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Ant. J.	Antiquaries Journal.
Arch.	Archaeologia.
C. & W.A.A.S.	Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society.
D. & G.N.H.A.S.	Transactions of the Dumfries and Galloway Natural History and Antiquarian Society.
Med. Arch.	Medieval Archaeology.
P.S.A.S.	Proceedings of the Society of Antiquaries of Scotland.

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APPENDIX A—THE COLLIN WHETSTONE

Since this paper was submitted to press, the Editor has drawn my attention to a paper on 'Celtic Heads from Dumfriesshire' by Wilfred Dodds, since published in these *Transactions*, Vol. 49 (1973), 35-8. In this study Mr Dodds has followed Dr Anne Ross's suggestion in *Pagan Celtic Britain* (1967), 369, that the Lochar Moss, Collin, whetstone is Celtic, and that the head may represent Maponus (Dodds, *op. cit.*, 37). This would suggest that the whetstone is of Roman Iron Age date, if not earlier.

It seems however very improbable that any of the recorded anthropoid whetstones from Britain and Ireland are pre-Roman. The two Anglo-Saxon specimens from Sutton Hoo and Hough, mentioned in this paper, are from undisputed Anglo-Saxon sites, and the

Welsh example found near Llandudno Junction, though not Anglo-Saxon, is decorated with a three-link ornament common in Ireland in the Viking period—it appears, for example, on the heads of certain types of ringed pin, and on bone trial pieces (e.g. one from Dungarvan, Co. Waterford, figured in F. Henry, *Irish Art during the Viking Invasions*, (1967), Pl.57), and a variant of it can even be found in Irish Romanesque art, for example on the Clonmacnois crozier (Henry, *Irish Art in the Romanesque Period*, (1970), Pl.33). Celtic the Llandudno Junction whetstone is, but it is unlikely to predate the tenth century. The remaining two whetstones can be considered briefly. That from Portsoy, Banff, has recently been figured by Charles Thomas ('The Interpretation of the Pictish Symbols', *Arch.J.* CXXI (1963), Pl.II,3) who has suggested that it is Pictish, with good reason (Thomas, *op.cit.*, 48). The last stone is undoubtedly Celtic, and is an example from Lough Currane, Ireland, conveniently illustrated for us by Bruce-Mitford (Bruce-Mitford, R.L.S., 'The Sutton Hoo Ship Burial: recent theories and some comments on general interpretation', *Proc.Suffolk Inst.Arch.*, XXV(1950), Pl.Va), though it should be noted that Reginald Smith considered it to be twelfth century (Smith, R.A., 'Medieval Hone from Ireland', *Ant.J.* VII,(1927), 323-4) and suggested it was used to whet razors for monks' tonsures in the monastery of St Malachy there.

If all the anthropoid whetstones are post-Roman, there seems no reason to doubt that the Collin example is also. There is no reason to suggest that the figure represents Maponus—it has no attributes, no inscription, and the fact that the cult of Maponus flourished in the area in which it was found is hardly enough evidence for the attribution. It must be admitted however that the question of date in the post-Roman period and the related question of workmanship is more difficult. Smith was probably quite correct in believing the Lough Currane whetstone was twelfth century, and it is not impossible that the Collin whetstone is also as late, though I believe on stylistic grounds this is unlikely. The closest parallel in Celtic Christian art is to be found in the human heads that form the terminals of the stone Tau-cross from Killinaboy, Co. Clare, which Rynne has recently suggested is a Romanesque boundary cross (Rynne, E. 'The Tau-Cross at Killinaboy: Pagan or Christian?' *North Munster Studies*, (1967), 146-65). There are no close parallels for the treatment of the head on any of the pre-Christian Celtic sculptures, and there are a number of features which it displays which are not encountered in Celtic art before the Romanesque period, the most notable of which is the treatment of the mouth. The treatment of the mouth however is matched in certain Northumbrian sculptures, notably the St Andrew Auckland Cross from Co. Durham, which is the finest achievement of a barbaric, orientalizing style in Northumbrian work that flourished during the second half of the eighth century (Kendrick, T.D. *Anglo-Saxon Art to A.D.900*. (1938), 140-142, and Pl. 52). It is within this milieu the Collin whetstone most readily fits.

Collin is not unduly far from Hoddum. Might one project back from Reginald Smith's spruced monks to Anglian clerics at Hoddum, trimming their tonsures with knives sharpened on the Collin whetstone?

APPENDIX B

Since this went to press a radiocarbon date has been obtained of 1491 ± 42 (SRR-321), i.e. c.A.D. 459, for the construction of the rampart, and the runes have been assigned by Dr. Page to the late seventh century in all probability, confirming the dating for the site suggested in this article.



Plate I—The Mote of Mark. The rampart on the North, showing vitrified core during excavation. The ranging rod stands in a post-hole.



Plate II—Harness pyramid from Dalmeny Midlothian — see *The Angles in Scotland*

(Photo: National Museum of Antiquities)



Plate III—Head of Whetstone from Collin, Dumfriesshire — see *The Angles in Scotland*

(Photo: Dumfries Burgh Museum)

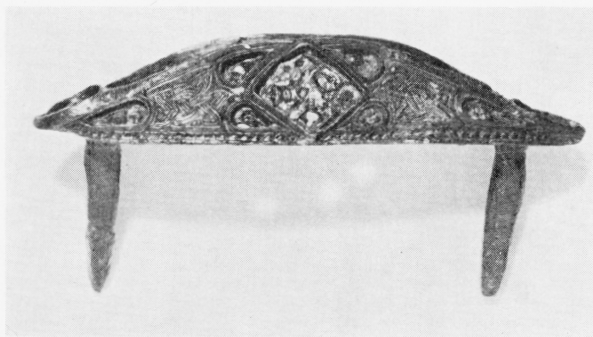


Plate IV—Sword pommel from Culbin Sands, Moray— see *The Angles in Scotland*.

(Photo: National Museum of Antiquities)

PEOPLE AND PINS IN DARK AGE SCOTLAND

By Lloyd Laing

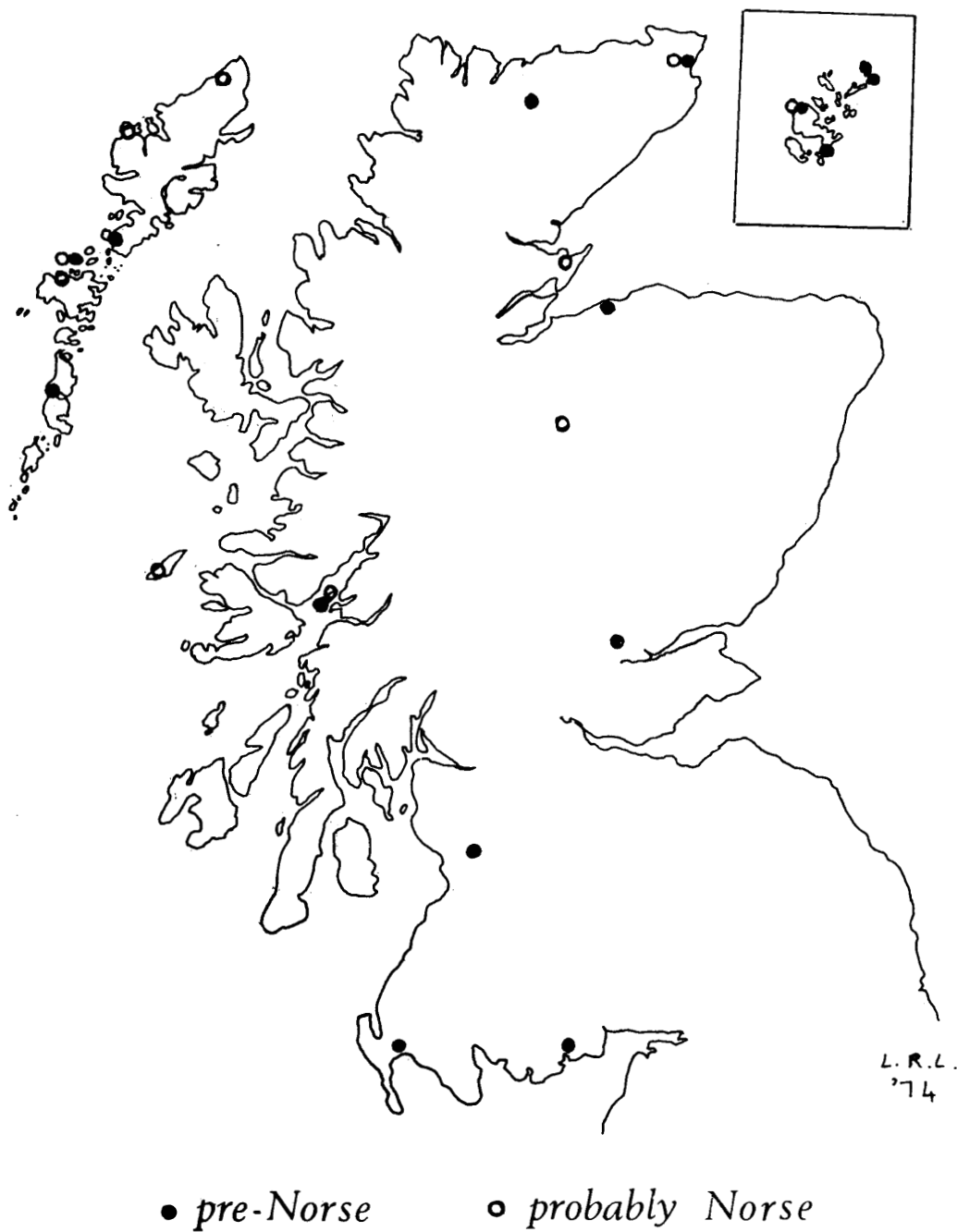
School of History, University of Liverpool

The Luce Brooch, an Orcadian Pin and the Irish Settlement of Galloway

In 1965 Mr Etienne Rynne published a ring brooch from Luce Sands, Wigtownshire, which he suggested was Irish and evidence for the Irish settlement of Galloway, which had already been postulated on the basis of place-name evidence (Rynne, 1965).

The Luce Sands brooch belongs generally to the category of penannular brooches classified by Mrs Fowler as H2-3 (Fowler, 1963, 110-113). These brooches have flattened, disc terminals, which in the case of the H3 brooches are decorated, usually with enamel. While he was unable to quote an exact Irish parallel for the brooch, Mr Rynne suggested it was Irish firstly because the terminals were decorated with a type of concave sided triangle motif which was unknown to him in Scottish metalwork, but for which he could find Irish parallels, and secondly because the entire hoop of the brooch was decorated, a feature which he felt there were Irish but no Scottish parallels (Rynne, 1965, 102). His third reason was more implicit than directly stated, namely that Ireland was the main area of production for metalwork in the Early Christian period, and therefore any metalwork found in Scotland is more likely to be an Irish import than a native product. To add weight to his argument in favour of the Irish settlement theory, he quotes the other Luce Sands brooches (which are undecorated examples of Type H2) as supporting finds, assuming them to be Irish (Rynne, 1965, 112).

Before reconsidering the affinities of the Luce Sands brooch, some general cautions are necessary. First, the period of the Irish settlements in Britain most probably spans the fourth and fifth centuries (Alcock, 1971, 265-70 convenient summary). By the end of the fifth century, if not before, the extensive settlements of Wales, Man, Cornwall and Argyll had taken place, and subsequent settlements are more likely to have been the result of the migration of single families than of whole tribes or groups of people. Therefore, if one is to find archaeological evidence for the Irish settlements one must look for objects of Irish origin datable to the fourth and fifth centuries, and such objects must be demonstrably Irish as opposed to British. I think it can be said quite safely that at present such objects cannot be recognized in the archaeological record, a point already noted by Wainwright (Wainwright, 1967, 72). The period from the fourth to sixth centuries was a period in which a great variety of traditions were available to craftsmen on either side of the Irish Sea, and in which it is virtually impossible to distinguish types of objects or decorative motifs that are specifically Irish or specifically Scottish (Fowler, 1963, 133; Fowler, 1968, 303). Present evidence points to the development of a number of Early Christian metalwork types in Scotland out of Roman antecedents, which were thence transmitted to Ireland rather than the reverse. It is not wise however to press



the origins too strongly, for similar developments may have been taking place in Wales (Savory, 1956).

If we cannot recognize specifically Irish material before the sixth century (indeed, it may be claimed with justification that an Irish school of metalworking does not exist as such before the seventh), are objects of Irish provenance which are of later date than the settlements of value in assessing their extent? Here we are faced with another series of problems. To begin with, the number of objects of Irish provenance found in the areas traditionally settled by the Irish are statistically too few to be significant. One need hardly argue the presence of Irish in a given area to account for a stray brooch or pin, and stray Irish objects are only to be expected in Western Britain as a result of trade or the arrival on these shores of the occasional traveller or settler. To adduce the presence of Irish in any numbers in a given area it would be necessary to produce evidence of an Irish culture in Childean terms in that area, or, failing that, evidence for an industry producing objects of specifically Irish type. Apart from Dunadd in Argyll, which has produced as one might expect a range of material in keeping with assemblages from major Irish sites (Piggott, 1952-3, 193-4), the only place in Britain to have produced a group of objects with Irish parallels is Lesser Garth cave in Glamorgan—but here the "assemblage" amounts to three objects, none closely datable, without certain association, and which could easily be ascribed to the presence of one or two Irish settlers in the area (Alcock, 1959, 221). All this is to presuppose that once established on British soil, the Irish settlers proceeded to make and use objects current in their homeland, and kept up connections with Ireland generation after generation. Such a theory is

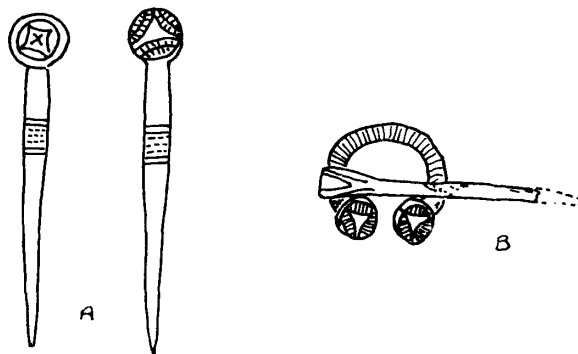


Fig. 1. (a) Pin from Orkney; (b) Luce Sands Brooch ($\times \frac{1}{2}$)

at best unlikely, for in many cases the Irish were exiles and unlikely to have maintained contacts with their homeland, so one might expect that they would soon adopt the native culture of the area in which they settled, or would evolve a culture of their own.

This has been stated at length, because too much has been made in the past of inconclusive evidence. It would be fair to say that if we did not know

of the Irish settlements in Scotland from documentary and place name evidence, they would be totally unknown archaeologically. Even grass-marked pottery, taken as archaeological evidence for settlement from Ulster in Cornwall (Thomas 1967; Thomas, 1960), appears in the light of recent work and discoveries in the South-West to be simply a recurring native tradition (Cunliffe, 1970, 72), and similarly in Argyll and the Hebrides recent discoveries at the Udal suggest that there it is native also (Crawford, 1972, 9).

We may now consider some points relating to the Luce Sands brooch. The decoration on the terminal is not quite without parallel in Scotland, for it appears on the head of a bronze pin from Orkney (FC 146), hitherto unpublished, in the National Museum of Antiquities in Edinburgh. (Fig. 1.) The important feature to note about the Orkney pin is that not only does the head employ a concave sided triangle, but borders it with hatching, in an identical arrangement to that on the Luce Sands brooch, the pin head however carrying not one but a double line of hatching. The concave sided triangle as such is too simple a motif to be any chronological value or regional significance, but where combined, as it is on the Orkney pin and the Luce Sands brooch, with bands of hatching, and used as a separate motif, it can probably be regarded as more significant. Most of the examples of the concave sided triangle that Mr Rynne cites are in fact instances in which this element is combined with others as part of a larger design, and indeed, the concave sided triangle is more in the nature of a void, subsidiary to the main design, than an essential part of the decoration. I know of no instance in Ireland where it appears alone, as on the Orkney pin or Luce brooch, and while its relationship to the "marigold" seems obvious, the ancestry of the two motifs is quite different, and the similarity simply due to the method of construction, using arcs of a circle. The marigold as a motif has recently been discussed by a number of authors, most notably Professor Thomas (Thomas, 1971, 120-1; Lionard, 1961, 110), and its continental Christian origin is not really in dispute. Mr Rynne would have us believe that the concave sided triangle does not appear in the Early Christian period outside Ireland, but such an assumption is based on the belief that the Book of Durrow is an Irish manuscript, and that all hanging bowls are likewise of Irish provenance. This is not the place for a discussion of either Durrow or hanging bowls—Durrow is surely a Northumbrian manuscript, produced possibly in Northern Northumbria where there were contacts with Pictland (Bruce-Mitford et al. 1960, 111-12), while a great many hanging bowls must have been made in Britain, one at least being made in Pictland as proved by the escutcheon mould from Craig Phadrig, Inverness (Stevenson, 1972, 49-51).

It may be suggested that although found in Pictland, or at least an area which was very probably Pictish in the period when the Orkney pin was made, it is in fact an Irish import. Against this suggestion I know of no closely comparable pin from Ireland, though one from Lagore has a similar type of disc head, with an inlaid amber stud on one face (Hencken, 1950, Fig. 16, 226). At first sight far closer in style are a series of decorated disc headed pins of ninth

century date from Ireland, of which one example comes from Clonmacnois (Armstrong, 1923, Fig. 2, 2-3) and another from the excavations at Beginish, Co. Kerry (O'Kelly, 1956, Fig. 3, 1). Another somewhat similar, undecorated example is among the unstratified finds from Lagore (Hencken, 1950, Fig. 16, 678). The date of these pins can be established partly by the style of the decoration (in the case of the Clonmacnois pin there is interlace on the front of a type akin to the knot of interlace on the heads of the pins of some Viking period loose ring-headed pins, and a "greek key" motif round the edge akin to that on some very late fixed kidney ringed pins) and partly by association of the Beginish pin, which stratigraphically cannot be earlier than the ninth century. This type of pin also occurs in Scotland (Group G of the catalogue), where it is fairly common. Two examples occur at Freswick Links, a known Norse site, and another was found near the Viking burial mound at Carn nan Bharraich, Oronsay (Grieve, 1913-14; Greig, 1940, 42-4), while there is another from Boreray, Harris, a fifth from Sliganach, Kildonan, South Uist and a sixth from near Tain, Ross. The distribution is strikingly coincidental with that of the Norse settlement, and these pins are probably to be regarded as Viking.

A point to note about all of them is the presence of a fillet on each side immediately below the head. This is lacking on the first Orkney pin, and suggests it belongs to another series. There are no pins, with the exception of the Lagore example already cited, which with its inlay in any case belongs to a separate category, among the published material from the main Irish sites. In contrast, however, there are a series of pins from Scottish sites which may be seen as being related. Among the pins published by Mr R. B. K. Stevenson from the Broch of Burray, Orkney, is a bronze example with a slightly flattened disc head without decoration on the face but with incised decoration round the edge, in a band just below the head and a band round the stem. Mr Stevenson has cogently argued that this pin belongs to a series of nail, ball, bead and vase

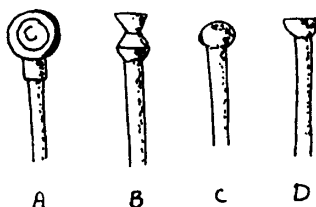


Fig. 3. Pin Types, Mote of Mark (x $\frac{1}{2}$)

headed pins found in Scotland that are ultimately of Romano-British derivation (Stevenson, 1955, 283-5). In the same study Mr Stevenson illustrates two pins from the Broch of Burrian and one from Culbin Sands which are clearly of the same type. To these may be added a similar pin from Freswick Sands. Occupation on the sites of the Broch of Burray and Broch of Burrian probably did not continue later than the eighth century, and if the Orkney pin on the basis of its decoration can be taken to imply contemporaneity with brooches of type

H2-3, then it should certainly be assigned to the period from the fifth to sixth centuries. The general type, then, should probably be assigned to the period from the fifth to eighth centuries.

Before leaving the Orkney pin, two points are worth noting. The form of the head on this pin, and the related examples already mentioned, is closely comparable to the shape of the terminals on the H2-3 brooches. Since penannular brooches of the zoomorphic types E have their counterparts in the pin series (Fowler, 1963, 121), might not the Class H brooches have their counterparts also? The similarity of the design on the Luce brooch terminal and the head of the Orkney pin would seem to emphasise the relationship. Secondly, the device of using decorative hatching between incised bands on the stem on both the Orkney pin and the Burray pin should be noted.

This type of decorated stem is very rare in the Early Christian pin series, and immediately suggests a Roman ancestry. There is another possibility, however, and that is that the device is taken over from penannular brooches, just as a similar device is employed on the stems of the Class E pins. Certainly where this decoration occurs on pin stems it appears to be early, and is not normally associated with Viking period pin types.

We may now return to the Luce Sands brooch. H2 brooches are almost certainly Romano-British in origin, and there are H2 brooches from Colchester, Traprain Law, Silchester and Cambridge. (See Fowler's list, Fowler, 1963, 143-4). Apart from one from Meols in Cheshire, and three from Lagore, the remaining examples are those from Luce Sands (Rynne, 1965, 112) and two examples from Wales, one from Linney Burrows (Pembroke) which is decorated with incised lines on the terminals and on the hoop where it meets the terminals (Savory, 1956, Fig. II, 5) and one from Minchin Hole, Glamorgan (Savory, 1956, 42). The Linney Burrows brooch seems the closest to the Luce Sands type. While it is true that virtually all the H3 brooches known come from Ireland, in each case the decoration is enamelled or otherwise inlaid, and in this sense they can be regarded as a separate offshoot from the H tradition. The Linney Burrows and Luce Sands brooches represent an intermediary stage between undecorated and inlaid terminals. One Irish example of this intermediary class is known, that from Kilescragh, Co. Galway, figured by Rynne (Rynne, 1965, 102). With one example each from Scotland, Wales and Ireland, the provenance is hardly secured.

There is however a case for arguing that the H2-3 brooches were ancestral to a long series of Scottish brooches. Mr Rynne himself provides a clue to this when he draws attention to the brooch found in the galleried dun at Kildonan, Argyll (Fairhurst, 1938-39, 224-5). The terminals on this brooch were decorated with three concentric circles in relief, surrounding a slightly domed centre. On the hoop were traces of a decorated panel. This brooch may be seen as the starting point for the well-known series of Pictish brooches. The immediate descendant can best be seen in the eighth century brooch from the Croy Hoard, Inverness, with similarly round terminals. (Curle, 1938-39, 101). The round

central element is also integral to the lobed terminals of the Rogart brooches (Anderson, 1880, 7), or the terminals of the St. Ninian's Isle brooches (O'Dell et al. 1959, Pls. XXXIII and XXXIV). It is quite possible that early on there was hybridization between the round terminals of Kildonan type and a series of birds' head terminal brooches. There are in fact two groups of birds' head brooches, the B3 series, which is Romano-British in origin, and a second, later group represented by one from Lagore and another, unprovenanced, from Antrim (Hencken, 1950, Fig 10 illustrates both). The heads on these last two brooches are very close to the heads on a series of Anglo-Saxon annular brooches, of which that from Uncleby, Lincs., is the most typical (Leeds, 1936, Pl. XXVII 31). Hencken (1950, 61), and before him Kilbride-Jones (in Fairhurst, 1938-39, 225) were inclined to regard the Irish brooches as being the result of direct Continental influence, for bird brooches were popular in the Migration Period on the Continent, but the ancestry is more probably Anglo-Saxon. Whatever the source, the Lagore and Antrim brooches mark the end of a line in Ireland, and it was left to the Picts to elaborate on the idea. Whether the ancestors of the Pictish animal terminals are to be sought in the Irish brooches, or whether they are due to direct contact with the Anglo-Saxon world via Northumbria is uncertain, but probably the latter is more likely. The type of small Pictish penannular with birds' head terminals is well represented in the moulds from Birsay, Orkney, hitherto unpublished, and a much more developed type can be seen in the larger dragon headed brooches from St. Ninian's Isle or Freswick. (O'Dell et al. 1959, Pl. XXXIII d; Curle, 1938-39, Pl. LXXIII, 6). A related type, which neither has lobed terminals nor animal heads but small projections is also well represented at Birsay, and in a series of Pictish brooches of which the Mull brooch is a particularly good example.

To conclude this review of the parallels of the Luce brooch, mention may be made of a brooch of similar type to that from Kildonan that was among the Old Finds at Lagore (Hencken, 1950, Fig. 16, 1531).

By extending the survey it would be possible to demonstrate the constant process of borrowing and cross-fertilization between penannular brooch types in Ireland and Scotland in the Early Christian period. The extent of metal-working in Early Christian Scotland is often not fully appreciated, and apart from the well-known moulds from the Mote of Mark (Curle, 1913-14) and Dunadd (Christison, 1904-5, Fig. 35) there are moulds and mould fragments from a number of sites, including the Pictish sites of Birsay, Clatchard's Craig and Craig Phadrig, and the Western sites of Kildonan (Fairhurst, 1938-9, 214) and Bac Mhic Connain (Beveridge and Callender, 1930-31). On the evidence available, it is not possible to say with any certainty that the Luce Sands brooch is Irish.

If the Luce Sands brooch is not Irish, are there any finds from Galloway that may be? Charles Thomas has referred to "various published pins (in Glasgow Museum) . . . from the Luce Sands area which may also be of Irish type collected (I think) by the late Ludovic Mann" (Thomas, 1966, 112). Now

there are pins in Glasgow from the Ludovic Mann collection, but these are simply provenanced as "Western Scottish". As a whole the series is in keeping with the series from the Hebrides in the National Museum, and as Mann had a number of items from the Hebrides in his collection, it is more probable that these pins come from there. With two exceptions, which may be earlier, none of the pins in the series is likely to be earlier than the Viking period.

Scottish Pins of the Early Christian Period

We may now turn to consider Scottish Early Christian pins generally. Broadly speaking they fall into two categories, **loose ringed pins**, which are characterized by having loose swivel rings in their heads, and **stick pins**. Both series of pins seem to share a similar distribution, finds being concentrated in Western Scotland north of the Clyde, in the area of the Iron Age Atlantic Province. Outliers from this area are rare, and it seems fairly reasonable to infer that pins as such were not popular among the Southern Picts or the British south of the Forth-Clyde line, though the pins from Buston crannog (Munro, 1882, 190), Tynron Doon (Williams, 1973, Fig. 7, 10) and Mote of Mark (where they are mainly represented by moulds—Curle, 1913-14, Fig. 15, 1) might imply they were commoner in the South-West than one might at first suppose. None of the pins from Southern Scotland however need be later than the seventh century, and it is quite possible that pins went out of fashion among the British after this date. The distribution is remarkably coincidental with that of the Norse settlements in Scotland. The Scottish stick pin series as a whole differs markedly from the Irish. While certain types seem to be shared in Scotland and Ireland alike, a great many of the Scottish pins are without Irish counterpart, and *vice versa*.

A study of the Scottish pins with Irish counterparts produces a very interesting result. A very remarkable pin from Birsay, Orkney, is one of the very few that must surely be Irish (No. 74 in catalogue). It has a disc headed ring, inlaid with alternating rectangular and square panels of enamel. It can be compared exactly with an Irish pin illustrated by Armstrong (Armstrong, 1923, Pl. XIV, Fig. 1, 5) and probably dates from the late seventh century. The remaining classes almost without exception date from the Viking period, and it seems very likely that the Norse movements resulted in the spread of pin types from Ireland to Scotland. Of these types one may single out, apart from those with round heads rising above a fillet already discussed, a series of Viking period pins with "cushion" heads. Like the round headed pins, these too have fillets. One highly decorated example with silver inlay and another with "rocked tracer" decoration are among the finds from Birsay, Orkney, while there is a further example from Culbin Sands, Moray (see list of pins of Group P). Armstrong has illustrated a series from Ireland (Armstrong, 1923, Fig. 4). The use of silver inlay indicates a Viking period date. A few crutch headed pins likewise have their counterparts in Ireland, and again belong to the

Viking period. In Shetland, one comes from a Viking context at Jarlshof. A related type of pin has a square head with facetting (Group U). These too have their counterparts in the ringed pin series, and a few have pseudo-brambled heads reminiscent of the brambled terminals of thistle brooches. Axe headed pins are represented, as one might imagine, at Jarlshof (but in bone) and Birsay (in bronze). A polyhedral headed pin from Culbin appears to be a related type to the facetted head pins, and carries what looks like a degenerate interlace knot on the front (No. 59 in catalogue). It too should be assigned to the Norse period.

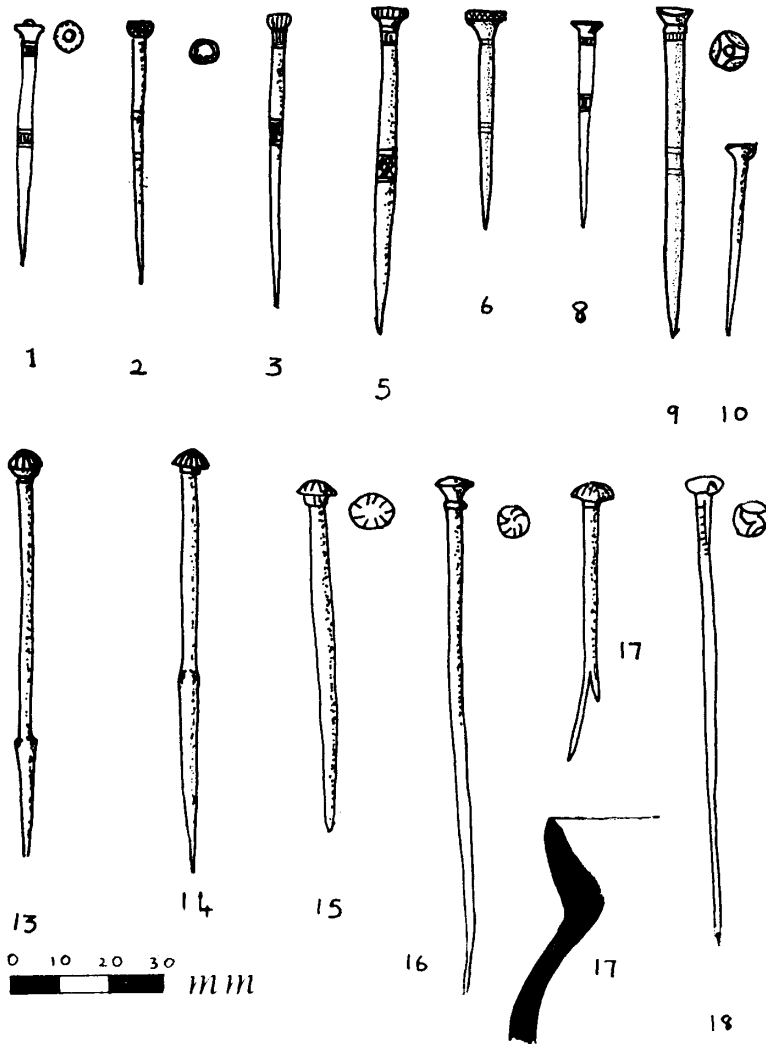


Fig. 4. Early Christian Pins (x3)

A few pins have spiral heads, and in this respect may be compared to the Irish series of pins with double spiral heads. At first sight the examples which, with the exception of one from "Western Scotland" all come from Culbin Sands, Moray (the "Western Scottish" example being in the Mann collection in Glasgow), show fairly close affinities with the Irish, but study reveals a certain difference. The Scottish pins have plain shanks, while the Irish mostly have a characteristic knop half-way down the stem. Only one of the three Culbin

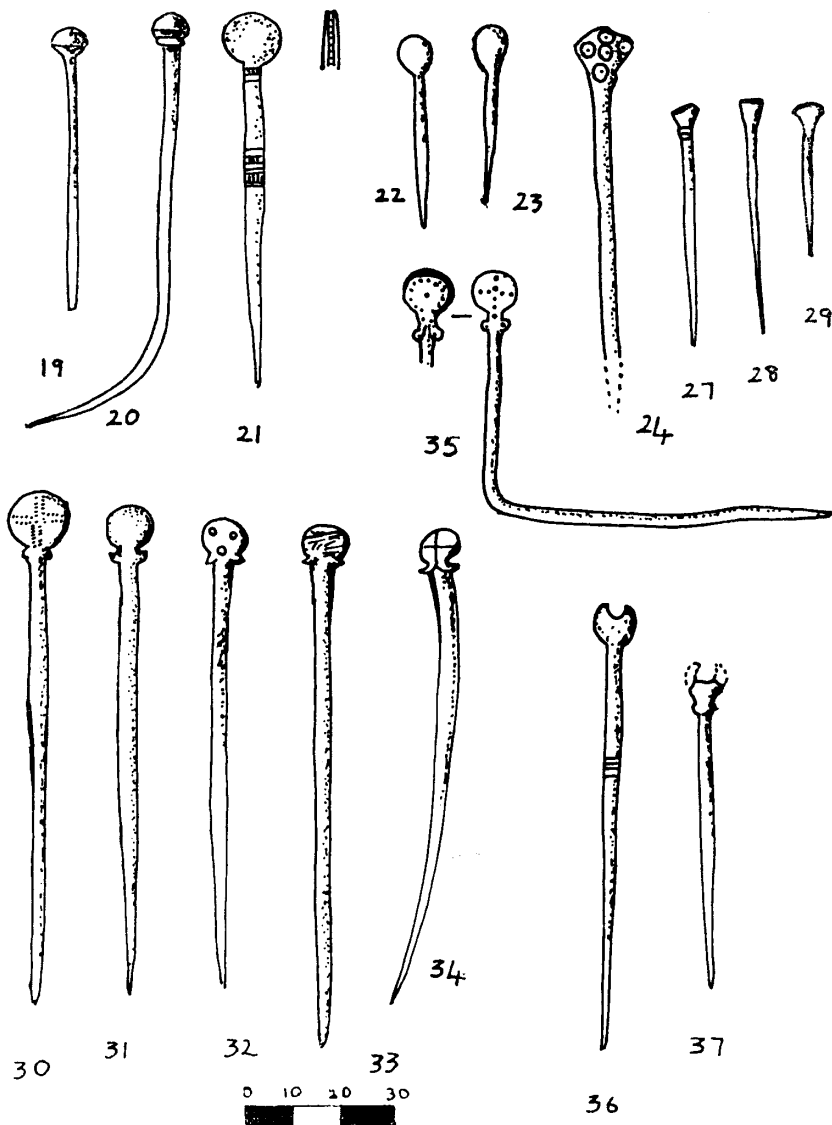


Fig. 5. Early Christian Pins ($\times 3$)

pins has a true double-spiral head, the others, along with the "West Scottish" example, have a crook involuted head. This type is not represented in Ireland, though there is a related form, in iron, among the finds from Lough Faughan crannog (Collins, 1955, Fig. 9, 35). As a type, closer parallels are to be found in a series of double-spiral pins that occur in Anglo-Saxon graves in the Midlands, though here again the crook type of spiral is not represented, though the true spiral headed pin from Culbin can be compared with a silver example from

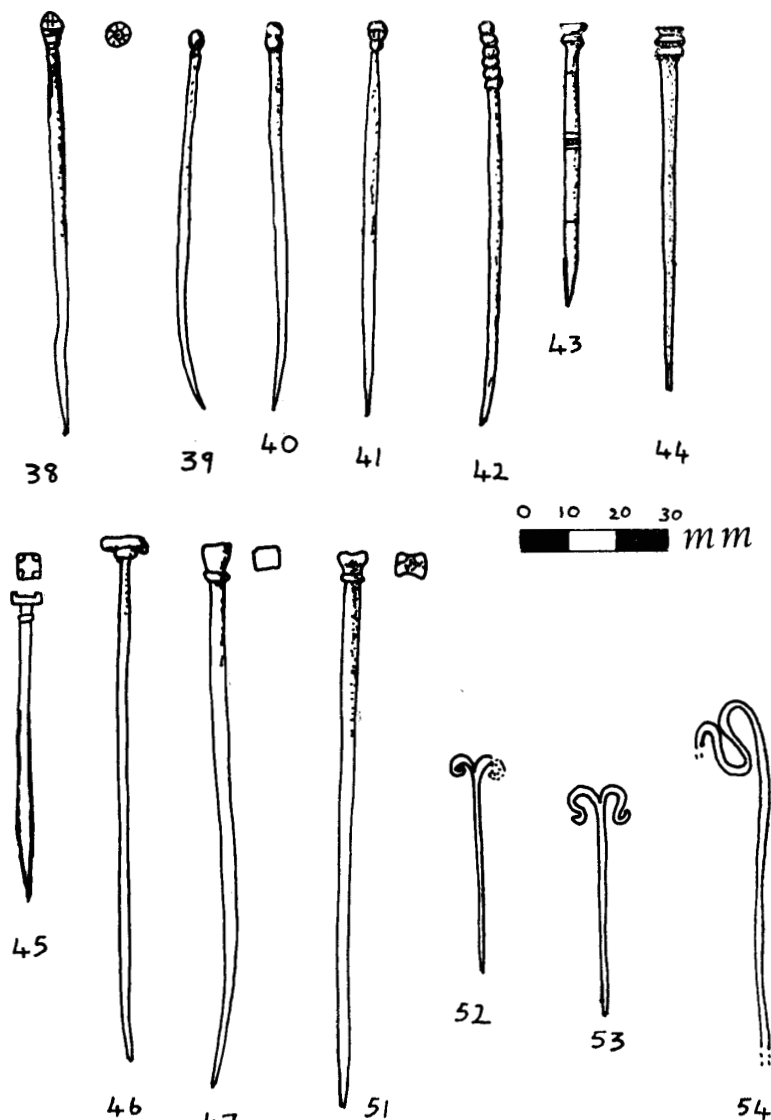


Fig. 6. Early Christian Pins (x 3)

Bidford-on-Avon, Warwickshire. (Humphrey et al. 1922-23, Fig. 7a). Welsh and Irish pins are probably to be derived from seventh-eighth century prototypes with knobbed stems found in Gaul—some plain pins with knops also occur in Ireland—the spiral head possibly being taken over from the Anglo-Saxon (Rynne, 1955, 212-13). Neither Anglo-Saxon nor Irish ancestry seems probable for the Scottish pins, and their place in the sequence must remain undecided, though

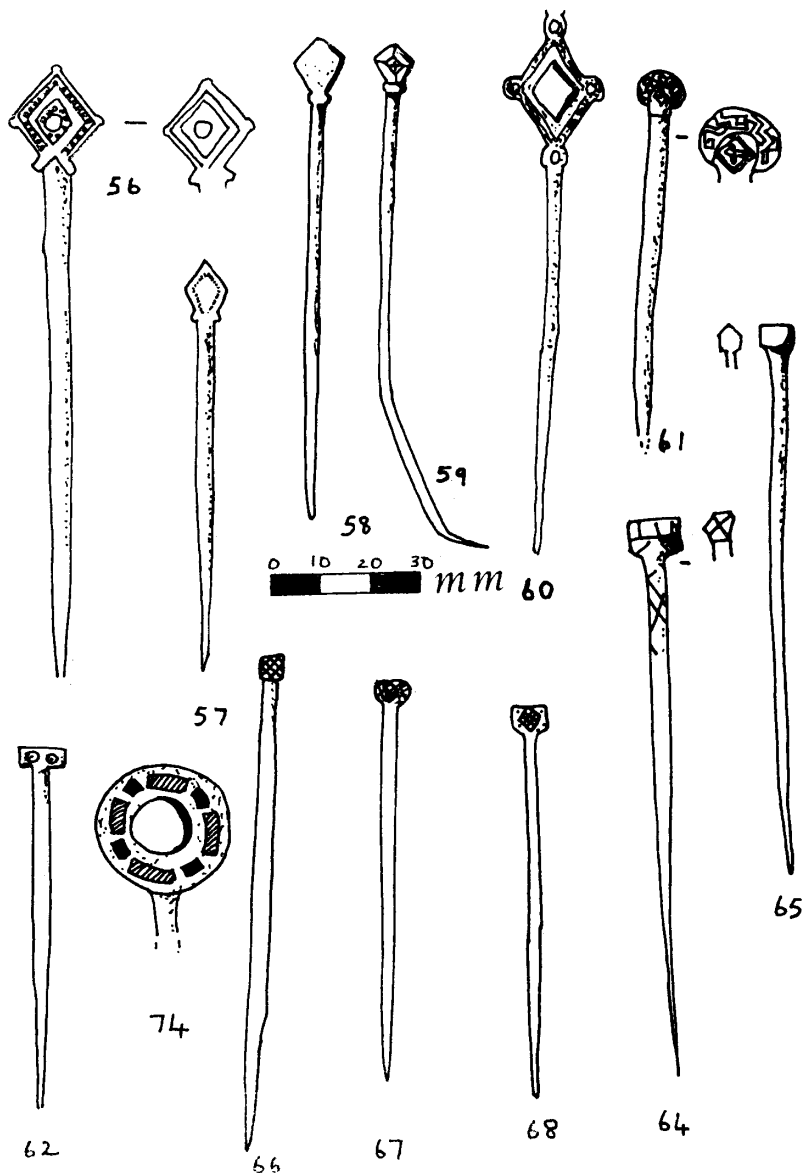


Fig. 7. Early Christian Pins (x4)

it is just possible that they are a development from the main Scottish ring-headed pin sequence.

One pin from Scotland appears to be of Anglo-Saxon derivation. It has an expanded plate head, decorated with incised ring-and-dot ornament, and comes from Blackhall House, Strathtay, Perth. (No. 24 in catalogue). The type can be closely paralleled from sites like Whitby (Peers & Radford, 1943, Fig. 13, 1 and 7), York (Waterman, 1959, Fig. 11, 1-3) or Meols (Bu'lock, 1960, Fig. 2), and is probably eighth century.

The remaining stick pins from Scotland must be regarded as native. Many belong to the nail, ball, bead and urn headed pin series discussed by Stevenson (Stevenson, 1955). One type, with a crescent head, must be seen as a specialization of the disc headed pins discussed in connection with the decorated Orkney pin. Variants of the bead-headed pin have double or treble bead heads, while one urn headed pin has a double urn.

A final series which is worthy of particular attention however is that with a mushroom head, which very frequently is decorated with light grooving. Mrs Fowler has discussed this type, without apparently being aware of the Scottish series, and has seen the grooving as being reminiscent of that on the terminals of A2 penannular brooches (Fowler, 1963, 132). The type certainly occurs in Roman Britain, but has a long currency in the Early Christian period. It is found in Ireland, for example at Garranes, Co. Cork, in the fifth-sixth century (O'Riordain, 1942, Fig. 4, 351), and also in Northumbria (Peers & Radford, 1943, Fig. 14, top for Whitby example), and is very common in Scotland. Although basically an early type, it seems to have been current even in the Viking period, as suggested by one from Jarlshof (Hamilton, 1956, Fig. 60, 5).

From the above review, the following points seem to emerge. Pins derived from Roman antecedents seem to have been current in different parts of Scotland in the fifth and sixth centuries, but from the seventh century onwards do not appear to have been used as dress fasteners outside the Atlantic Province, the few known examples probably being strays. In the Western Isles in particular can be seen a series of local developments, which were boosted by new types introduced from Ireland by the Vikings.

ACKNOWLEDGMENT

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ABBREVIATIONS

Ant	Antiquity.
Ant.J.	Antiquaries Journal.
Arch.	Archaeologia.
B.B.C.S.	Bulletin of the Board of Celtic Studies.
J.R.S.A.I.	Journal of the Royal Society of Antiquaries of Ireland.
P.P.S.	Proceedings of the Prehistoric Society.
P.R.I.A.	Proceedings of the Royal Irish Academy.
P.S.A.S.	Proceedings of the Society of Antiquaries of Scotland.
Trans.D.&G.N.H.A.S.	Transactions of the Dumfries & Galloway Natural History and Antiquarian Society.

APPENDIX A

PINS, BROOCHES AND THE MOTE OF MARK

The 1973 excavations at the Mote of Mark, Kirkcudbright, and the subsequent study of the moulds from the 1913 and 1973 excavations provide some additional information about the chronology of four basic Early Christian stick pin types. Although study of the moulds is not yet complete, it is apparent that the majority of the pin moulds are for ball-headed and nail-headed pins (Classes B and I of the series listed in Appendix B). These moulds seem to have been formed by making a "model" out of bone and using it as a die or matrix. Two such bone pins have been found associated with moulds, one in 1913 and another in 1973. The mote of Mark finds show that these pin types were current in the sixth century, which to some extent confirms the theory that they are early types, possibly of Roman derivation (Fig. 2, C, D.).

The other two pin types represented at Mote of Mark are known from only one mould for each. The first type is the thistle-headed pin or vase-headed pin, represented by Type J of the catalogue (Appendix B). As can be seen this is a very rare type in Scotland, but is represented by a similar mould from Lough Faughan crannog, Co. Down (Collins, 1955, Fig. 9, 25). Its general similarity to the "Roman" types of pins does not make its appearance in the sixth century at Mote of Mark surprising. The Lough Faughan crannog was not closely dated, but appeared to produce no material later than the early eighth century.

The last type is a disc-headed pin, closely related in overall design to the Orkney pin (FC 146) discussed in the text of this paper. The closest parallel for the Mote of Mark pin is that from Lagore already cited (Hencken, 1950, Fig. 16, 226); like the Lagore pin the Mote of Mark pin may have had an inlay on the head. It differs slightly from the Lagore pin in that the stem appears to widen just below the head (Fig. 2, A).

The 1973 excavations also produced a small mould fragment with ornament which includes a concave-sided triangle motif. This shows that such a motif was current in South-West Scotland in the later sixth century, and is a further piece of evidence in favour of the Luce brooch being produced in a local workshop, possibly at the Mote of Mark itself.

Since this paper was written the Luce Sands brooch has again been the centre of debate. Professor David Wilson, in his discussion of the St Ninian's Isle brooches, suggests that the Luce Brooch dates from the eighth century, and is closely related to the Ninian's Isle brooches. He quotes as a parallel for the ornament on the hoop similar ornament on an Irish ring brooch, which otherwise is not closely related to the Luce Brooch (Wilson, 1973, 86). This theory is untenable on several grounds. First, the Luce Brooch does not have "tentatively cusped terminals" as Wilson suggests (Wilson, *loc. cit.*) and indeed it is difficult to understand what he means by this term unless he regards the decoration as "cusping." The important feature of the St Ninian's brooches is that the cusps project, and it is this which distinguishes them from the round-terminal brooches of the H2/3 series. Similarities are due to the H2/3 brooches being ancestral to the series of later developments represented by the Kildonan brooch, the Croy brooch, and the brooch from Jarlshof, Shetland, figured by Wilson (Wilson, 1973, Pl. XLII, b); Wilson is undoubtedly correct in deriving the Pictish penannular series ultimately from round-terminal H2/3 brooches. In this connection it is worth noting that a mould for a brooch with a terminal almost identical to the Jarlshof brooch is among those from the Mote of Mark, and there can be no doubt that this type of brooch was evolving early, in the late sixth and early seventh century, out of simpler penannulars of H2/3 type as represented by the Luce Brooch.

Finally, it may be noted that Wilson is of the view that the Mote of Mark is later in date than St Ninian's Isle, i.e. later eighth or ninth century (Wilson, 1973, 88).

APPENDIX B

A CATALOGUE OF BRONZE STICK PINS OF THE EARLY CHRISTIAN PERIOD MOSTLY IN THE NATIONAL MUSEUM, EDINBURGH

About a hundred stick pins of the Early Christian period survive in Scotland. The majority of these are in the National Collection, but there are in addition about a dozen in the Kelvingrove Museum, Glasgow, and a few others in other local collections. This catalogue has been confined to the National Museum series as the majority of the others are unprovenanced or inadequately provenanced—most of those in Glasgow, for example, are from the Ludovic Mann collection and are simply listed as "West Scottish." The

National Collection, with a couple of exceptions, is representative of the Scottish material as a whole.

Certain types of pins are omitted from the list. Zoomorphic pins related to the penannular brooch series are omitted as they have been dealt with by Fowler (Fowler, 1963, *passim*) and hand-pins have been omitted for the same reason. Bone pins are similarly omitted since they were discussed by Stevenson (Stevenson, 1955), though certain bronze pins listed in that paper are included here. Ringed pins have been the subject of a study by Fanning, forthcoming in *Glasgow A.J.*, and lie outside the scope of this paper.

Due to the fact that the pins in the National Collection are not registered under any one category and some are not registered at all, it is not certain that all the pins are here listed, but it is unlikely that many are omitted. With the exception of V.74, all the Birsay pins belong to the Department of the Environment.

Group A. Pins with Insets in their Heads

These pins are discussed by Stevenson (Stevenson, 1955, 284-5) and appear to be early. One appears in a seventh century context at Buxton Crannog, Ayrshire (Murro, 1882). They do not appear in any certainly later context.

1. Buxton Crannog, Ayrshire. Inset preserved. The shank has incised decoration round its girth. HV 88.
2. Freswick Links, Caithness. Similar decoration, but the head is more ball than nail headed. FC 257 (Stevenson, Fig. A, No. 22).
3. Kildonan, Harris. Similar general type, but with band of decoration below head GS 204.
4. Similar pin, but with blue glass inset (not figured). Mentioned by Stevenson (Stevenson, 1955, 286) as from Northton, Harris. In private ownership.

B. Nail Headed Pins Without Insets

These pins are related to those of Group A and are likewise probably early.

5. Berneray Sands, Harris. Milled head, bands of incised decoration on shank. FC 252.
6. Kildonan, South Uist. Similar to 5, but smaller. GS 203.
7. Breck of Burrian, Orkney. Similar to 6 (not figured). BB 302.
8. Buxton Crannog, Ayrshire. Figured as Stevenson, 1955, Fig. A, 2 HV 89.
9. North Ronaldsay, Orkney. The head is faceted, with a punched dot in the centre, and there are bands of incised decoration on the shank. FC 182.
- 10-12. Culbin Sands, Moray. Three pins, virtually identical, with plain nail heads and plain shanks. Numbered B1.

C. Mushroom Headed Pins.

These have been discussed by Fowler (Fowler, 1963, 132) who has drawn attention to the similarity of the head to that of the terminals of her A2 penannular brooches. They first occur in Roman Britain, and occur widely in Early Christian Ireland, Scotland and even occur in Northumbria (Whitby). They are again probably mainly 5th-6th century, but probably continue later.

13. Luce Sands, Wigtown. BH 962.221 Hipped Shank.
14. Unprovenanced, "Ross." FC 238. Hipped shank.
15. Boreray, Harris. GT 241.
16. Lismore, Argyll. FC 141.
17. Sliganach, Kildonan, South Uist. Associated with the rim of grass-tempered late wheelhouse ware, figured at 17b. GS 199.
18. Kildonan, S. Uist. GS 202. Roughly incised lined below head, head slightly faceted, like a degenerate triskele pin.

D. Plain Dome Headed Pins.

These are virtually undatable, and occur in a variety of Early Christian contexts in Ireland.

19. Culbin Sands, Moray. Unnumbered. B1.

20. Culbin Sands, Moray. Abacus below head. Unnumbered. B1.

E. Disc Headed Pins.

These again belong to the Roman-derived series, and are discussed above. They are probably fifth to eighth century in date.

21. Broch of Burray, Orkney. Figured in Stevenson, 1955, Fig. A, 17. The plate head has incised decoration on the side, and there are bands of decoration on the shank. GC 45.
 22. Plain head and shank, Culbin Sands, Moray. Unnumbered. B1.
 23. Culbin Sands, Moray. Similar, but with more ovoid head. Unnumbered. B1.
 24. Blackhall House, Perth. Damaged head, decorated with pattern of 'ring-and-dot'. This type of pin, sometimes used as a stylus occurs in Anglo-Saxon contexts, for example at Whitby, York or Meols. It is probably later than the type represented as 21, as it is not known to occur in 5th or 6th century contexts. Mainly eighth century? FC 234.
 25. Orkney. FC 146. Illustrated Fig. 1A and discussed in the text.
 26. Freswick Links, Caithness. Similar to 23. HR 994. (Not figured).

F. Chisel Headed Pins.

These are closely related to the pins of Group E, but have fan- or chisel shaped-expanded heads.

27. Freswick Links, Caithness. Possibly a damaged pin of Group E? HR 995. Abacus below head.
 28. Freswick Links, Caithness. HR 997. Plain shank.
 29. Freswick Links, Caithness. HR 896. Similar, with fan-shaped head.

G. Disc Headed Pins, with fillets below the head.

These pins fall into two categories, those with flat disc heads related to those of the Group E pins, and those with thicker, squatter heads. A date for the latter type is suggested by one from Beginish, Co. Kerry (O'Kelly, 1956, Fig. 3, 1), dated to the ninth century. They are probably mainly Viking period.

30. Avelochan, Inverness. Head decorated with 'rocked tracer' ornament in cruciform pattern. EQ 309.
 31. Carn nan Bharraich, Oronsay, near Viking tumulus. FC 237. Plain.
 32. Freswick Links, Caithness. Head with three incised dots on the face. FC 251.
 33. Berneray, Harris. Irregular incised (scratched?) lines on head. FC 232.
 34. Freswick Links, Caithness. Incised cross on head. FC 239.
 35. Sliganach, Kildonan, South Uist. Bent shank. Head with cross pattern composed of punched dots. Punched dots in circle on reverse, with central dot. BK 117.

H. Crescent Headed Pins.

These seem to be in general terms related to the pins of Class E.

36. Rossal, Sutherland. Decoration on shank. FC 255.
 37. Culbin Sands, Moray. Damaged. Unnumbered. B1.

I. Ball- and Bead-Headed Pins.

There are a great many varieties of these.

38. Boreray, Harris. Acorn shaped head, with hatching. GT 242.
 39. Freswick Links, Caithness. HR 999. Plain bead head.
 40. Culbin Sands, Moray. Double bead head. Unnumbered. B1.
 41. Boreray, Harris. Double bead head, the top bead larger than the bottom with incised lines on the shoulder. GT 243.
 42. Birsay. Multiple bead head. FC 195.

J. Vase Headed Pins.

43. North Ronaldsay, Orkney. Single vase headed pin, with incised ornament on the shank. FC 181.
 44. North Ronaldsay, Orkney. Double vase headed pin, similar, but with plain shank. FC 180.

- K. Square plate Headed Pin with Projections.**
Only one example is known. Its affinities and date are difficult to determine.
45. Galston, Lewis. HR 887.
- L. Roman Derived Pin of Uncertain Type.**
46. Culbin Sands, Moray. Probably flat disc head. Unnumbered.
- M. Frustrum Headed Pins.**
These are probably a Viking period type.
47. Boreray, Harris. GT 244.
48. Lismore, Argyll. FC 143. Similar to 47.
49. Lismore, Argyll. FC 142. Similar.
50. Knap, Lewis. FC 229. Similar.
- N. Astragaloid Headed Pin.**
This is probably a related type to M.
51. Uig, Lewis. FC 228.
- O. Spiral Headed Pins.**
On Irish analogy, these are mainly seventh-eighth centuries.
52. Culbin Sands, Moray. Double spiral head. Unnumbered. B1.
53. Culbin Sands, Moray. Double spiral head of 'crook' type. Unnumbered B1.
54. Culbin Sands, Moray. Single, double-crook head. Unnumbered B1.
55. Culbin Sands, Moray. Similar to 53. Unnumbered. B1.
- P. Cushion Headed Pins.**
These are a Viking period type.
56. Birsay, Orkney. Head with central perforation and inlaid, punched silver ornament. The edge is ribbed. Unregistered.
57. Birsay, Orkney. Rocked tracer decoration on the head. Unregistered.
58. Culbin Sands, Moray. Plain head. Unnumbered. B1.
- Q. Diamond Headed Pin.**
This is a related Viking period type.
59. Culbin Sands, Moray. Much corroded. Solid, faceted head, with Viking-type link pattern on one face. Unnumbered. B1.
- R. Open Diamond Headed Pin.**
60. Tiree. From a Viking grave, with a tortoise brooch. Listed in Shetelig, H. *Viking Antiquities of Great Britain and Ireland*, II, Scotland, (by S. Grieg), (1940), 63. IL 220.
- S. Kidney Ring skeuomorph Pin.**
61. Valtos, Lewis. This type is current in Dublin and elsewhere in Ireland from the later Viking period to the twelfth century. Figured in P.S.A.S. LXXI (1936-7), 295. FC 247.
- T. Crutch Headed Pin.**
This type is related to the crutch headed ringed pins, and is mainly a Viking period type.
62. Birsay, Orkney. Decorated with incised ring-and-dot. Unregistered.
63. Jarlshof, Shetland. Figured in Hamilton, J. R. C. *Excavations at Jarlshof, Shetland*, (1956), Fig. 60, 2.
64. Berneray, Harris. Incised lines on polygonal head and on shoulder. FC 139.
65. Freswick Links, Caithness. Plain. IL 564.
- U. Square Faceted or Bramble Headed Pins.**
66. Vallay, Uist. From an earth-house, GT 406.
67. Kildonan, South Uist. Hatching on the shank. GS 201.
68. Freswick Links, Caithness. IL 710.
70. Berneray, Harris. FC 139.
71. An Corran, Boreray, Harris. Impressed dots on head. GT 127.
72. An Corran, Boreray. Similar, very corroded. GT 126.
73. An Corran, Boreray. Similar. GT 129.
- V. Wheel-headed Enamelled Pin.**
74. Birsay. This is an Irish seventh century type. HR 924.

A MILITARY REDOUBT ON BURNSWARK HILL, DUMFRIESSHIRE

By George Jobey

University of Newcastle Upon Tyne

During recent excavations of the well-known hillfort and Roman works on Burnswark Hill in eastern Dumfriesshire (NY 185785) an opportunity was taken to examine the so-called western fortlet or heart-shaped enclosure on the western summit. This small work had every appearance of being the latest feature within the area of the hillfort. The commanding position of the hill itself in lower Annandale and the extensive vistas which it affords have never failed to impress earlier commentators and require no further description at this stage. It is perhaps sufficient to mention the short entry concerning Burnswark in the **Old Statistical Account**, where it is described as so remarkable a station that it could not fail to be continuously occupied in all other wars subsequent to the Roman period that involved the inhabitants of the region. Such a sweeping claim of geographical determinism had no supporting evidence then or, indeed, until quite recently, yet it is one in which there may now be seen to be at least an element of truth.

The western fortlet occupies a small, comparatively flat area at the western end of the hill, within the line of the hillfort defences in this sector (fig. 1; plate V). It lies at an altitude of just over two hundred and eighty metres. Although the aspect from within its confines is extensive, the immediate forward slopes of the hill, particularly on the west and north, form dead ground to any observer. From surface appearance this bastioned work is clearly a late piece of military engineering although at the time of excavation it appeared to have escaped notice as such. It is portrayed as a bastioned enclosure with two ports or entrances on General Roy's plan of Burnswark in his **Military Antiquities**, but surprisingly merits no mention by him in such a context, being merely compared with a D-shaped earthwork at the foot of the western slope.¹ In Barbour's report on his excavations of 1898 on Burnswark Hill only one entrance is shown in this so-called fortlet, that which was excavated by him on the west.² His cuttings over the perimeter revealed the remain of a wall with an earthen core, 3.6 m. broad and 1.1 m. high. The few small finds from these excavations are notoriously difficult to assign to precise provenances but a fragment of a native, glass pendant would seem to have come from the wall itself and a Roman intaglio from somewhere on the rock surface nearby. No doubt it was these finds that influenced him into regarding this as an early earthwork without giving any more firm context. It was not until after the present excavations had commenced that it came to notice that B. H. St. J. O'Neil, in describing the bastioned forts of the Isles of Scilly, had made a footnote reference to this

¹ William Roy, **Military Antiquities of the Romans in Britain** (1793), plate XVI.

² J. Barbour, **P.S.A.S., XXXIII** (1898-9), 198-249.

particular earthwork on Burnswark as probably being of the same order.³ The more recent investigations both confirmed this general identification and at the same time revealed a more complicated structural history than Barbour's sections suggest.

Excavations (Fig. 1, 2 and 3)

A number of cuttings were made across the perimeter of the work and both entrances were uncovered. In addition, primarily with the history of the earlier hillfort in mind, part of the interior was stripped. As the findings from the interior relate mainly to the early occupation of the hilltop a detailed description of these may be left to a future report on the hillfort and the Roman works. However, there remain a few transitory features subsequent to the redoubt which need to be mentioned at this stage.

Commanding such an aspect as it does it was not surprising to find that the interior of the earthwork had been used in recent times as a site for celebratory bonfires, remains of which lay immediately beneath the turf. From local hearsay and the evidence of associated fragments of both hard and soft drink containers the latest of these can probably be assigned to the celebrations which took place to mark the end of hostilities in 1946 and the Coronation of 1953. There had been others, but all were later than the 1898 excavation trenches across the interior and none would seem to have had any connection with the much earlier Border alarms. The designated site for the Elizabethan "bails burning" in Annandale in fact lay a short distance to the west, on the lower but more accessible Cowdens.⁴ However, as if in support of the compilers of the **Statistical Account**, the two latest conflagrations had been of sufficient intensity to char the stub-ends of posts which in all probability marked the site of an Observer Corps post of the Second World War.

Old excavation trenches in the same area, although not marked on Barbour's plan, were almost certainly those of the 1898 excavations, their general context in one instance being testified by an abandoned clay pipe-bowl commemorating the Glasgow Exhibition of 1888 and bearing in relief a fine panoramic view of George Square. The earlier excavators had penetrated well below the brash bottom, here lying no more and often less than 0.3 m. below the present turf-line, and at one point had removed part of a rubble platform and a circular pit. In the fill of the latter were empty slots left by a triangular-based, timber framework, the details and significance of which have been more fully described elsewhere.⁵ It will be sufficient to note here that it was without doubt the timber base used to support the stand of the two-foot theodolite used by Sgt. Andrew Bay of the Royal Sappers and Miners who, between 22nd March and 4th May, 1847, was operating a survey station on Burnswark in connection

³ B. H. St. J. O'Neill, *Castles and Cannons* (1960), 110, fn. 44.

⁴ J. Nicholson and R. Burn, *The History and Antiquities of the Counties of Westmorland and Cumberland I* (1777), Bell Papers, XLIII, 12.

⁵ G. Jobey, *The Archaeology of a Geographic Labourer*, *Survey Review*, vol. XXII No. 172 (1974).

with work on the principal triangulation of Great Britain. The rubble platform was almost equally certain to have been intended as a level base for a sectional timber observatory, such as had replaced the earlier canvas observatories by 1840 in order to give better protection to the surveyors and their instruments.

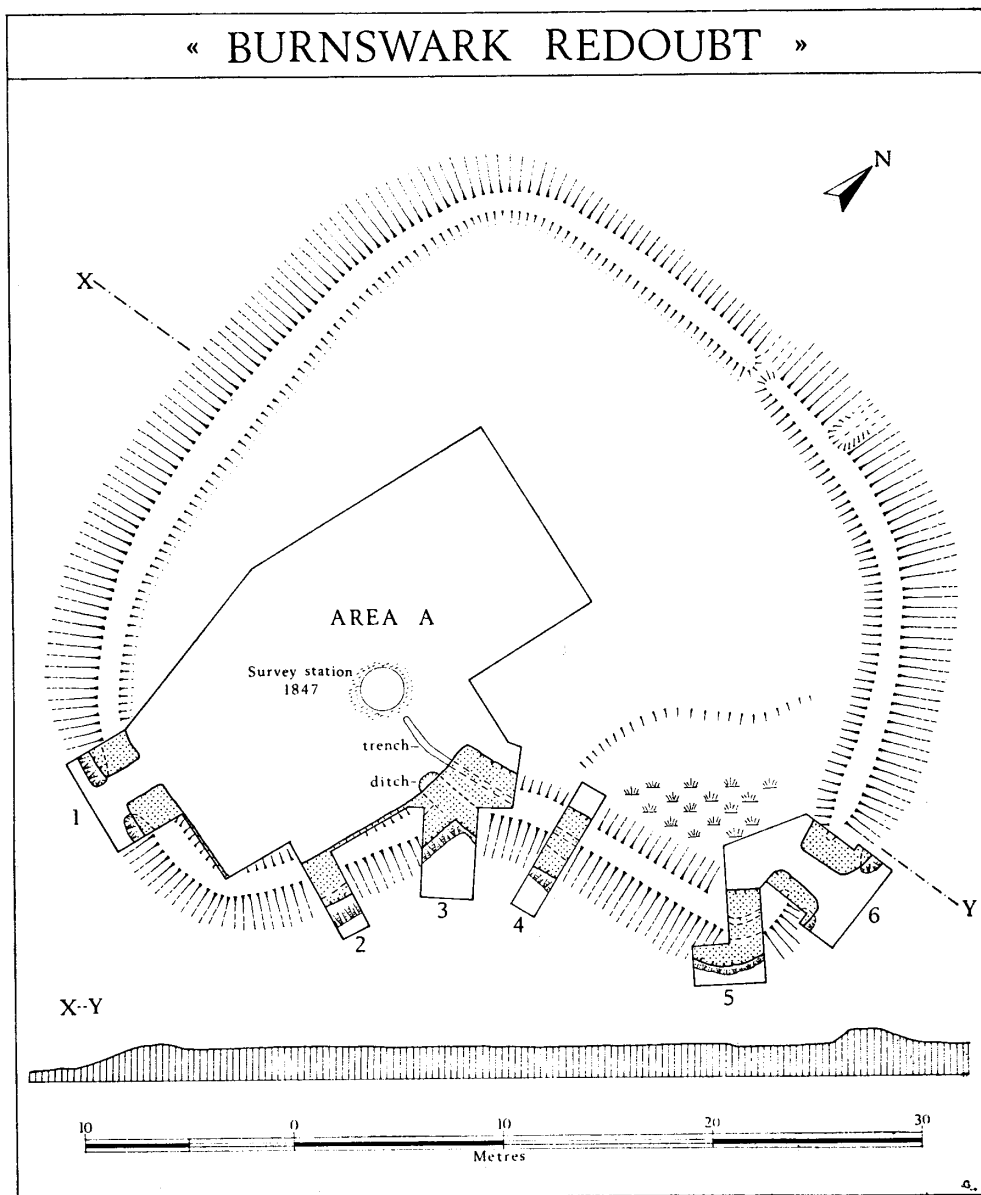


Fig. 1. General Plan.

The Redoubt

The first task of the builders would seem to have been to remove the turf in the area and to dig a shallow trench as a building guide along the line to be taken by the south-eastern bastion (figs. 1 and 2). This trench was continuous on the east side, except for a gap where the entrance was to be, but progressed somewhat further than the junction between the two bastions on the south, where there was an outcrop of particularly intractable rock. It was not found in cuttings over the south-western perimeter and, as it had none of the characteristics of a support trench for a timber palisade, is best understood as a marking-out trench for the initial stages of construction. At a constant distance beyond the trench, a ditch up to 2 m. in width and 1.5 m. in depth had been excavated through the underlying brash and rock. This ditch continued to a point just short of the termination of the marking-out trench, where the same obdurate rock had been encountered, and slightly beyond the junction with the ditch of the south-western bastion. Perhaps this rock outcrop had been sufficiently unyielding to cause a slight change in plan, leading to the construction of a less pronounced ventricle than originally intended, since the slight overlap of the ditches had been deliberately back-filled at this point. The upcast from the ditch, augmented by earth scraped up from the immediate area, had been dumped between turf revetments to form a breastwork 2.5 m. wide at the base but of uncertain height. Remains of the compacted turf cheeks of this first structural phase were found in all cuttings, preserved beneath a later stone-faced perimeter (fig. 2). Although they were too vestigial to indicate the degree of batter on the revetments, presumably some would have been necessary and the turf would have been raised higher as the work progressed. From a number of better preserved turves which had subsequently entered the ditch they appeared to have been about 0.3 m. square with the undersurfaces cut to give a wedge-like shape. Such a form would have assisted binding with the earth and brash core, as recommended in military manuals of the 17th century,⁶ and, at the same time, could have given some degree of batter to the faces. Frequent short tip-lines in the core of this earthwork also pointed to the use of baskets or some such containers for lifting and disposing of the material.

When sufficient time had elapsed for a small amount of silt to collect in the bottom of the ditch, the outer turf revetment had either collapsed or had been deliberately pulled back into the ditch (fig. 2; plate VI). Large facing stones, some showing the marks of a mason's pick, eventually replaced the original turf revetments front and back. The new outer face was situated well forward of the original line of the turf revetment and in all cuttings was found to be resting partly or wholly on the filled ditch of the first phase. Additional rubble had also been tipped into the space between the new faces and the remains of the original core. A large proportion of this stonework was composed of Old Red Sandstone but some igneous blocks were also incorporated. All of this

⁶ e.g. N. Stone, *Enchiridion of Fortification* (1645), 35-44.

material could have been obtained from the nearby hillfort rampart and no quarrying need have been carried out. In this reconstructed form the breast-work was c. 3.5 m. wide in cuttings made over the south-eastern perimeter but only 2.5 m. to 3.0 m. elsewhere, a difference for which no immediate explanation can be offered. Subsequent stone robbing had undoubtedly been carried out so that it is difficult to estimate the original height of the work or, indeed, if it had

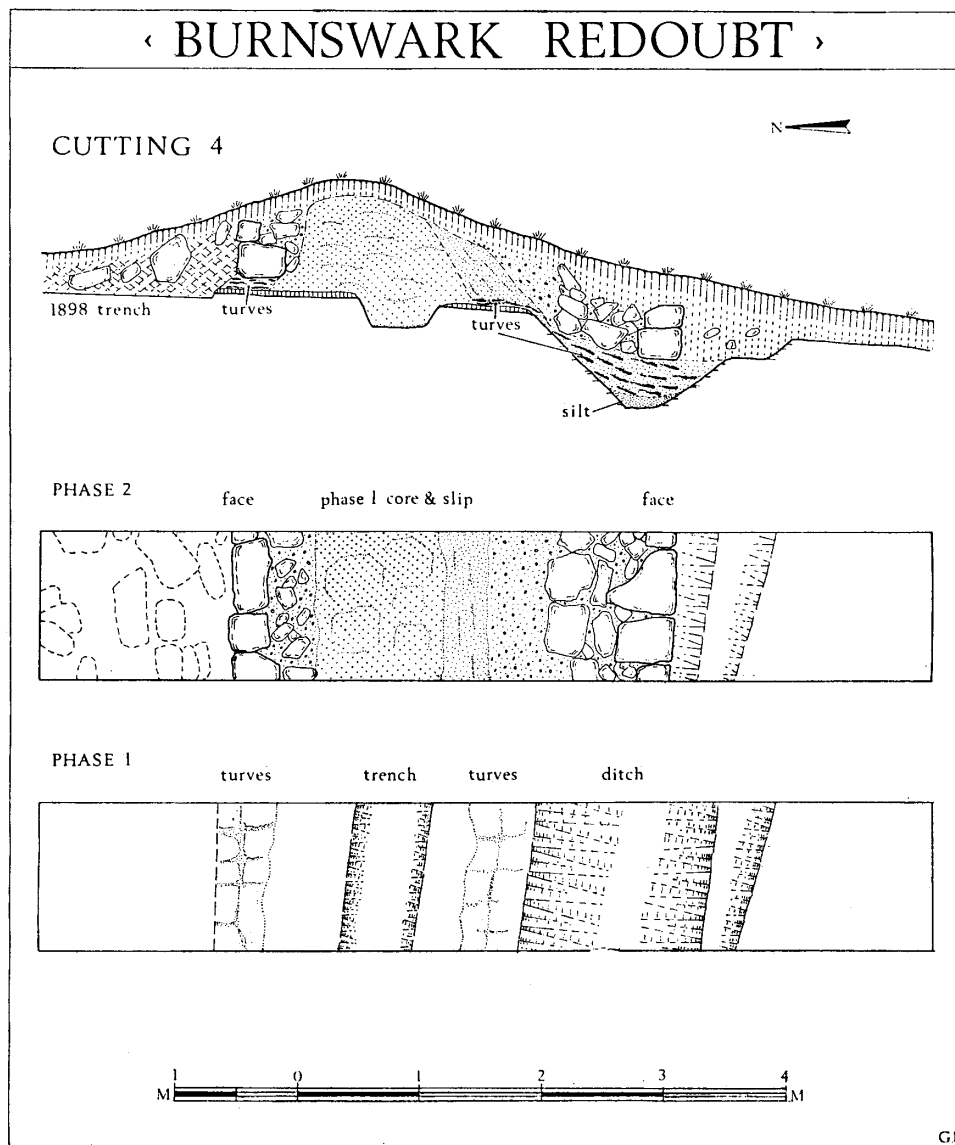


Fig 2. Section and plans of cutting 4.

ever been completed. In cutting 3 there were still three courses of masonry *in situ*, standing to a height of 0.6 m. (plate VII). The corner of the south-eastern bastion was tightly rounded rather than pointed and presumably that on the south-west was similar.

Both ports or entrances were retained in the second phase (fig. 3). That on the west, already investigated by Barbour, was found to be more or less as he had planned it, except that as elsewhere he had missed the stubends of the ditch of the first phase. Considerable care had been taken in the setting of the large blocks of stone which formed the pathway, although the surfaces did not show a great deal of subsequent wear. Their course was traced by probing sufficiently far to the west to demonstrate that this path had been directed towards a secondary gap in the slight remains of the hillfort rampart. This gives on to a narrow track leading obliquely down the steep western slope towards the line of the old Roman road which skirts the foot of the hill. The ascent is such that it could only have been negotiated on foot or by pack-animals which may also account for the spacing of the stone blocks at intervals. The only possible approach for a drawn vehicle would have been by a track on the southern slope of the hill which leads to the true west gateway of the hillfort, some distance to the east of the redoubt.

The eastern port had been no more than 1.5 m. wide in both phases (fig. 3). An irregular outcrop of hard rock in the passageway had been levelled off with some care and the marks from a mason's pick or chisel completely covered the area between the lines taken by the turf facings. Neither port had any provision for closure.

Within the area of the interior which was excavated there were no structural features which could be demonstrated as belonging to this redoubt. Consequently, the plan of this area is reserved for a subsequent report on the hillfort itself. The only small finds from the same area that might have been associated with the work consisted of a small fragment of a clay pipe-stem, possibly of seventeenth century date, some runnels of lead, maybe from the manufacture of musket-shot, and one gun-flint, probably intended for a pistol rather than a musket. These were all recovered from beneath the rubble levelling for the survey station of 1847. The artefacts found in the core of the breast-work, together with flecks of charcoal and bone, were clearly from the earlier occupation material which had been scraped up in the course of construction. At best these give no more than a *terminus post quem* of the second century A.D. for the earthwork, so that Barbour's impression of an early date is more understandable.

Discussion

At the outset it will be apparent that this post as we now have it provides no firm structural evidence that it was necessarily used for cannon. In fact, its position in relationship to the general topography would have created obvious problems in this respect, except perhaps for long and not very effective ranges.

On the other hand, it could have provided a good fortified observation post for an infantry detachment, covering a broad sweep of country from the east through south to the west, and, in particular, any movement up Annandale from the south.

As O'Neil pointed out, bastioned forts of this or a similar nature occur in many places, often in situations which receive no mention in the written records. Where they are situated inland rather than on the coast their general context in many parts could well be at the time of the Civil War. Of the extant examples

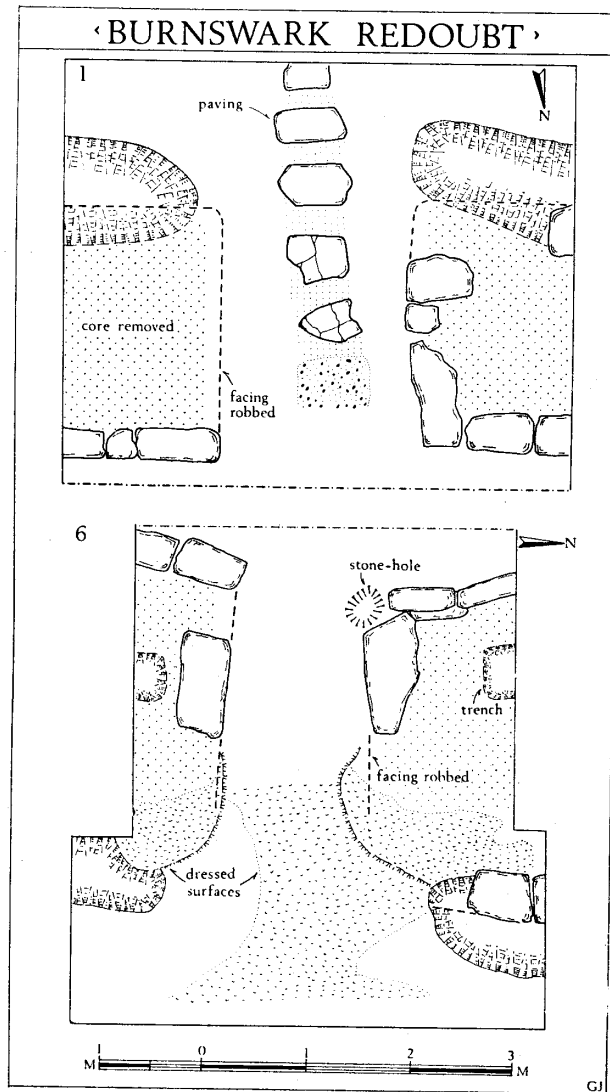


Fig. 3. Plans of cuttings 1 and 6.

which he illustrates that known as Pellew's Redoubt on Tolls Island⁷ would approach most closely in form and size, though not necessarily in function, to that on Burnswark. Geographically, a nearer parallel more recently noted would be that which surmounted the motte or Bailie Hill in York.⁸ In this case the work almost certainly housed two cannons in 1644 during the siege of that city. Extant examples are not easy to find in southern Scotland, although a small work described as the Katte on the plan of the fortress at Ayr bears some resemblance without being identical.⁹ Many of these minor works were obviously thrown up with speed, as indeed were some of the larger complexes, and in some instances might have consisted only of turf, earth and wattles, or baskets filled with earth. The methods recommended for their construction are given in a number of surviving military manuals of the period¹⁰ and accord reasonably well with the first phase at Burnswark, even to the size and shape of the turves.

If just such a general, initial context can be envisaged for the Burnswark redoubt, a more specific occasion might then be sought. The only reference relating to Burnswark and the Civil War which has so far come to notice is that in the records of the peripatetic Bishop Pococke.¹¹ In describing the two Roman camps, which he inspected during his second tour of Scotland in 1750, he adds "the people say that the south one was made by King Charles I and his army under the Duke of Hamilton and they certainly did encamp on it, but there is no doubt that they are both Roman works." Now it could well have been that Hamilton had encamped hereabouts in his campaign of 1648, before proceeding further south to Kirkby Thore in Westmorland. The redoubt is situated just over one hundred and eighty metres to the north-west and some fifty metres higher than the north rampart of the Roman south camp. Whereas most of the camp itself is in dead ground, the approaches to it from the south are in full view from the redoubt. Admittedly there is no corroborative archaeological evidence for the use of the Roman south camp at this time, except perhaps for those few sherds of late pottery, now unfortunately elusive, from Barbour's earlier explorations in the south camp and the Antonine fortlet which occupies its north-east corner.¹² To relate the redoubt to this context would entail acceptance of the fact that it was unlikely to have been used for cannon. Sir James Turner, who was a contemporary soldier, states in his *Memoirs* that the Duke of Hamilton when encamped at Kirkby Thore suffered from the disadvantages of raw and undisciplined troops and "had no cannon, nay not one field piece, very little ammunition, and not one officer to direct it . . . deare Sandie being growne old and doated had given no fitting order for these

7. O'Neill, *op. cit.*, 110.

8 R.C.H.M., *City of York*, II, 88.

9 C. H. Firth, *Scotland and the Protectorate 1654-59*; *Scottish Hist. Soc.* XXXI (1899), plan.

10 e.g. N. Stone, *op. cit.*; Hexham, *Principles of the Art Military* (1642), cap. 5.

11 Richard Pococke, *Tours in Scotland*, *Scottish Hist. Soc. Publications* (1887), 6-7.

12 Some sherds were green-glazed but it is only right to point out that there is every appearance of there having been a later rectangular building in the Antonine fortlet.

things."¹³ If the first phase of construction in the redoubt could be assigned to this context then the second might also be attributed to the Scots, perhaps in 1649 to cover the retreat after their defeat by the New Model Army in the battles around Preston, when the pursuit was made by small units only.

In the absence of secure datable evidence, alternative contexts for the redoubt are always possible. But the sharp Scottish forey of 1651, although accompanied by cannon, would not appear to have been a suitable occasion. The work itself would also seem to be situated too far to the south to have formed part of that system of fortifications constructed by the English in the period 1651-55 and particularly in 1654, when Monck was authorised to build such forts and defences for the security of the nation as he thought fitting.¹⁴ Although there were various "breaking-forths" in the area, troubles in Dumfries and even Langholm, as well as the usual quota of mossers and vagabonds, the southernmost of the large fortresses was at Ayr whilst the score or so of smaller forts and garrisons were probably located mostly in the north. The redoubt might even have been re-used as late as 1745 when Prince Charles Edward Stuart attacked Carlisle, or later during the retreat up the west coast towards Glasgow. The firearms in regular use during the Civil War were matchlocks and although the gun-flint found within the redoubt is from a pistol, not a musket, it is most likely to have been of eighteenth century date.¹⁵ However, the strict association of this find is in doubt. Moreover, it would seem strange indeed that Bishop Pococke, visiting Burnswark only a few years after the Forty-Five, gleaned only a local tradition concerning the Duke of Hamilton and no mention of a near contemporary post on the hill-top. By the same token, Roy's omission of any reference to the true nature and context of this work would be more understandable if it had not seen such a late use, since the original survey of the Burnswark area was probably conducted about 1752-53, only two years after Pococke's visit. All told, the redoubt is best seen as a Scottish work of the Civil War period.

It is not known if the line of the Roman road skirting the foot of the hill was still a viable route in the seventeenth century. The present Glasgow road and the line of the old trunk road (A74) up Annandale lie some 3 km. to the west. That section of the Roman road north of Lockerbie certainly continued to be used as a route in the early eighteenth century, but it would seem that by then the main road to the south of Lockerbie, passing through Ecclefechan to Carlisle, was already established well to the west of Burnswark. Sir John Clerk,

¹³ Sir James Turner, *Memoirs of his own Life and Times 1632-1670* (Edinburgh ed. 1829), 59. Also G. Burnet, *The Memories of the Lives and Actions of James and William Dukes of Hamilton* (1677), VI, 357-8.

¹⁴ C. H. Firth *op. cit.*, 74.

¹⁵ W. A. J. Prevost, *The March of the Jacobites through Annandale*, *Trans. D. & G. H. N. & A. Soc.* XLVII (1970), 178-190, esp. 187.

On 9 November 1745, the day when some Highlanders of the western division commanded by the Duke of Atholl left Lockerbie, a patrol of light horse had been despatched from Carlisle to gain intelligence of the "rebels" approaching down Annandale. This patrol stationed itself on Burnswark Hill and was successful in capturing Quartermaster James Brand riding ahead of the force. Although a gun-flint could have been dropped on this occasion within the redoubt it is out of the question that this patrol could have refurbished or built the redoubt and there is no actual record of the Highlanders themselves occupying Burnswark.

Roger Gale ¹⁶ and Bishop Pococke ¹⁷ all appear to have followed this more westerly route. Whilst Roy's description of the line of the Roman road contains certain topographical inconsistencies, his map in **Military antiquities** does indicate what may be an additional road running from Dryfesdale, via Scroggs, to join the Roman line near to the Gimmenbie Burn which flows to the north to Burnswark Hill.¹⁸ If some such line as this or, indeed, the Roman route were negotiable in the seventeenth century, then it would both enhance the reasons for Hamilton's forces being encamped at Burnswark and, at the same time, give more immediate purpose to the small post which overlooks the present road down to Ecclefechan and the old Roman line towards Middlebie.

Acknowledgments

The writer is indebted to Sir Rupert Buchanan-Jardine of Castle Milk and to the then Ministry of Public Building and Works for permission to excavate. The work in this instance was carried out by students of the Department of Adult Education, University of Newcastle-upon-Tyne, and received financial assistance from the same university.

¹⁶ e.g. W. A. J. Prevost *op. cit.*, 182; letter of Roger Gale to Maurice Johnson, *Surtees Society*, vol. 80, 417.

¹⁷ Pococke, *op. cit.*, 37.

¹⁸ Roy, *op. cit.*, plate XXV. The Highlanders approaching Burnswark from Lockerbie could have followed such a route (v n.15 above).



Plate V—Burnswark redoubt, hillfort and Roman south camp, looking south

(Photo: J. K. St. Joseph, Cambridge University)

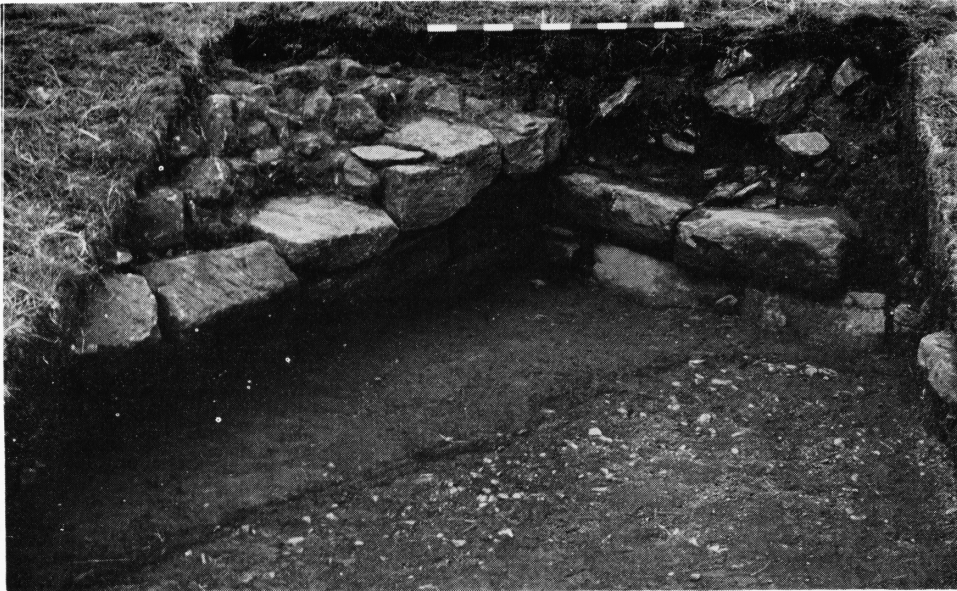


Plate VI—Burnswark Redoubt: Phase I ditch and overlying Phase II facing



Plate VII—Burnswark Redoubt: Phase I turves in ditch beneath Phase II facing

THE SETTLEMENTS OF NITHSDALE IN THE SIXTEENTH CENTURY BY TIMOTHY PONT

A COMPLETE OR PARTIAL RECORD?

By Jeffrey C. Stone, M.A., Ph.D.

Department of Geography, University of Aberdeen

The thirty-eight manuscript maps of Scotland by Timothy Pont now preserved in the National Library in Edinburgh, constitute a remarkably detailed record of rural Scotland in the late sixteenth century. But little use has been made of them, partly because so little is known of their contents. In particular, virtually nothing is known about their reliability as sources of detailed information. No attempt has been made to gauge the consistency and accuracy with which Pont recorded the details of the landscapes he is presumed to have travelled through. How reliable was Pont as a recorder? Can it be asserted on the evidence of his extant work, that he was a meticulous recorder, who took pains to omit no information that lay within the scale of his work? Or alternatively, did he not necessarily feel obliged to ensure that his work was as complete as possible? Was he willing perhaps to use second-hand sources without verification, thereby incorporating error? Were his travels not as comprehensive as has been assumed, so that areas were sometimes omitted? Enquiries of this sort call for sample studies using extensive historical knowledge both of local areas and of the independent contemporary historical sources for such areas. And local sample tests of one or two of the extant Pont manuscript maps are essential not only to permit informed usage of the manuscript map collection, but also to encourage greater usage of the better known atlas of forty-six maps of Scotland first published by Joan Blaeu in Amsterdam in 1654, which was copied largely from work by Pont which no longer exists. As it happens, one of the finest of the extant manuscripts shows Nithsdale. Despite some familiarity with the area, my historical knowledge of the area is wholly insufficient to make an adequate examination of the map along the lines suggested above. It is on the presumption that the learned membership of the Dumfries and Galloway Natural History and Antiquarian Society might care to offer a fellow member the benefit of their considerable local expertise, that this paper is presented.

The sum total of our knowledge about the circumstances in which the manuscripts were compiled has been summarised by Skelton¹ and Moir and Skelton². There also exists a general statement³ about the historical value of the entire manuscript collection, while a previous illustrated study of the

1. SKELTON, R. A. (1968) "County Atlases of the British Isles 1579-1850." Pt. 3, *Map Collector's Series*, 41.

2. MOIR, D. G. & SKELTON, R. A. (1968) "New Light on the First Atlas of Scotland." *Scott. Geog. Mag.*, 84, 149-159.

3. STONE, J. C. (1973) "Manuscript Maps of North-East Scotland by Timothy Pont." *Northern Scotland*, 1, 2, 143-150.

"Nidisdale" Pont manuscript⁴ outlines the range of information which the map contains and assesses its cartographic accuracy. The same study also led to further suggestions about the relationship of Pont's work to the atlas published by Blaeu some thirty or forty years after Pont's death. Further study⁵, based on precise locations⁶ of manuscript and printed maps, confirmed that the "Nidisdale" map is something of a key document in the evaluation of the larger collection of manuscripts, particularly in identifying the importance of Pont as a source for Blaeu. There seems no reason to believe that the "Nidisdale" manuscript may not be equally valuable in the attempt to assess the integrity of Pont as a cartographic recorder.

As a preliminary task in scrutinising Pont's cartographic record of Nithsdale, all of the inscriptions on the map were transposed and arranged into the lists which are appended in full. It may be that the list of place-names itself is of interest, without further thought for the cartographic worth of Timothy Pont. The lists name a total of 406 different places, excluding repetition and also fourteen names which could not be deciphered on the original. Indeed the deciphering of Pont's sixteenth century handwriting style (the map very probably represents Nithsdale at some time between 1583 and 1596) is frequently not an easy task, and was carried out with the help of Hector⁷ and Dawson and Kennedy-Skipton⁸. But the writing is faded in places, very untidy in others, occasionally partly obliterated with pen-strokes or by small patches of paper pasted over the original sheet, and at times the script is very small indeed. Despite some familiarity with Pont's handwriting style as a result of work on this and other Pont manuscripts, I would be the first to acknowledge that errors must exist in the form of differences between the appended lists and the intended impression on the original. Anyone referring to the lists must make allowance for at least the possibility of palaeographic error.

The deciphered places were divided into two main categories. Firstly, 328 places of human occupancy (Appendix I), such as churches, castles and settlements, which are useful for the next part of the exercise because they are evidently the cartographer's prime interest and also because their extent is no more than a point at the scale of the map. The second category of places consisted of all those places whose location on the manuscript is much more imprecise because of their extent, in effect physical features such as rivers or lochs. The location of physical features seems to have been very much a secondary task. This second category of features was to serve no useful purpose in the evaluation exercise, but the seventy-eight places in this category were sub-divided and listed (Appendix II) for sake of completion of the information which the map

4. STONE, J. C. (1968) "An Evaluation of the "Nidisdale" Manuscript Map by Timothy Pont." *Scott. Geog. Mag.*, 84, 3, 160-171.

5. STONE, J. C. (1970) "The Preparation of the Blaeu Maps of Scotland: A Further Assessment." *Scott. Geog. Mag.*, 86, 1, 16-24.

6. STONE, J. C. (1971) "A locational Guide to the Pont, Gordon and Blaeu Maps of Scotland." *O'Dell Memorial Monograph*, No. 3, Dept. of Geography, University of Aberdeen.

7. HECTOR, L. C. (1965) *The Handwriting of English Documents*, London.

8. DAWSON, G. E. & KENNEDY-SKIPTON, L. (1966) *Elizabethan Handwriting 1500-1650 A Manual*, New York.

provides. No further reference will be made to them.

The larger category of place-names comprises castles and other large residences, mills, ecclesiastical buildings, named bridges, towns and the smaller rural settlement nucleations which formed the basis of the settlement pattern of semi-subsistence rural Scotland in the sixteenth century, the *farmtouns*⁹. For convenience in locating individual places, these are arranged in alphabetical order, as indeed are all the appended lists. The next task was to try to locate a modern counterpart for all of these sites, and using the appropriate Ordnance Survey 1:10,560 sheets, all but seventy-eight of the 328 names were located in the landscape today. In itself, this is surely a remarkable demonstration of place-name continuity, and no doubt there are some of the seventy-eight which do have a modern counterpart known to local inhabitants although not shown by the Ordnance Survey. Furthermore, there is always the possibility that place-names which are shown by the Ordnance Survey were overlooked. Nevertheless, the balance of 250 places which were located (individually indicated in the appended list) may be a sufficiently high proportion of the total sites located by Pont, to meet the particular need.

All of the 250 places were next plotted at a scale of 1:63,360, within a framework of some of the major streams within the watershed of the Nith. The resulting map was reduced to the scale in Figure 1. The rivers were inserted solely as a guide to the interpretation of the pattern of places, and incidentally they are all shown (amongst others) on the Pont manuscript. Two questions must now be posed, the answers to which should permit an evaluation of Pont as a conscientious recorder in Nithsdale.

The first question is very much a preliminary query to ensure that the best advice can be obtained in response to the second question. Firstly, can any of the seventy-eight place-names not yet plotted, be identified and located? In some cases, the former location of place-names can easily be identified without much precision. For example, "Glenry" was presumably located near the site shown as Glenrae Brae by the Ordnance Survey, on the Wanlock Water some six miles northeast of Sanquhar. "Midd Bourland" and "N:[ether] Bourland" were presumably located adjacent to the site of "Bourlands," now known as the farm of Boreland, a mile north of Glencaple. Despite narrowing down the location of several of the seventy-eight lost sites to a local area in this fashion, they were nevertheless not plotted unless they could be related to a specific point on the modern map. The reason for their omission was to minimise possible sources of error in the map. It is, of course, true to say that many of the former *farmtouns* were not on precisely the same site as the modern farms which have inherited their name, and the *farmtouns* are not therefore accurately located in terms of their original site. But as the map is to be interpreted not in terms of the location of individual sites, but in terms of the pattern and density of settlement in one extensive area

9. SMOUT, T. C. (1969) *A History of the Scottish People 1560-1830*, London, 119-126.

as opposed to another, and bearing in mind the small scale at which the located points were plotted, error resulting from change in location through time is of small magnitude and little consequence. There is no evidence to suggest that names travelled long distances during the agricultural revolution, that is, from the site of a former *farmtoun* cluster of semi-subsistence co-operating tenants, to the subsequent site of the one single farm which replaced them. Hence, plotting place-names on the basis of their modern reference points is a

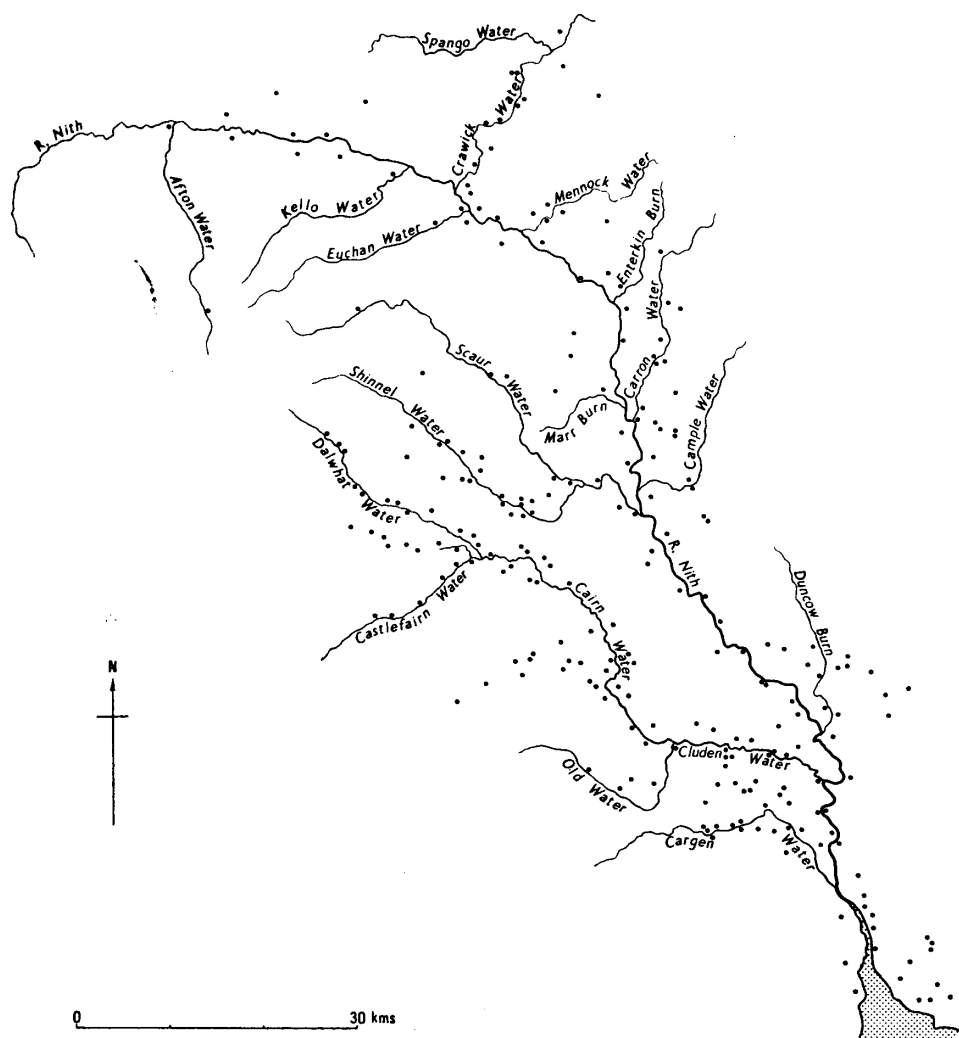


Fig 1. Settlements of Nithsdale c.1590, recorded by Pont.

justifiable method of eliminating the known and in some cases considerable cartographic error¹⁰ which derives from the manner in which the map was constructed, in the same sense that streams which are inaccurately located by Pont can be accurately located by reference to the Ordnance Survey. It is the content of the Pont map which is under scrutiny, not its locational accuracy. The pertinent question which remains, therefore, is whether further of the seventy-eight unlocated sites can be allocated a modern counterpart with a precise location and then added to the plot, although there may be a case for a second category of imprecisely located settlements on the plot if a significant proportion of the seventy-eight places are approximately located, as was "Glenry".

The second and more fundamental question in evaluating Pont's work in Nithsdale, is whether the pattern as represented in the plot is in fact a fair representation of the late sixteenth century settlement pattern? Is there any contemporary evidence from other sources which can be used to test Pont's portrayal, and if so, does such evidence tend to corroborate or to refute Pont's record? The most striking feature of the pattern presented in the form of the plot on an accurate base, in which incidental error in constructing the manuscript map is eradicated, is the close affinity between settlement and the major drainage lines. This does not necessarily imply any causal connection between settlement location and water, since the feature may be a product of the particular level of technological development prior to the agricultural revolution, when lower valley slopes may have afforded optimum soil conditions. Or perhaps there are other reasons for the superficially apparent correlation between settlement and river valleys. But whatever the reason, the question which remains is whether this generalisation is borne out in evidence elsewhere.

The same question can be re-phased more specifically by examining different areas of the map in turn. Between Dumfries and Glencaple, there is marked lineality in seven settlement units on the sloping ground to the east of the river Nith, while in the immediate hinterland of Caerlaverock Castle, greater dispersal is evident. To the north of Dumfries, the northern limits of the Lochar Moss in the vicinity of Locharbriggs, are notably devoid of settlement, but a line of settlements stretches from Amisfield to Dalswinton. Dalswinton Common is an empty area, but the land between the lower reaches of the Cample and Carron Waters seems to have been well populated, as does the Valley of the Carron Water. Concentration of settlement along the Mennoch Water, and along the Crawick Water and its upper tributaries appears to be a response to the difficult hill country between the valleys of the Mennoch and Crawick, but the upper reaches of the Nith, together with the tributary valleys of the Afton, Kello and Euchar Waters all seem inexplicably sparsely settled. Could this large area be inadequately portrayed by Pont? The very broken and high country between the Nith, and the upper reaches of the Scaur and Shinnel

10. STONE, J. C. (1968) *Op. cit.*, 162-165

Waters are understandably sparsely populated, and the very pronounced lineality of settlement along the middle reaches of the Shinnel, Dalwhat, Castlefairn and Cairn Waters is similarly explicable in terms of the high altitudes and steep slopes of the interfluvies. But why is so little settlement recorded immediately to the northwest of Holywood, where superficially the environmental opportunity appears no less than in the neighbouring area of dispersed settlement around Terregles? Also, south of the Cargen Pow on the west bank of the Nith, the settlement is curiously sparse by comparison with the opposite bank. New Abbey would have been very peripheral, but the fact that this important ecclesiastical site is not shown, at once suggests that the west bank of the Nith to the north of New Abbey, which is not so marginal to the manuscript map but is curiously sparse in settlement, may have been inadequately examined. But to be sure that this was the case, evidence of contemporary settlement from another source is required, as is indeed the case, in order to verify any or all of the other above mentioned areas of Nithsdale, each of which has the above noted settlement pattern characteristics as portrayed by Pont.

The verification, or otherwise, of the settlement pattern characteristics of Nithsdale as portrayed by Pont is a formidable task for any one individual. The extent of the area, and the detailed nature of the knowledge required is such that the advice of many is sought. It is in the hope that the problem might be of interest to some of the members that it is posed.

APPENDIX I

Names relating to man's more localised activities in Nithsdale, derived from Pont. Place-names which have not been plotted in Figure 1 are shown with an asterisk:

Achimsell	Achin-brink	Achincairn
Achinfranko	Achingasl	Achingibbert
Achingreuch	*Achinsleck	Achinsow
Achinstrowan	Achintagoirt	Ailtobus
Aird	Airdoch	Aldgirth
[All]ertounn mill	Apine	Kirk of Arngra
Balagga	Ballin-ny	Bankend
Bardannoch	N: Bardannach	*O: Bardannach
Barjarg	Barnhill	Barnsouill
Barr	*Beirdwell	Beltanhill
Benbuy	Bennen	Betfod
*Bilbow	Birkbuffs	*Birks
Blacktou[n]	*Blackmyire	Blarick
Boggry	Boirlad	[B]onerrick
Borbuy	Bourlands	*Midd Bourland
*N: Bourlands	Bowes	Bowes
Breckinsyd	Brigend	Brockloch
*Burnfoot	*Buss	Cairco
Cairne	Mills of campell	Carlavrock
K: of Carlavrock	Carnsallach	Carronhill
Carryill	Cashogill	Casteldyiks

Castelfiarn (crossed out)	Castelhill	Castelhill
Castelhills	Castelrobert	Changlockfoote
Chamglockhead	Chappell	*Chapelmark
Clacklyth	*Clenry	Cleuchbrae
Clonre	K: of Closburn	Closburne
Mill of Cluden	Cogg	N. Cogg
Coldsyd	Collistoun	Colochen
Conwett	Corauchan	Cornley
Corsbanck	Couhill	*Crariesyd
*Craryknow	Creuston	Crosfoord
Cullow	Cumnock Castle	*Hoome of Dalivharn
Dalgowir	Dalmack-kren	K: of Dalouirnock
N: Dalpeddyrre	O. Dalpeddyre	Dalsuinnen
Castel of Dalswintoun	Dalwhat	Damhead
Dardarroch	Daueyn	Mill of Deskonn:
Dobtoun	Drum	Drumcruyl
DRVMFREES	Drumjowon	Drumlainrig Castell
Drumloff	Dryuymcorck	Duncow
Dungelston	Dunragan	Dunskoir
Duntercleugh	*N: Dupem	*O: Dupem
Dursduir K:	Eliock Cast	*mill of Ekiock
Engilstoun	Englystou[n]	Enoch Cast.
Enoch	Ershmortoun	Fourmarkland
Freer carss	Gaitsyd	Garclacch
Garrach	*Garrif	*Gauells
*Gherglen	Gilmerstou	Colledge of Glencloudn
Glenhowen	Glenjann	*Glen-kairn Cast.
Glenkairn K	Glenkapill	Glenkroish
Glenmucklach	Nether Glenmucklach	*O: Glenmucklacch
Glenmill	Glenmills	Glenn-imm
*Glenry	Gordastoun	Greenhead
Greenmerss	N: Gribtoun	O: Gribtou[n]
*Half marck	Halmyir	Hapland
Harthorn	*Hartwood in Douglass	Hemsefeld/Hemsefeld Cast.
Hempsfiell or Amisfeeld	Hiemains	*Hil
*Hill	Hollywood	Hollywood K
*Hoome	*Hoome	Hoomehead
Iarrbrugh	*Mill of Inter	Kam-lyng
Keltoun	Keltoun toun	Kenmoir
*Kephall	Keymyll	N: Keyr
Kilbryid K:	Kill	Killylung
Kilmark	N: Kirkaybrik	*O: Kirkaybrik
Kirk-maho	Kirkonel	Kirkonnell
Kirkconnell	Kirland	Knokachle
Knokinstob	Knokinhaire	*Knoksting
Konrick	*Korbe	Kordow
Kormulligem	*Korrochdou[n]	Kouly Warran
Kraginkunn	N: Kraginputtoch	O: Kraginputtoch
Kragny	Kraigdarrach	*Kraighil
Kraigleron	*O. Kraigleiran	Kraignestoun
Kraigsheil	Kraig turrur	Krefurd
*Kreglom	Krichen	Kyrsloach
Lacht	*Lagdow	Launds

Lawn	*Libhry	*Lochra
Lochrenny	*Long fitt	*Mains
*Margniarroch	Margwasten	*Marklant
*Markraigoch	*Marktowyr	Mar-whurn
Maxweltou[n]	*Merchdyck	*Mermill
*Mid shinnel	mil	mil
*mil	mill	mill
*mill	*mill	*Mockuyatstoun
Monthraw	Moristoun	Castel of MORTOUN
K: of Mortou[n]	mill of Mortou[n]	Netherwood
*Neutoun	The Newbrigg	Newlands
*The Nise	Nunland	Peiltoun
Peinry	Penpiont K:	*Pinnikillwood E:K:
*Mil of Pobowyr	Pogoun	Pondland
Portrack	Poshill	Quarrelwood
Reddingwood	Ridbra	Riddings
*Ridhall	Rigg	The Rowtan [bridge]
Ryhill	Sancar	*Sanchar K.
Castel of Sanchare	Sanchare toun	Schinnel-head
Shancastel	Schawes	Shillingland
*Siktou[n]	Shirringtoun	*Skaethair
Skarr	*Skengabyrr	Skestoun
Skinfirds	Skioch	Spangock
Speddochs	*Spittell	Sporth
Steelstoun	Starryheugh	Stonhous
Stronmulligen	*Stronchreigan	*O: Stronshelach
*N: Stronshelach	Stronwhqom	Sundaywell
*Templan mill	Terarrans	Thornchill
mill of Tibbers	*Tonlaoch	Torachty
*Torachtytoun	Toregills Cast	K: of Torregils
Toregillstou[n]	Tour	K. of Traqyir
Tyndell marching—in	Tyndron K:	*Underwood
Annandale		
*Waterhead	Watersyid	Wathead
*N: Whytsyd	M: Whytsyd	*O: Whytsyde
Woodend	*Woodhead	Yle
The yle		

APPENDIX II

Extensive features of Nithsdale as shown by Pont:

(a) WATER COURSES

Achtonn fl.	The Water of E.	B of Aldgirth
B: of Bellybochtsheelles	Campell R:	Castelfairn R:
Craik R:	Cludann R	Cullow or Kullow R.
head of Dawhat	head of Douglash	Deskon B:
Duncow B:	Water of Dunedyn in Crafortjhon	Dursdyire B:
Eliock B.	Esslann	Garclacch Burne
Glengonnayr fl.	B: of Glenmucklach	Interkynn R.
Kairn R:	Kairn b:	Kargunn R:
Karron R:	head of Kirkup	Locchyrr R:
Marrburne	Minnock R:	Nith R./Nith fl.
Pobowyr B:	Potho B:	Shinnel/Schinnel R: or Shen-Ald
Skarr R	Spangock fl.	B: of Tybberres
Vijilly R./Vijilly R:		

(b) HILLS

Hill of Aldgirth	Bembraik Hil	The hill of Colocchen
Hill of Cossinkon/ Cossin- kon hill	hils	Hill of Interkynnhead
Kraiglern Hill	Krock-hil	Hills of the Lothlers
Mortoun Hil	Penbreck hill in Douglashdale	Queensberry hill
Shan-Chastel Hil	Hils of Tarrarra	Hil of Threerigs

(c) WOODS

wood of Cashogill: ocke okewood	The Keyr Wood	oackwood here
	Spotth wood	

(d) MOORS

pt of Crafort moore and this Pogai moore	moare	al this Pogai moore
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(e) LOCHS

L: of Closburn	L: Ruttoun/L. Ruttann	L: of Trostan
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(f) WATERFALLS

Kroglyn	Laggry Linn
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(g) DISTRICTS

Pt of Clydsdale	Part of the Parish of Cumnock	Part of Kyle
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(h) MINE

leadmyne in Crafort moore

(i) ROUTEWAY

wellpeth

(j) OTHERS

(The objects to which the following names refer is not made apparent by Pont, e.g. Blackshaw may refer to an estuarine bank or a settlement.)

Blackshaw	[?] of Bonerrick	Inshmark
Knowhead	Kraig-Karss	meeting [confluence?]
Robert	Styb	

LOCHMABEN BURGH POLITICS

By J. B. Wilson, M.D.

PART I.

Strong Arm Politics, 1790

The Minute Books of Lochmaben Town Council afford an interesting glimpse into the activities of the Council at this time. The council in these days was not elected democratically as at present, but each year two new members were voted on by the other members of the council and thereafter two were voted off — or in the phraseology of the time — purged. Study of the minutes of this period affords a fascinating picture of how the affairs of the burgh were then conducted.

The first account of the difficulties which beset Lochmaben Town Council at this time is taken, not from the Council Minutes, but from the record of a case tried before the Court of Session in Edinburgh on Monday, 31st January, 1791 — “The Masterful Seizing and carrying off by Violence and detaining in Captivity of William Walls.”¹

Lochmaben Town Council at this time consisted of 15 counsellors — a Provost, 3 Bailies, a Dean of Guild, a Treasurer and 9 members. Walls was a member of this Council and as such he was entitled to vote in the election of a Commissioner to represent the Burgh at the ensuing election of a Burgess from the five Dumfriesshire Burghs to serve in Parliament. The two contestants for this latter office were Captain Patrick Miller, a Whig and Sir James Johnstone of Westerhall, a Tory. Added interest is given to this particular contest for it is immortalised in “The Five Carlins” and two other election ballads of Robert Burns, who was a friend of Provost Robert Maxwell of Lochmaben. Walls supported Captain Miller while John Lindsay, writer and messenger at arms of Lochmaben, was agent to Sir James. Lindsay had apparently offered Walls a bribe of £200 to take a walk with him on the day of the election, but this Walls indignantly refused to do. However, on Sunday, 27th June, 1790, Walls was prevailed on, though the presence of a strange post chaise in the town had made him suspicious, to inspect some cattle “for surely they would not attempt violence on the Lord’s Day !”

“Armed with bludgeons, pistols and swords” Lindsay and seven accomplices, “proceeded without any lawful authority to a park belonging to the said William Walls called Broonrigg or Brownrigg in the neighbourhood of the said Burgh of Lochmaben in the County of Dumfries where the said William Walls was there in company with William Neilson and William Graham both residents in and counsellors of the said burgh of Loch-

1 Signet Library 603.24.

maben and the said William Walls suspecting from their appearance and behaviour that the said persons intended to do him harm did cast off his coat and endeavoured to make his escape from them by running away but he was pursued and overtaken by the said persons complained upon who violently and forcibly dragged him to the high road adjoining the said field notwithstanding the attempts of the said William Neilson in his favour whom they threatened to shoot if he endeavoured to rescue the said William Walls and having there violently thrust the said William Walls into a post chaise which they had brought with them or caused to be brought on purpose some of the said persons also went into the chaise and others rode on horseback and drove rapidly away through Lochmaben to Ecclefechan" and thence to London and Leatherhead.

Lindsay as ringleader in the enterprise was sentenced at the trial to a fine of £50 and three months imprisonment. He was also banished from Scotland for seven years. His accomplices James Thorburn, Peter Forrest and John Lockerby were condemned to be whipped through the streets of Edinburgh and, after a three week period to enable them to settle their affairs, to banish themselves from Scotland for seven years. Duncan Henderson of Dumfries, John his son, William Steedman, lately come from America to Lochmaben, and John Dobie escaped their just deserts by absconding, though Duncan Henderson, John his son and Peter Forrest, Lochmaben, are named along with two others as being responsible for the abduction of Charles Charteris of Amisfield from Dumfries in July 1790².

The Scots Magazine (Vol. 53, p.46) in its report on the case considered "the whole of the evidence presented a picture of burgh politics, degrading to human nature and it is to be feared, not peculiar to the burgh of Lochmaben" while in his comments on the evidence the Lord Justice Clerk gave it as his opinion that this was one of the most important trials that had come before the court in his time and as such demanded the most serious attention from the jury.

After this outrage John Lindsay played a not inconsiderable part in subsequent events and, judging from his activities on behalf of Sir James Johnstone, he did everything in his power, legal or illegal, to forward the latter's interests. Indeed to influence the course of events was not so difficult as might appear for the Town Council was divided in this matter into two equal camps so that the abduction, as was poor Walls' fate, or defection of even one member would, with the casting vote of the Provost, be sufficient to tip the balance.

The meeting of Lochmaben Town Council on 5th July, 1790 with Provost Robert Maxwell in the chair was attended by all the councillors with the exception of William Walls. At this meeting the Provost announced that according to the terms of the precept from the Sheriff Substitute the election

² R. C. Reid. Notes on some letters of Patrick Miller. Trans. 1921-22, page 143.

of a Commissioner to represent the Council would be held on the 8th July. Then, in a subsequent minute the same day, the Provost fired the first salvo in the battle which was to be fought over the following twelve months by informing the council "he had the best reason to believe that John Smith, one of the councillors of the Borough of Lochmaben has been bribed and corrupted to vote in the election." This insinuation was indignantly denied by Smith who belonged to the group who favoured Captain Miller's nomination. The Provost retorted he would willingly, if necessary, take the case before the House of Commons, or their appropriate committee.

After the ringing of the Town Bell the Provost and six councillors met in the Town Hall on 8th July but even though the Burgh officer went to their houses to call them to the meeting the missing members of the town council did not appear. In their absence the Council proceeded by a unanimous vote to elect their Commissioner, the Provost declaring that even if the other members of the council had been present he would have given his casting vote in favour of the Commissioner they had elected — Provost Robert Maxwell! At the same meeting John Lindsay, writer in Lochmaben, was appointed Common Town Clerk for life.

Later the same day, as is recorded in another minute book, the missing members of the Town Council met at Townfoot of Mouswald with Bailie John Bryden in the chair. Amongst the six councillors present was William Walls, who had presumably just returned from the South. These councillors had met in the house of David Dickson in Lochmaben for the purpose of attending the meeting of the council in the Town Hall.

"But a riotous tumultuous and outrageous mob having assembled within the said burgh and having not only assaulted and attacked such of the Magistrates and Council as were convened as aforesaid but forcibly and violently broke into the house of the said David Dickson where-in the Magistrates and Councillors were so convened and carried off the said John Bryden one of the present Magistrates by open force and violence and the Mob having also again returned to the house of the said David Dickson with the declared intention of seizing and carrying off from the Election another of the said Councillors, the other Magistrates and Councillors present were not only so much intimidated by the threats and outrages of the Mob that they were under the necessity of flying from the Burgh for the safety of their lives."

The first place of safety they had been able to meet was at Townfoot of Mouswald.

At this meeting Thomas Dickson, late writer in Lochmaben and Francis Shortt, writer in Dumfries were appointed conjoint Common Clerks of the

Burgh. Furthermore, as the Common Seal of the Burgh was still in the hands of their late Clerk and therefore could not be appended to the Commission they adopted the seal having the initials of Francis Shortt engraved upon it as the Seal of the Burgh. When these difficulties had been overcome John McMurdo was elected Commissioner to represent the Council in the forthcoming Parliamentary Election.

A few months later, on the 21st September, the Town Council met in the Town Hall with Provost Maxwell presiding over the same six councillors who had supported him before. At this meeting Provost Maxwell "represented to the meeting that for several weeks past the public business of the Town has been obstructed by the non attendance of seven of the Members of Council who though several times summoned in the usual manner did not attend." As some retaliation for the conduct which these town councillors had to suffer two of the members of Provost Maxwell's council had received charges of Horning at the instance of David Dickson eldest lawful son of the deceased John Dickson Provost of and Writer in Lochmaben for the payment of over 200 pounds sterling and the clerk was ordered to procure suspension of these charges.

At this meeting too Lindsay, because of indisposition, asked the Council to appoint a Joint Town Clerk to serve with him. Robert Maxwell was appointed to this position while four days later William Stewart of Hillside, David Greig of Moffat and Francis Carlyle were appointed Conjoint Deputy Town Clerks.

On the 29th September, 1790 in the house of David Dickson the other town councillors met and proceeding

"at the ringing of the Town Bell toward the Council House of the Burgh they, near to the foot of the stair to the said Council House were obstructed and interrupted by a numerous and outrageous mob by whom the said John Bryden was seized violently thrust into a post chaise in defiance of every resistance which could be made at the time and carried to the Burgh of Annan and the other Magistrates and Councillors before named justly intimidated by the violence of the Mob being obliged to return to the house of the said David Dickson they waited till the said John Bryden could regain his liberty and he having returned in consequence of his being released from an illegal and oppressive diligence, acknowledged his acquiescence in and approbation of the preceding minutes."

This outrage comes under severe censure from the reporter in the Scots Magazine (Vol. 52 page 515) when he writes—"The election of the Magistrates of the burgh of Lochmaben took place on September 29th when the same outrageous conduct for which the inhabitants of that burgh and neighbourhood have been of late so remarkable continued."

Dr R. C. Reid "in Some Letters of Patrick Miller" describes how one

of the Magistrates was carried off to Annan Jail at the Election of the Magistrates on pretence of legal diligence for a small debt of six or seven pounds. This presumably refers to Bryden's abduction and the excuse for it.

At a meeting of the Town Council on 12th August, 1791 Provost Dickson was able to announce that "after various steps of procedure the Lords of Council and Session had found the election made by the said David Dickson to be the only legal and valid Election." Costs of over 200 pounds sterling were awarded against Robert Maxwell and the other persons joining with him. Unfortunately no details are available of the arguments put forward by the two factions to the Court of Session in support of their claims though a picture does emerge of a group led by Provost Maxwell willing to go to any lengths to further their ends and another group led by Dickson who tried their best to keep the affairs of the burgh from coming under the influence of these strong arm tactics.

Later the same month John Lindsay made his last appearance before the Town Council when the meeting was adjourned to allow him to fetch three Town Council Minute Books and the Town's Seal from his home. However the final minute of the meeting notes only that the last Town Council Book had not yet been recovered.

Just how typical of the period were these events is not easy to decide. Obviously the Lord Justice Clerk in his comments on the Walls case considered them to be both unusual and important. However the abduction of Charteris about the same date by members of the same gang suggests that such high-handed behaviour was by no means uncommon in the Lochmaben area, an opinion forcibly endorsed by the writer in the Scots Magazine.

PART II.

The Purging Of My Lord Advocate From Lochmaben Town Council

The September meeting of Lochmaben Town Council in 1740, when a new Council fell to be elected, produced several procedural and legal wrangles. Sir Robert Laurie of Maxwellton was in the Chair. Added interest was provided by the fact that My Lord Advocate Charles Erskine of Tinwald was one of the personalities involved in the disputes. The Minute of the meeting is unusually long and formed the basis of a PETITION addressed by the Non Resident Heritors to the Court of Session (Signet Library 81.4).

Charles Erskine³ was one of the most distinguished men of his time. In 1737 he was appointed Lord Advocate and on his elevation to the Bench in 1744 took the title of Lord Tinwald: he became Lord Justice Clerk in 1749: after marrying Miss Grierson of Barjarg he commissioned William Adam to build a mansion for him on his newly purchased estate of Tinwald. However, soon after the house was finished he was forced to sell the property to enable

³ Scotland and Scotsmen of the 18th Century from MSS of John Ramsay of Ochertynne ed Allardyce 1888. Vol. I pp. 100-110.

him to buy his brother's estate at Alva ; a third brother became physician to Peter the Great. Erskine was Provost of Lochmaben from 1732-34.

The first hint of the difficulties which lay ahead came after the Council had been constituted and two new members had been voted in. Their election was at once objected to by the Lord Advocate. Nine of the Councillors had voted for the election of Sir James Johnstone of Westerhall, Baronet and Mr John Henderson of Broadholm, elder, while five had voted for William Waugh, weaver in, and John Farish, Burgess of Lochmaben. As William Grant, in measured phrase, wrote in his PETITION

“ If this change had been brought about by lawful Means, or conducted with any tolerable Decency or Caution, there might have been no Question now remaining, for nine is the undoubted Majority of fifteen ; and Men may lawfully change their Measures, if they be so minded.”

To the Town Council Erskine protested in words inscribed in a neat, old-fashioned script

“ All Elections of Magistrates in Boroughs ought to be free without Influence, Terror, Compulsion, and that All Combinations, whereby People bind themselves to vote one Way, or by the Direction of another, are illegal ; and all undertaking to vote for Reward, either to themselves or to the Community, is unwarrantable, and opens a Door to all Corruption ; Yet true it is, that Robert Henderson, Joseph Byrden, John Robison, John Bryden, John Dickson, Joseph Weir, Richard Byres and Captain Forrester, who have voted for Sir James Johnstone and Mr Henderson elder, after having been frequently solicited by divers noble Peers of the Realm, to vote according as they should direct them in the ensuing Election, both of a Member to serve in Parliament, and at the present annual Elections; and after having Threatening and Terror laid before them by others, if they did not comply, and Reward, at least Advantages and Money, for the Benefit of the Community ; and during the driving of this Bargain between Part of the Council assembled, and Agents sent from a noble Peer, Captain John Forrester the Dean of Guild, with certain Gentlemen of the County, went from House to House through the Town of Lochmaben, requiring the Inhabitants to repair to the Cross to hear Offers made for the Good of the Town, who accordingly assembled themselves, at least a great Number of Persons were assembled at the said Cross, in order to frighten the Counsellors who refused to comply with the Demands of being directed in their Choice of Counsellors and Magistrates of the Burgh, and Member of Parliament ; and after having five several Times been called by the said noble Peer, they at last, by this unjustifiable Method, were brought to sign a Declaration,

that they were to be directed or advised in the annual Election as the said noble Lord should advise ; but upon a Condition that a certain Sum of Money was to be paid to them for the Use of the Borough, and other Conditions and Advantages for themselves and the Community ; which Declaration was put into the Hands of the said noble Lord, or some other Person on his Account ; and as the forenamed Persons have voted in consequence of what was declared by them as aforesaid, and of the Advice to which they bound themselves ; and as a further Evidence of the said Influence, the foresaid Persons were assembled this Morning with the said noble Lord, and were not allowed to wait upon their Provost, or speak with any of the other Counsellors who had given no Declarations, and came to the Council-house Stair-foot, the said noble Lord and other Gentlemen not concerned in the Council at their Head. Whereupon my Lord Advocate protests, and all that adhere to him, That the Persons above mentioned Votes are not to be counted ; and if so, then William Waugh and John Fairish, ought to be received the Counsellors, and not Sir James Johnston and Mr Henderson, and thereupon took Instruments. To which Protest the Provost, Sir Thomas Kirkpatrick, Mr William Kirkpatrick and Mr Matthew Sharp adhered."

To this protestation John Dickson, writer in Lochmaben, replied for himself and his colleagues.

"That it is denied there has been any undue Influence, or Terror and Compulsion used with them in Regard to this Election ; that they look upon themselves by their Office obliged to do every Thing in their Power to provote the publick Good of the Place, and to that End to receive any Offers of Service made by any Person Whatever in favours of the Burgh and Community and that these Offers for the publick Good cannot be supposed as any Infringement upon the Liberty of Elections ; and as all undue Influences are before denied, the said John Dickson for himself, and the said forenamed Persons protested in the Clerk's Hands, and in the Hands of Richard Bell Notar-Publick that Sir James Johnston and Mr John Henderson are legally elected the two new Counsellors."

So the argument continued throughout the election of the Council, of which Sir James Johnstone⁴ was elected Provost and from which My Lord Advocate and Mr Matthew Sharp of Hoddum were purged.

The Summons brought by the Petitioners against Sir James Johnstone was not executed until Tuesday 25th November though it had been served within

⁴ Johnstone was proprietor of lands in the Burgh to the value of 3000 merks Scots.

the required eight weeks after the election. This hold up occurred because the Summons was dispatched by post and then delayed by "the difficulties of travelling through a mountainous Country in an excessive Storm."

At the council meeting of November 25th 1740 the Council authorised their Provost, to consult and employ lawyers for defending the action, the composition of the Council remaining unchanged. At the next Council Election on 29th September 1741 William Henderson of Cleughheads and James Chalmers—both Residenters in the Town were voted in while two more non-resident Councillors, Sir Robert Laurie and William Kirkpatrick, were voted out—the rout of the non-resident Councillors being completed the next year when Sir Thomas Kirkpatrick was voted out.

On 17th August 1741 the Council was informed that the Marquis of Annandale had gifted £150 sterling to the Burgh so that the cupola on the tower of the Town Hall could be replaced by a steeple and a new meall house could be built. This money seems to have been the bribe, offered by the Certain Noble Peer and referred to in the Petition. Some of the reasons for the dissensions in the Council now become apparent.

A seat on the Town Council carried with it two main advantages, one being the chance of feuing, at low cost, land from the Burgh's Territory, another being the opportunity of taking part in the election of the Member of Parliament for the Dumfries Burghs. In 1742 the M.P. for the District of the five Burghs was the brother of the Marquis of Annandale—Lord John Johnstone to whom an Address was agreed by the Town Council at their meeting of 10th March.

The reasons for these disputes and disturbances seem, therefore, to have been twofold. First to rid the Council of Non-residenting Councillors and, secondly to ensure, if possible, the continuing selection of a Johnstone as Member of Parliament, two points probably related to each other.

One of the most interesting aspects of this and the subsequent dispute in 1790 is that the staunchest upholder of Lochmaben rights was a Dickson, John Dickson writer in Lochmaben, later to become provost, while Dickson's son, David, was leader of the council which emerged victorious in the dispute of 1790.⁵

⁵ See part I Strong Arm Politics *supra*.

REV. RICHARD BROUN
Minister of Lochmaben Church 1765-1782

By J. B. Wilson, M.D.

We have seen already that civic life in Lochmaben during the Eighteenth Century was never dull for long. This unrest was evident in things spiritual as well as in things temporal, especially during the ministry of the Rev. Richard Broun—a man of considerable character. In 1775 he succeeded his cousin Sir Alexander Broun, Bart, of Colstoun near Haddington, but he did not assume the title. The story of the Colstoun Pear will be recognised by readers of Sir Walter Scott and to those who know Gifford in East Lothian. Though probably not so well known on this side of the country, it is one of those legends which stand retelling and I am grateful to Lady Broun Lindsay of Colstoun for this account.

“The Pear was given by Hugo de Gifford, the magician mentioned in ‘Marmion,’ to his daughter in about 1270 when she married the Laird of Colstoun. On his way to the wedding he stopped under a pear tree and picking a pear gave it to her saying that he was too poor to give her a dowry, but so long as she and her descendants kept it all would prosper, but if it was injured in any way misfortune would follow. The Pear was kept intact until Sir George Broun (2nd Bart.) married Lady Elizabeth McKenzie in 1685. She, I suppose, despising old stories, asked if she might have a bite and her silly husband allowed her to bite the Pear. They instantly fell into great difficulties which culminated in his having to sell Colstoun to his next brother Robert. Then, returning from the last Scots Parliament, the coachman took a wrong turn at the river which was in spate. Robert and his two young sons were drowned, but his wife Margaret and the eldest daughter were saved. She married her first cousin and carried on the line. The extraordinary thing is that we still have the Pear, now 700 years old—scientists say they cannot think how it has been preserved and could not do so at the present day. Lady Elizabeth’s toothmarks, where the piece she bit is missing, are very distinct.”

Richard Broun seems to have been a prickly customer who did not hit it off with the Heritors; certainly he was not afraid to fight for what he thought was right for he took his dispute with the Heritors over the provision of a new Manse to the Court of Session and his quarrel with John Kennedy, one of his Elders, to the Synod and eventually to the General Assembly. He obviously had a good working knowledge of the law though his parishioners seem to have been quite a match for him in this respect. Lochmaben has had many worthy ministers in its long history but surprisingly little is known about any of them—with the notable exception of Mr Broun.

Over the span of the centuries we may find difficulty in determining which party had right on its side, but the clash of personalities which lay behind the various arguments can readily be divined. Only once does a named opponent of Mr Broun emerge—Theodore Edgar of Elsieshields—but others there must have been.

One reason why so much information on Mr Broun's ministry is available is that accurate Session Minutes were kept for the whole of the period of his Ministry in Lochmaben. As the foreword to the Session Book 1765-1847 states :

“ The session have unanimously resolved to keep an exact register of the acts and proceedings of session in this parish for the times to come and the session gave orders to their clerk to begin this register accordingly with the first sessional meeting of Mr Richard Broun.”

The main source of information covering Mr Broun's ministry, is, however, the Records of the Presbytery of Lochmaben, for to that Presbytery came the arguments for judgement and the plans for approval and it is mainly from the long series of Volumes of the Presbytery Minutes, which can be consulted in Register House, that the disputes described in this article are taken.

Perambulation Of The Kirkland Acre

One of the most interesting problems discussed in the Presbytery Minutes is the dispute which arose in 1768 as to the limits of the Kirkland Acre. Mr Broun's Property as Minister of Lochmaben was perambulated and the limits of his house, garden and glebe lands, known as the Kirkland Acre, defined to identify them from the properties of the Magistrates and Town Council which abutted on to them.

Several witnesses were called, the first being Provost William Maxwell. He was followed by Joseph Bryden and Bailie William Jardine. The latter's testimony was unsuccessfully protested against as he was an elder in the church and might therefore be supposed to be influenced by the Minister! The remainder of the evidence from the other witnesses was not taken till nearly six months later when James Richardson, late schoolmaster at Lochmaben and Alexander Brown indweller in Lochmaben deponed. Thereafter Mr Broun represented that he was satisfied with the proof already taken.

All the witnesses testified as to the presence of the Minister's Great Stack (of peat) in front of the garden wall and also the presence of numerous dung hills, while the planting of trees around the area by the Rev. Patrick Cumming, forty years before, is remembered by the majority. The position of the various entrances and exits to the Kirkland Acre was obviously important for they were used for the passage of animals from the town to their pastures.

In September, 1769 Mr Broun reported that the Magistrates and Town Council of Lochmaben had come to an amicable agreement with him in respect to the Marches which were in dispute between them.

An extended account of this perambulation can be found in these Transactions. Vol. 49.

The Manse

The manse which Mr Broun was to occupy required so much repair that in November, 1766, the Heritors obtained an estimate for these repairs, which amounted to £159 6s. 8d. The manse, according to Mr Broun, was a large old building disposed to the Heritors by the Rev. Patrick Cumming when he left Lochmaben in 1732. This house had previously belonged to the Laird of Elsiehiels.

After considerable discussion the Heritors decided a new manse could be built at a cost only slightly greater than that of repairing the old building. Thereafter the sequence of events and the series of arguments between the Heritors and Mr Broun becomes confused, the accounts which are available for study offering contradictory evidence. The fullest account is in a Petition by the Heritors placed before the Court of Session on 24th January, 1769. In 1968 a copy of this document was found in a second-hand bookshop in Capetown and sent to the Rev. Jeffreys Carmichael by a doctor in Liverpool. The Petition and Mr Broun's Answer can be consulted in Edinburgh in the Signet Library (Ref. 144/10).

In the PETITION the Rev. Richard Broun complained that the manse and its manse houses were completely out of repair and the Heritors were asked to repair them. This the Presbytery asked them to do but the Heritors preferred to build a new manse. Francis Paterson, a mason in Lochmaben, produced a plan and an estimate for the building of £225 12s 0d, only a pound or two more than the repairs were to cost. Mr Broun did not approve of this plan so the Heritors "who thought they had done all, and more, than had been required of them," proposed a smaller manse should be built after the design of a Mr George Fraser and they compared the two plans—"The hasty draft of a country mason against Mr Fraser's handsome plan." Needless to say this plan did not satisfy Mr Broun either, though the Heritors did agree to several changes from the original. Mr Broun objected that the room designed as a study had no light or window, to which James Boswell, advocate for the Heritors, replied "In reality, it had a very good skylight, which is most favourable to the eyes and is therefore most agreeable for reading and writing!"

In his ANSWER Mr Broun, besides pointing out how much he was upset at his treatment in the hands of the Heritors, accused them of being unable to make up their minds which plan to favour and of producing a third plan by one Bryden in which 15 ft. was added to the office houses. One of Mr Broun's problems was to have a stable and byre completed before the onset of winter.

To confuse the issue still further the Presbytery records mention yet another plan for the manse—by a Mr Maxwell, but his plan was superseded by Paterson's whose plan had been originally commissioned by the Tenants of the Royal Four Towns.

The extraction of the sequence of these events from the different records is not rendered easier by the way in which these various bodies went back on written decisions or implemented decisions which had not been recorded; only in the light of subsequent events could the outcome be divined. Unfortunately no record exists of the decision by the Court of Session—only the arguments remain.

After the completion of the new manse arguments continued between the Heritors and their minister, who protested that "the heritors had taken no account of the injury done to him by pulling down the old manse and officehouses whereby his garden and back court had been open for a year. Also the rubbish from digging the foundations had been left in front of the manse". He also objected indignantly to the demolition of the old barn at the head of the Kirkland Acre on a part of the Minister's Glebe for the stones were not even required to build the new manse and offices—"The Heritors had no more right to remove a stone of it than they have to take the furniture out of his house or the money out of his pocket! "

Dr. James Mounsey of Rammerscales for himself and in the name of the Heritors protested that Mr Broun had changed the plan of the manse to suit his own fancy and had added a building at the east end of the ground floor. Mr Broun believed that the great majority of the Heritors were incapable of homologating such a Minute of protest and was firmly of the opinion that it was the production of Mr Edgar of Elsiehiels alone. This does not seem to say much for his opinion of the famous Dr Mounsey's abilities.

Mrs Robina McBryde Broun

So few women figure in the records of either the Church or the Town Council that a brief mention of Mrs Broun in the Presbytery Minutes of October 1768 is of more than passing interest. Apparently Mr Broun had been advised that his wife, whose health had been affected by a long and severe fever, should have the benefit of a complete change and that a long journey would be conducive to the re-establishment of her health. He therefore requested leave of absence for some months to attend her. The Presbytery granted him leave provided he took care to have his charge properly supplied during his absence. Mrs Broun died in 1819, thirty-seven years after her husband, the benefits to be achieved from a complete change and a long journey having been proved beyond argument. Perhaps after Mr Broun's death she moved to Mayfield where her son Captain Sir James Broun Bart. had set up his home.

Dispute With John Kennedy Of Skedholm

Volume 8 of the Presbytery Minutes sets out in great detail the dispute between John Kennedy of Skedholm and Mr Broun. The case is stated in August 1771. Apparently John Kennedy had promised to support the candidature of William Alexander of Dornock as ruling elder from the Presbytery to

the General Assembly, both because of his liberal attitude to Patronage and because he had in the past been of service to Mr Kennedy's son. However, at the Election in April Kennedy had given his vote against Mr Alexander who had in consequence lost his seat at the assembly. The reason for this unexpected volte face seems to have been that Mr Broun had, about this time, disoblged Kennedy's son.

John Byers had been elected to represent the Session at the Synod of Dumfries, but Kennedy had taken his seat at the next meeting of the Synod and insisted that his appointment stood though Mr Broun maintained this was a "gross falsehood, a notorious barefaced and impudent lie, as the Session can prove". At first the Session had been inclined not to proceed beyond a Lybel on which they had agreed but some elders threatened to resign if Kennedy continued as a member of Session. He was therefore suspended from his office as Elder.

Kennedy's son, Joseph Kennedy, Surgeon in Lockerbie, appeared in his father's defence and refuted all the charges. Several members of the Presbytery considered that John Kennedy was correct to take his seat in the Synod and after some debate the Presbytery reversed the Session's decision that he be suspended from his office as elder and also the Session's decision expressing disapproval of his conduct in the election of the elder to the General Assembly. The Session was permitted however to go ahead with its Lybel.

Both parties disputed this decision and craved extracts. The dispute dragged on with the litigants craving extracts and the Presbytery delaying decisions until July 1772 when the judgement of the Commissioners of the General Assembly was read to the Presbytery. This affirmed the decisions made at Presbytery and later at Synod level. The judgements did not, however, satisfy Mr Broun who suggested to William Neilson and John Byers, members of his Session, that they should absent themselves from the Session Seat, refrain from collecting the poor's money or exercising any part of their office of elder. Fortunately commonsense prevailed and the elders refused to co-operate in this action.

An arrangement was however made whereby the Poor's Money was to be collected by the Beadle who was ordered to fix the collecting plates at the church door. This led to an unfortunate incident at the morning service on Sunday, 20th October, 1771 when John Kennedy endeavoured to seize the collecting plate from John Anderson, the Beadle, and had to be asked from the pulpit to desist. In his defence Kennedy complained that Mr Broun had "openly from the pulpit in a passionate outrageous manner endeavoured to stop him in the lawful exercise of his office to the great disturbance and offence of the congregation and profanation of the Lord's Day."

Throughout 1772 most of the Presbytery Minutes are taken up with the arguments and dispositions of the two parties. So heated did these become that on the 17th December, 1772, the Presbytery "considering that they had now

and formerly received insults from Mr Broun desired that the Court might have the protection of the Civil Magistrates for keeping the Peace of the Court". However Dr. John Burgess, Minister of Kirkmichael, dissented from this Minute remarking that it was an affront to the Court to have it marked in their Minutes that the protection of the Civil Magistrates should at any time have been necessary for their safety.

Eventually in April 1773 the two Lybels which had been brought against the Rev. Richard Broun were dismissed but John Kennedy was adjudged the beginner of "The Fray in the Church of Lochmaben".

Dr Mounsey's Appointment As Commissioner To General Assembly

Dr. James Mounsey had returned to his homeland in 1762 from the Imperial Court at St Petersburg where for some years he had been Physician to the Empress Elizabeth and subsequently Chief Director of the Medical Chancery and the whole Medical Faculty throughout the Russian Empire. After building the mansion of Rammerscales, Mounsey played a not inconsiderable part in Church affairs for he appears in the Presbytery Minutes as representative elder for Dalton and in the Lochmaben Town Council Minutes as ruling elder representing the Burgh at the General Assembly from 1765 to 1772. This latter appointment does not seem to have had Mr Broun's approval for in the Presbytery Minutes it is recorded that, on 26th March, 1769, Provost Chalmers waited on Mr Broun and intimated to him that the Town Council had elected their ruling elder and desired him to call a Session Meeting that day so that the Commission might be attested. Mr Broun however assured him that "he rather choosed to appoint a Session upon another day", and even when by arrangement the Magistrates did call on Mr Broun they were informed by Mrs Broun that "he went from home in the morning". They eventually succeeded in meeting him the same evening when Mr Broun sent for William Jardine the only elder resident in the Town and the Session Clerk. Mr Broun and his elder however refused to attest the Burgh's Commission to Dr. Mounsey and subsequently the Presbytery found that no session had in fact been held for the Minister and one elder did not form a quorum! Dr. Mounsey's Commission was finally approved by the Session and ratified by the Presbytery on 2nd May.

Feuing Of The Kirkland Acre

To demonstrate that he could be constructive as well as argumentative Mr Broun in March 1774 suggested that part of the Glebe should be feued off. With streets on two sides this site would be suitable for development and a Petition to this effect was addressed to Viscount Stormont. Provost Maxwell considered such a plan would add to "The ornament and beauty of the town as it fronts all to the High Street".

The Minister's Peat Moss

In May 1775 the Presbytery records contain a complaint by Mr Broun

that whilst he "was attending a Synod Meeting in Dumfries, Mr Edgar of Elsie-shiels (an old adversary of Mr Broun's) had cast 30 darques of peat from his moss in the very breast where Mr Broun has cast them these ten years past".

Mr Broun, backed by the statements of several witnesses, represented that he and his predecessors from time immemorial had been in possession of the moss called the Minister's Moss in the Woody Castle Moss. Mr Edgar did not appear at the hearing before the Presbytery and Mr Broun seems to have carried his point. The "Lintshoes" road and the lint mill at the head of the Mill Loch are both mentioned in the evidence of the witnesses who testified as to the site of the Minister's Moss and its access. The Moss was apparently situated between the Lint Mill and Woody Castle.

Further Repairs To The Manse

In June 1776 a petition to the Presbytery was received from the Rev. Richard Broun complaining that his manse was in bad repair and had never been wind or watertight from the time it was built; if something was not done by the Heritors without loss of time the manse would soon become a ruin. Mr Broun suggested therefore the manse and office buildings should be roughcast. He complained too of the condition of the churchyard dyke which was so broken down as to allow "the perpetual trespass of all the cows and horses of the Burgh and also the swine who are often found digging amongst the graves contrary to all decency and good order".

The Heritors agreed to carry out the roughcasting of the manse and office houses, also to build a dyke round the churchyard. This dyke was to have an entry on the South for the Inhabitants of the Four Towns. The gate closing the entry was to be kept locked every day except on Sundays and on days of burial from that quarter of the Parish. This work was to be carried out only if Mr Broun made no further demands on the Heritors for further repairs to the manse. The provision of stones for the churchyard dyke led to a vitriolic clash between Mr Broun and Theodore Edgar of Elsie-shiels. According to the Minister, Mr Edgar's protests "were such that they might have raised a monument to his memory more lasting than brass and would have been a high testimony to posterity what a great and wise and good laird lived at Elsie-shiels between the years 1760 and 1780."

Thomas Henderson — Schoolmaster

In spite of an objection in December, 1776, by Mr Broun a committee was appointed to take Mr Henderson the schoolmaster in Lochmaben on trials as a student of Divinity. In January of the next year a report by Bailie Jardine is quoted to the effect that Mr Henderson had refused to accept from the Beadle the Session's list of Bursars because the addresses of the scholars had not been given. Eight of the scholars were from Lochmaben, one was from Halleaths and one from Whitehill, and the deed of mortification for the school by James

Richardson in 1728, quoted in twelve pages of the Minutes, stipulated that all ten poor scholars should be from Lochmaben. The Presbytery, with wisdom worthy of Solomon, decided that as the two Bursars protested against had been received and taught the previous year their nomination should be continued.

One of the reasons for Mr Broun's objection as to Mr Henderson's suitability for trials is to be found in the Minutes of the 1st April, 1777, where Mr Shortt, Writer in Annan and late bailie in Lochmaben gives his answer to Dr John Burgess's (Minister of Kirkmichael) protest that Mr Henderson had slept for weeks together in a room separated from the other apartments of the house and in a bed adjoining to that of a young widow — Mr Shortt's daughter. Dr Burgess considered that Mr Shortt should have had his son in the room with Mr Henderson if the latter could not be otherwise accommodated.

To this objection Mr Shortt replied that Mr Henderson had lodged with him since his first coming to Lochmaben and such was his modesty and delicacy of behaviour that it amounted almost to a degree of backwardness. Thereafter, Mr Shortt launched into a counter attack on the principles and order kept by the Doctor in his own family before dealing a back hander to Mr Richard Broun, pointing out that the Minister had been "in use for years past to lie in the same room with his maid servant even when Mrs Broun, during the time of her inlying, was confined to a separate apartment on another floor of the house."

In spite of these objections Mr Thomas Henderson was allowed to deliver his homily on 1st July, 1777, and his popular sermon in October. Thereafter he was licensed.

Mr Broun's opinion of Mr Henderson was, however, vindicated, for in October 1797 Mr Henderson was brought before the Kirk Session of Lockerbie where he had ministered for nearly 20 years and before the Presbytery because he "was habitually given to excess in drinking and other acts of criminal behaviour thereby setting an evil example to his parishoners and exciting their distrust and abhorrence." In May of the next year he was dismissed from his charge.

Mr Broun's Ill Health

In May, 1778, Mr Broun requested the Presbytery would help him with supply of preaching as he had been advised to go to Bath for the recovery of his health. His journey to Bath seems, however, to have conferred no lasting benefit, for a year later he represented to the Presbytery that his health was such that he could not attend the General Assembly.

Dispute With William Jardine

The last recorded quarrel during Richard Broun's period as Minister in Lochmaben is set out in the Session Minutes for 10th May, 1789 when William Jardine who has already figured in these events is presented as saying at the

previous meeting in a seeming passion that Mr Broun had "robbed or revenged the poors money." This saying had distressed Mr Broun in his valuedinary state of health very much but he was confident that the session books would vindicate his conduct. The eventual outcome of this particular argument is not recorded.

The Verdict

In view of Mr Broun's constant disputes with the Establishment it is not perhaps surprising that his grandson, Hugh McBryde Broun, came out at the Disruption in 1843, leaving his charge at Brydekirk to become the first minister of the United Free Church in Lochmaben. Few would be alive then who would remember his worthy grandfather but Richard Broun's name must have been often mentioned when the old days were relived by the fathers and brethren as they sat round the ingleside. Before the days of wireless, television or even newspapers the pros and cons of such disputes would, in a rural community, be argued and recalled for many years.

After the passage of two hundred years the rights and wrongs of the various disputes are difficult to determine but Mr Broun did succeed in proving his case in his argument with the Heritors about the manse, for he was awarded costs: though ruled against in the case of John Kennedy's Lybel he was judged to be right in the subsequent fray in the Church while his complaint against Theodore Edgar's encroachment on his moss was obviously justified. Whatever the legal position the relationship between Minister and Heritors does not appear to have been a happy one. The main problems seem to have arisen over the money demanded by Mr Broun for the manse though to their credit the Heritors did not quibble when asked in 1766 to repair the Church. Money then, as now, seems to have been at the root of many of these disputes.

Besides affording a glimpse of the protagonists in these various exchanges, the disputes themselves throw into sharp relief some fascinating aspects of life at that time and the pictures conjured up by the carefully inscribed minutes fully justify all the thought and care which must have gone into their completion.

Of special interest to the student of history is the "Perambulation of the Kirkland Acre" in 1768. Though seldom mentioned in books of that period the routine to be followed seems to have been laid down very exactly and certainly the evidence which was taken produced a clear enough picture. The description in the Perambulation of heaps of refuse and dung in any convenient corner may appear surprising to the modern reader for it is difficult to realise that not till nearly a hundred years later were bacteria and their relationship to disease discovered. With these sources of bacterial spread so near human habitation poor Mrs Broun's prolonged fever would be no surprise; the wonder is that so many lived to a good age.

Mr Broun's grave and that of his wife can be seen beside the Kirk Yard wall overlooking the Loch. Beside them lie their sons and grandchildren whose descendants emigrated to a new life in Australia.

The various disputes and the stirring events detailed here and in the previous article on Lochmaben Burgh Politics, suggest that Lochmaben was indeed a turbulent burgh and its inhabitants a quarrelsome lot. However, no doubt our descendants two hundred years from now would have the same impression about us were to read the newspapers of today for in them are reported only the events which warrant headlines — the decent behaviour, the kind action and the everyday event go now as then, unreported and the inhabitants of the Royal Burgh at that time were probably no worse or better than their descendants who live there today.

NOTES ON SOME DUMFRIESSHIRE SUNDIALS

By Alex McCracken, B.Sc., F.S.A.Scot.

Acknowledgments

I wish to thank the owners of the garden sundials described below for allowing me access to their property. Thanks also are due to Mr M. Dodd, Carlisle, who provided valuable literature on the subject of sundials, and to V. K. Chew of the Department of Physics, South Kensington Science Museum, for information about the Thornhill ring dial.

Introduction

As far as is known, no list exists of the sundials in our area, nor has any article on the subject appeared in our "Transactions". It is hoped that these notes will arouse some interest in sundials. I would very much appreciate a short description of any old dial known to readers of this article; I can be contacted through Dumfries Burgh Museum.

Basically, a sundial is an instrument which uses the position of the sun to record the time of day. Fixed sundials usually consist of a plane face or system surfaces, from each of which protrudes a gnomon or style, whose edge is parallel to the earth's axis of rotation. The face of the instrument is inscribed with numbered hour lines, and the shadow of the edge of the gnomon indicates the time.

Probably the best-known fixed sundial type is the horizontal dial, at one time a popular garden feature. In fact until the early years of this century such dials could be ordered from a catalogue showing a variety of sizes and prices. Horizontal dials can show any time of day, from sunrise to sunset, but to read the time, the observer has to go right up to the dial, and stand over it.

On the other hand, sundials with vertical faces can be set up at a height above ground level, and can be read from a considerable distance as easily as a modern clock. A vertical, south-facing dial can record times from 6 a.m. to 6 p.m. Many English parish churches have dials of this type, usually over the south porch. St Mary's, Scarborough, possesses a large and elaborate example, which with the aid of a field glass can be read from a considerable distance. Any cuboid shaped block of stone has four vertical faces, each of which can be fashioned into a sundial. Since these will face in different directions the times shown by the system will cover all hours of sunshine. The usual limits are 4 a.m. to 8 p.m. Such sundials were often used as a useful cap for market crosses, and many such dials, of 18th Century date, ornament the gardens of stately homes.

Eventually the art of dialling reached a stage where sundials were constructed with more and more working faces. Probably the great sundial at Glamis Castle, which has 84 working faces, is the most elaborate still to be seen.

While the church or market dial served the purpose of a town clock, and was used on sunny days to regulate the inaccurate mechanical timepieces used by those who could afford them, there were also equivalents to our present-day watches.

One group of these pocket sundials required a magnetic compass to ensure that the gnomon was pointing in the right direction, so that its shadow could indicate the time as in the fixed dials. Another, very popular type of dial used the altitude of the sun above the horizon as a measure of the time. Since the sun's altitude at any given hour varies with the seasons of the year, the dial had to be adjustable to allow for this.

All dials, of whatever type, assume that the sun is due south at midday. Hence an allowance must be made to convert dial time to national time, a correction which depends on the dial's situation east or west of the Greenwich meridian. Furthermore, because of the earth's rotation round the sun, sun time varies slightly according to the season of the year, and can be anything up to 15 minutes fast or slow. Some dials, fixed and portable, have a table of the corrections which should be applied to allow for this difference. At the present day British Summer Time means that yet one more correction must be made to read the right time from a sundial.

List Of Sundials

Castle O'er (NY 249926). In Dumfries Museum is preserved a small sundial, cut from a block of white sandstone, with 2 vertical faces to point S.E. and S.W. Each face measures 10 inches by 6 inches (25 cm. by 15 cm.). Over the S.W. face is inscribed MARCH, while over the other face is the date 1725. This sundial came from Castle O'er House in Eskdale, and must have been set in the wall of the house. The S.E. face records times from 4 a.m. to 2 p.m., and the S.W. from 10 a.m. to 8 p.m. The gnomons are of iron.

Burnfoot, Middlebie (NY 206747). Also in Dumfries Museum is a sundial of hard red sandstone, with S.W. and S.E. faces each measuring 8 inches by 9 inches (20 cm. by 23 cm.). Each face has iron gnomons, and records the same times as the Castle O'er dial. In the S.W. face are cut the initials WH. MF, with figures 17 in relief. The S.E. face has the figures 29 in relief, and MARCH, incuse. Hence the dial's date, 1729. The block is roughly triangular in section, and would be set into the face or corner of the house.

Buck Inn, Annan (NY 194666). Set into the wall of the Inn, above Annan High Street, is a vertical, south facing dial, apparently fashioned in white sandstone. It is set in an ornamental panel bearing the dates 1700 and 1903. The dial is badly weathered, and because of its position can only be examined with the help of field glasses. It has Arabic numerals, the noon line being marked with a cross. Above the iron gnomon is a date, almost obliterated but probably 1700, since that is the date beside the dial, the 1903 being the date of rebuilding the Inn. The dial is working as well as the corroded gnomon will allow.

Prince Charles Edward Stuart is reputed to have stayed in the Buck Inn in 1745.

Victoria Road, Annan (NY 194664). In the front garden of a house in Victoria Road is a free standing sundial with 3 vertical faces, pointing S., E. and W. Above the S. face are the initials W L, and the W. face is dated 1766. Fixed on top is a small circular brass horizontal dial, later in date than the rest. All the dial faces have Arabic numerals. The E. and W. faces measure 11 inches by 10½ inches (28 cm. by 26.5 cm.), and the complete dial and column, cut from a single block of red sandstone, stands 28 inches (71 cm.) high. The iron gnomons on the S. and W. faces are missing, and that on the E. face has been bent over. On the S. face the noon line is marked with a fleur-de-lys. The dial could be put into working order without much difficulty.

Lochmaben Mercat Cross (NY 080826). The top of Lochmaben Cross is a block of sandstone, approx. 9 inches by 8 inches by 8 inches (23cm by 20cm by 20cm), which has been fashioned into a sundial with 4 vertical faces, pointing N., S., E., and W. The gnomons on the E. and W. sides are missing, and that on the N. is now upside down, presumably replaced that way in error when a crack running through the block vertically from N. to S. was repaired. All

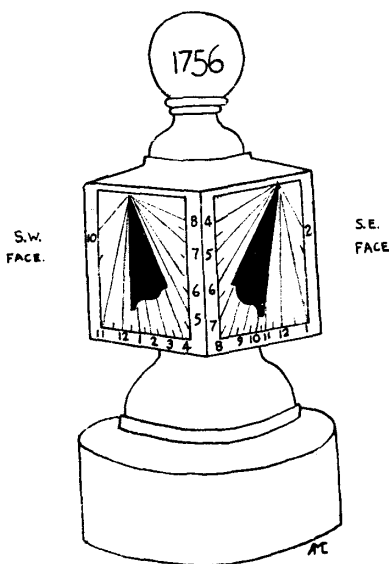


Fig. 1. Sundial, Broomholm, Langholm.

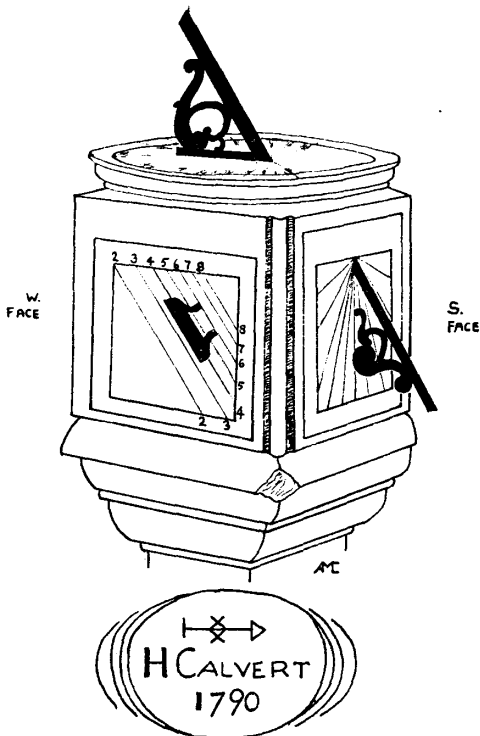


Fig. 2. Sundial, Townfoot, Langholm, with below, inscription on N. face.

the dial numerals are Arabic. Above the S. face is the date 1729, and the sundial block is surmounted by a sphere. The shaft of the cross is said to date from the late 15th century. An illustration of the complete cross is given in "Scottish Market Crosses," by J. W. Small, published in 1900.

Broomholm, Langholm (NY 373818). (Fig. 1) This magnificent sundial, still in working order, stands in the garden of Broomholm House, 2 miles (3km), S. of Langholm. This estate was for long the home of the Maxwells of Broomholm, whose family burial vault stood in Staplegordon churchyard. The sundial is cut from a block of white sandstone, and has 4 vertical faces, pointing SE., SW., NE., and NW., each measuring 13 inches (33cm) square. The copper gnomons are of simple shape, and all the numerals are Arabic. The dial is surmounted by a globe, approximately 8 inches in diameter, in which is cut the date 1756 facing the S. and the letters shown facing the north. $\left. \begin{array}{l} D \\ P M \\ I S \end{array} \right\}$ The sundial stands on a plinth of White sandstone, which in turn stands on a circular red sandstone platform, 8 feet (183cm), in diameter.

Skipper's Bridge, Langholm (NY 370835). When alterations were being made to a small cottage near the bridge, a sundial block cut from a hard, pinkish sandstone was found used as a building stone in one wall. In style almost identical to the Broomholm dial, it is slightly smaller, each face measuring 10 inches (25cm) square. Its 4 faces were intended to point in the same general directions as the Broomholm example. Its copper gnomons had been fixed in place by lead. The base of the block had been slightly hollowed, probably for mounting on a plinth, and what must have been an ornamental top had been roughly chiselled off to fit it for a building stone. Apart from its Arabic numerals, there is no inscription or date. Where this dial originally stood is now impossible to say.

Townfoot, Langholm (NY 370839). A very fine sundial, still working, stands here in the garden of a modern bungalow (Fig. 2). At one time this area was part of the grounds of Holmfoot House, and so the dial was originally placed here for that house. The dial, cut from red sandstone, has 3 vertical faces, pointing S., E., and W. The block measures $12\frac{1}{2}$ inches by $12\frac{1}{2}$ inches by $11\frac{1}{2}$ inches (32cm by 32cm by 29cm) and is set on a pedestal of White sandstone. The E. and W. faces have Arabic numerals, but for some reason the S. face has no numbers of any kind, although the hour lines have been cut. On the N. face, within an oval, is cut H. Calvert, over which is a mason's mark, and with the date 1790 below. On top of the main sundial is a circular horizontal dial of White sandstone, with Roman numerals, which looks younger than the main block. The gnomons of this dial and the S. vertical dial are a matching pair, ornately made from copper. Those on the other faces are of iron.

St Mary's Church, Dumfries (NX 972763). Outside the church door is a fine sundial with 3 vertical faces, pointing S., E., and W. On the S. face above the gnomon is the date 1777. The faces are approximately 12 inches square. Those pointing E. and W. have one end of each hour line marked with an Arabic

numeral, the other end with a Roman numeral. The S. face has Arabic numerals only. The N. face seems to be plain and unmarked. The dial block has been painted white, with black iron gnomons. It stands on a red sandstone pedestal, some 3 feet (91cm) high, and has had an ornamental top which is now missing. The dial is in working order.

Gretna Parish Churchyard (NY 320680). The O.S. map of 1857 marks a sundial standing in the churchyard. A recent search of the area has revealed no trace of this dial, so that its type cannot now be determined. In the section of the churchyard where its position is shown are many post-1857 tombstones, so that it may have been removed to provide more room for burials.

Telford's Sundial, Langholm (NY 361848). Hyslop, in "Langholm As It Was," illustrates a square, horizontal dial carved by Thomas Telford when he worked as a mason in Langholm. Unfortunately, this dial was removed from the town many years ago, and cannot now be traced, a fact much regretted by those interested in the great engineer.

Pocket Sundials

Ring Dial. This small dial was included in Dr Grierson's collection at Thornhill, and was brought to Dumfries Museum (Fig 3). The dial consists of a strip of brass, approximately 1cm wide, bent into a ring of diameter 5.5cm. When

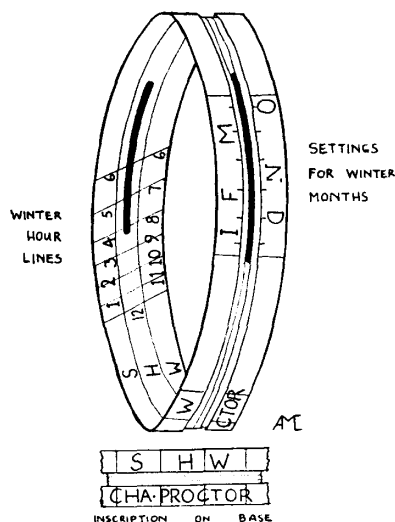


Fig 3. Ring Dial ex Grierson Museum, Thornhill. Diam. 5.5cm.

complete, this instrument would have had two pieces of metal, each with a single hole drilled through it, which would slide in grooves cut for the purpose through the main ring. These sliding pieces were set to the appropriate month, as engraved on the outside of the ring, and the whole instrument turned so that the sun could shine through the perforation. The tiny dot of sunshine

passing through the hole indicated the time of day on the hour lines engraved on the inside of the ring. This example from Thornhill has, unfortunately, lost the sliding pieces, and also the small metal loop by which the dial would be held. This dial has separate grooves for the winter (October to March) and summer (April to September) months, with corresponding winter and summer hour lines inside. On the bottom of the dial is stamped "CHAS. PROCTOR" and the letters "W.H.S." Charles Proctor was an instrument maker who worked in Milk Street, Sheffield, c. 1740-1780. The other letters probably signify Winter-Hours-Summer. Ring dials of this type were very commonly used, particularly in England, throughout the 17th and 18th centuries, before pocket watches became easily obtained.

From Thornhill Museum also comes the wooden lid of a pocket sundial. Attached to its interior is a printed table showing the corrections to be applied to sun time to find the true time of day. The dial itself is missing, presumably lost in some way when the museum's collection was being dispersed. I have a vague recollection of seeing this dial in one of the balcony cases when the collections were being sorted. It consisted of a circular compass card, with hour lines and numbers, as well as the compass directions printed on it, and a small gnomon was fixed to its centre, so that when the compass was used in sunshine, the time would be easily readable. I would not have thought that such a dial would have been sufficiently accurate to require such particular corrections as those printed in the lid. Perhaps they were intended to be used when their owner was reading fixed sundials.

In the catalogue of Thornhill Museum, published 1894, the following entries occur on page 86:

" 126, 127. Two Pocket Combination Sundials and Compasses.

128. Ring-dial, found near Thornhill.

129. Pocket Sundial with hinged gnomon."

What has happened to the rest of these instruments I cannot say.

A MEDIAEVAL BELT CHAPE FROM HOLYWOOD ABBEY, DUMFRIESSHIRE

By JAMES WILLIAMS, F.S.A.Scot.

Among the many items transferred from Dr T. B. Grierson's Museum to Dumfries Museum in 1965 was a small pronged bronze object (see fig. 1-1) described in Dr Grierson's manuscript Catalogue (No. 629) as a "Bronze Pin found in dig(g)ing a grave in the churchyard of Holywood, Dumfriesshire, 1867. Presented by Mrs McIntosh of Drumlanrig Gardens, August, 1867." Dr Grierson further mentions that "in the Museum at Leicester there is an object exactly the same as this which was found . . . in the town, a figure of it is given in the report of the Museum for 1864."

Mr J. F. L. Norwood, the present Keeper of Antiquities at Leicester Museum, was puzzled by the reference as the Museum reports were first issued in 1873 and not illustrated until recent years. However, Mr Norwood kindly pointed out that among the collections at Leicester there was an object "exactly the same" which had been found at a depth of 10 feet in Alexander Street, Leicester, on the 5th of June, 1908 — perhaps we can add the gift of "the second sight" to Dr Grierson's (died 1889) many other abilities!

An examination of the printed catalogue of the mediaeval antiquities in the London Museum (H.M.S.O. 1967) shows us that the two objects under consideration are in fact mediaeval belt chapes. These objects were produced to protect and decorate the ends of leather belts and straps. They seem to come into general use in the 12th century when the knotted belt was replaced, in fashionable society, by belts with metal buckles

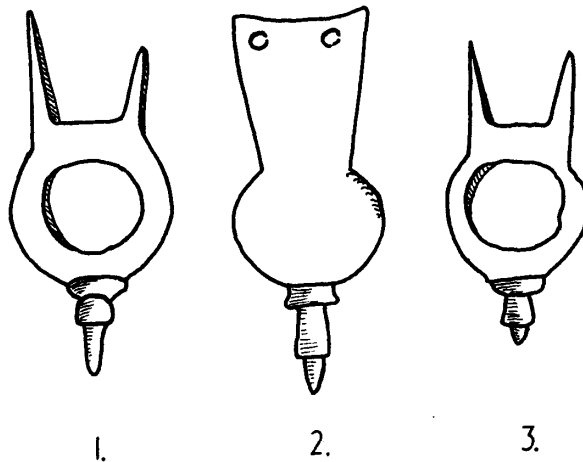


Fig. 1. Mediaeval Belt Chapes from 1—Holywood, 2—London, 3—Leicester (all nat. size).

and pendant tag. There was some distinction between military and civil forms and at certain periods, for example the 13th century, they formed a part of feminine costume. For a fuller account of belt and other chapes the reader is referred to the London Museum Catalogue and to the many published works on Mediaeval Monumental Brasses. The latter works provide many accurately dated examples.

In the case of the Holywood and Leicester examples the leather belt would have been attached by stitching over the prongs and the ring. Although apparently insecure this method of attachment is well attested by the survival of such chapes and buckles

with their leather straps in situ. Alternatively the prongs may have been replaced by a metal plate and the leather attached by metal rivets. A bronze specimen, of this type, from London is illustrated on plate LXXV (No. 11) of the London Museum Catalogue. It is there dated to the 14th century and this dating may tentatively be applied to the examples from Holywood and Leicester.

SIR JOHN CLERK OF PENICUIK AND MOFFAT WELL

Edited by W. A. J. PREVOST

The erection by subscription of "The Baths" in Moffat in 1827 was a great improvement and supplied a long-experienced want for visitors who were staying in the spa. Formerly the water was carted down from the Well for the supply of baths of a some-

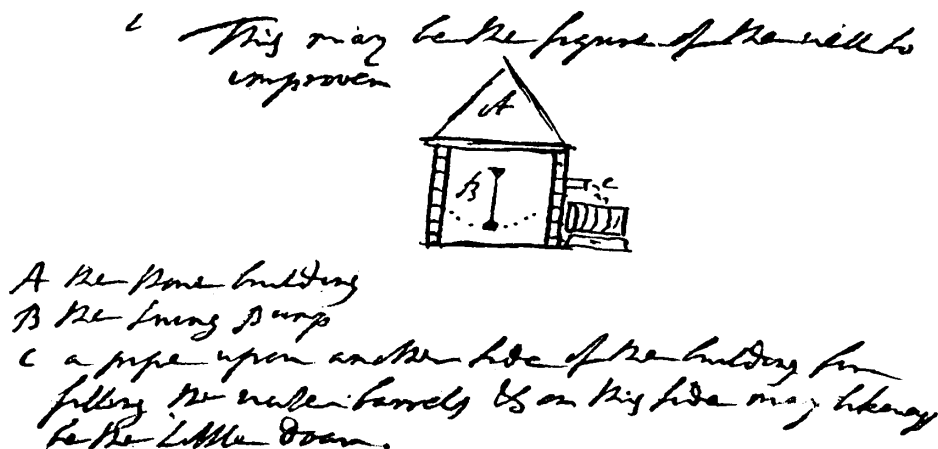


Fig. 2. Sir John Clerk's sketch of suggested improvements to Moffat Well.

what rude and primitive description. This was now altered and William Keddle¹ writes that there are two sources of water at the Well, and points out that the lower one alone was suitable for drinking purposes. The upper, the stronger of the two, was in 1827 allowed to pass by means of pipes towards the reservoir in the Tank Wood which then supplied the mineral baths in the town. This improvement had been suggested long before by Sir John Clerk in "A proposal in 1732 for the improvement of Moffat Well, done at the desire of some of the inhabitants."² It reads as follows:

'Whereas those people are dissatisfied with the present manner of keeping the mineral Well of Moffat and distributing the water, it being subjected to all manner of filthiness no ways fit to be mentioned here, therefore for preserving so valuable a Treasure to the Town of Moffat and for the encouragement of people who come to drink the waters, it is proposed ———'

'1, that the Well be built round with Stone and Lyme at least 2 foot high so as the upper part of the circle may be equal or Horizontal.'

1. William Keddle, *Moffat, its walks and wells*, (1854), 5.

2. Scottish Record Office. GD 18 5971.

- '2, that this piece of building which may be about 7 or 8 feet of diameter be covered over with Stone or with Timber planks closely fixed down to the Stone work by butts of iron.'
- '3, that in the middle of this cover be placed a woden pump Like what is used in Ships which must be so Long as to reach to the bottom of the well and rise above the cover of it 5 or 6 feet which it is supposed that a pump of 10 feet in length may doe. That this pump have a moveable handle to be taken off at the pleasure of the Well keeper and that the pump it self may be movable so as to be caried to any house near by in the wintertime, and in the summer to be kept fastned to the cover by an iron clasp and hanging Lock, and that the pump have a pipe on the side of it adapted so as that barells of water may conveniently be fill'd at it.'
- '4, that the Well-keeper have a little house built near the well, for without this precaution all improvements on the Well will be to no purpose, being in hazard to be broken and destroyed in the night time by such as now make use of the Well at their pleasure.'

'If the people of Moffat understand their interest so little as that they will not be at the small charge of building round the Well, then let them cover it as it now is, only they must fix down this cover and place a pump on it as above and the methods above proposed are only to have charges, but if these be overlookt then the improvement of the well may be by one of these two ways.'

- '1. Let the water be brought to Moffat in an inch pipe of lead which being supposed at 1200 yards distance will cost about 200 lb ster and perhaps the fountain Head and a fountain at Moffat will cost 100 lb str more, but this expence may be easily reimbursed to the Family of the marquise of Annandale by imposing a small duty on the water.'
- '2, if this be too great a charge, or even till this or something better be done, let the Well be built about square and Arched over, and at the side of this piece of building let there be fixed a Swing pump which every plumer understands to doe. Likeways at another Side of this building let there be a little strong door fixed for cleaning the well on occasions, and all this may Cost at most 30 or 40 lb ster.'

Here Sir John drew a small sketch (fig. 2) which 'may be the figure of the well so improven.' "A" is the stone building in section showing two outside walls, a roof, and "B", the swing pump in the centre of the floor space. "C" is 'a pipe upon another side of the building for filling the water barrels and on this side may likewise be the little door, but as I said before nothing can be kept in order about the well till the Well keeper's house be built near it.'

'As to the Well it self it ought to be diged deeper and farther off the precipice so as to contain 2 or 3 Tun of Water or at least all that runs in the night time. In this operation there is no need to fear the loss of the water, for the farther removed from the precipice it is, the more there will be of water, and between this precipice and the stone building there may be an open Well left to poor people to use as they have a mind.'

Note. This 'proposal', in Sir John's handwriting, was a rough draft, to be copied by his secretary and sent to Moffat.

PROCEEDINGS 1972-73

1972

6th October.—Annual General Meeting. Mr J. D. S. Martin: "Plants on Limestone" (with slides).

20th October.—Mr G. Stell: "Historical Buildings in South-West Scotland".

3rd November.—Miss Helen Nisbet: "Summer Travels in East Greenland".

17th November.—Mr A. Burl: "Recumbent Stone Circles in South-West Scotland".

1st December.—Wing-Commander W. B. Russell: "The Cameroons" (with slides).

15th December.—Mr Colin Campbell: "Wildfowl of Scotland" (with slides).

1973

12th January.—Mr Richard Gowing: "The Temples and Shrines of Japan" (with slides).

26th January.—Dr. Isabel Henderson: "Pictish and Irish Crosses of the 8th and 9th Centuries" (with slides).

9th February.—Dr. David Breeze: "Excavation at the Roman Fortlet at Barburgh Mill.

23rd February.—Mr A. E. Truckell and Mr Gordon Robertson: "Recent Travels in Israel" (with slides).

9th March.—Mr Lionel Masters: "Minoan Crete" (with slides).

REVIEWS

**The Old Place of Sorbie, Gatehouse-of-Fleet and Ferrytown of Cree —
Innes Macleod, M.A. — 12½p**

Mr Macleod, the talented and energetic Extra-Mural Organiser for Galloway, is a first-rate researcher and these attractively written little booklets incorporating the latest research, are a model of what local history should be.

Our area badly lacks modern works of this kind. Let us hope that these are the first of a series.

**Industrial Archaeology of Galloway — Ian Donnachie —
David and Charles — £3.50**

Industrial archaeology is a subject attracting rapidly increasing attention nowadays. Our Society has had several speakers in the last few years; and here, nicely produced, with clear text and good photographs, is a first-rate survey of the area from the Irish Sea to the Nith. The chapter headings give the picture — the Regional Economy of Galloway 1700-1900; Agricultural Processing and Rural Crafts; Textiles (including paper manufacture); Mining and Quarrying; Transport and Trade. Section 2 of the book is an Inventory of sites under headings such as "Mills and Farm Processing", "Breweries and Distillery", "Tanneries", etc., with a good description of sites. Some of the larger sections, such as mills, perhaps require rather a search for the type of mill one is after; and perhaps Cluden Mill is too far out of Galloway to be included!

All in all, however, a real tour de force on the part of a young researcher who is now one of the leading spirits in the industrial archaeology field, and one which puts our area in the forefront of the comparatively few districts so far honoured with such a survey.

**"Joseph Thomson and the Exploration of Africa" — Robert I. Rotberg — 1971 —
Chatto & Winders — £3.15**

Biographies of Dumfries and Galloway people are not so common nowadays, and Professor Rotberg, a specialist on African history, has produced a most readable work on that much neglected character Joseph Thomson of Penpont and Thornhill. Thomson's background, childhood and youth is very fully dealt with, and this cocky, ebullient little man emerges as a very attractive personality, just too late for major exploration, never quite finishing anything he started and cut down prematurely by illness contracted in his journeys. Professor Rotberg, with American thoroughness, has succeeded in building up a very full picture despite extreme difficulty in finding material relating to his subject — he told the writer that he was appalled to find so little surviving; but his wide background knowledge of 19th century Africa has enabled him to seek out the information by indirect routes where the direct ones failed.

Note — The foregoing reviews are all by A. E. Truckell.

Membership List as at August, 1974

Fellows of the Society under Rule 10 are indicated thus *

Members are requested to notify the Hon. Secretary of any errors

LIFE MEMBERS

Birley, Eric, M.B.E., M.A., F.S.A., F.S.A.Scot., Sele Cottage, Hexham	1935
Blackwell, Philip, Lt.-Commander, R.N. (Ret.), Ramshill, Upper Easebourne, Midhurst, Sussex	1946
Breay, Rev. J., The Vicarage, Shepreth, Cam- bridge	1950
Buccleuch and Queensberry, His Grace the Duke of, K.T., P.C., G.C.V.O., Drumlanrig Castle, Thornhill	19
Burnand, Miss K. E. F.Z.S.Scot., Calderbank, Laurieknowe, Dumfries (Ordinary member 1941)	1943
Cunningham, David M.A., Lamorna, Georgetown Road, Dumfries (President 1953-56)	1945
Cunningham-Jardine, Mrs. Jardine Hall, Locker- bie (Ordinary member 1926)	1943
Floyd, James D., Department of Geology, Univer- sity of St Andrews	1970
Geddes, Nathan, Broombrae, Buittle, Castle- Douglas	1955
Gladstone, John, Capenoch, Penpont, Dum- fries	1935
Johnston, James J., P.O. Box 65, Marshall 72650, Arkansas, U.S.A.	1972
Kennedy, Alexander, Ardvoulin, South Park Road, Ayr (Ordinary member 1934)	1943
Kennedy, Thomas H., Blackwood, Auldgrith, Dumfries	1946
Lockhart, John L., Suite 316, 1135 18th Avenue, S.W. Calgary, Alberta, Canada	1948
McCulloch, Walter, Ardwall, Gatehouse of Fleet	1946
Paterson, E. A., Lavender Bank, Curlew Green, Saxmundham, Suffolk	1945
Perkins, Dr E. J., Biology Annex, University of Strathclyde	1964
Phinn, Mrs E. M., Imrie Bell, Castle-Douglas (Ordinary member 1938)	1943
Porteous, Miss M., Glencairn, Broom's Road, Dumfries (Ordinary member 1953)	1954
Rainsford-Hannay, Dr D., 26 Colquhoun Drive, Bearsden, Glasgow	1969
Runciman, The Hon. Sir Steven, Elshieshields, Lockerbie	1967
Rynne, Etienne, University College, Galway, Eire	1964
Shaw, R. Cunliffe, M.S.C., F.R.C.S., F.S.A., F.S.A.Scot., Orry's Mount, Kirkbride, Isle of Man	1964
Skinner, James S., M.A., The Corner House, Closeburn	1950
Sprague, Commander H. E., Pincod, Eaglesfield (Ordinary member 1931)	1947
Thomas, C. H., O.B.E., Southwick House, South- wick, by Dumfries	1950
Thomas, Mrs C. H., Southwick House, South- wick, by Dumfries	1950

ORDINARY MEMBERS

Adam, Mrs W. A. Gardinia, Crockettford Road, Dumfries	1963
Adamson, David D., Logan Brae, Albert Road, Dumfries	1958
Adamson, Mrs David D.	1958
Adamson, Duncan, 39 Roberts Crescent, Dum- fries	1972
Agnew, F. D., Ellenbank, Kirkcudbright	1969
Aitkenhead, John M., Kilquhanity House, Castle- Douglas	1969
Alexander, Robert S. L., 30 Port Street, An- nan	1972
Anderson, A. D., Invermerran, Stirling Acres Road, Kirkcudbright	1962
Anderson, Mrs A. D.	1972
Anderson, Mrs E., 3 River Park, The Howes, Annan	1960
Anderson, Mrs Elsie, Gardinia, Crockettford Road, Dumfries	1970
Anderson, Gordon, Birchview, Roucan Road, Collin	1970
Anderson, Miss Mosa, St Leonards Park, Horsham, Sussex	1953
Angus, The Rev. J. A. K., 30 Albert Road, Gourock	1956
Angus, Mrs J. A. K., 30 Albert Road, Gourock	1956
Ansell, M. L., Rannoch, Glenlee, New Galloway	1965
Aperghis, Mrs Irene, Ivy Cottage, Beauworthy, Devonshire	1966
Appleby, Mrs Susan, 8 Noblehill Drive, Dum- fries	1969
Archibald, A., Eriskay, St Annes Road, Dum- fries	1970
Archibald, Mrs A., St Annes Road, Dum- fries	1970
Armstrong, Mrs Eleanor, Briery Hill, Ewes, Lang- holm	1946
Armstrong, William, Thirmerie, Edinburgh Road, Dumfries	1946
Badrock, Capt. S. H., The Barracks, Carsethorn, Kirkbean	1972
Bailey, Roger, 6 Windsor Place, Dumfries	1971
Douglas	1968
Banks, James, B.Sc., Scarknowe, St Annes Road, Dumfries (President 1971-74)	1960
Barnes, F. C., 55 Jesmond Park West, Newcastle- upon-Tyne	1971
Beard, Timothy F., 38 Barrow Street, New York, N.Y. 10014	1970
Frain-Bell, Dr Lockhart, Highfield, Netherwood, Glencaple Road, Dumfries	1967
Frain-Bell, Mrs L., Highfield, Netherwood, Glencaple Road, Dumfries	1971
Bell, Mrs Anne, 12 Castle-Douglas Road, Dum- fries	1967
Bell, M. J., Box 2425, G.O.O., Sydney, 2001, N.S.W.	1970
Biggar, Miss Ethel I., Corbieleton, Castle- Douglas	1947
Black, Miss Amy G., c/o Bank of Scotland, P.O. Box 5, The Mound, Edinburgh	1947
Blackett, Major C. W. S., Arbigland, Kirkbean, Kirkcudbright	1960
Blair, J. B., 2 Ker Place, Northgate, Peebles	1973
Blake, H. Brian, 34 Harboro Road, Sale, Cheshire	1953
Bogie, Mrs L. L., 40 Cardoness Street, Dum- fries	1973
Bone, Miss Elizabeth, 5 Lochside Road, Castle- Douglas	1957
Bown, Cyril J., Melbury, Georgetown Crescent, Dumfries	1967
Bown, Mrs C. J., Melbury, Georgetown Crescent, Dumfries	1967
Boyes, Miss Elizabeth G., Nelvil, 45 Greenlea Crescent, Collin	1969
Brewis, Mrs R. D. D. M., Ardwell, Stranraer	19
Brown, Terence A., Waverly, Hill Street, Dum- fries	1971
Brown, Mrs T. A., Waverly, Hill Street, Dum- fries	1971
Brown, A. J. M., Robertson, Borgue	1972
Brown, William L., Taynord, St Georges, Castle- Douglas	1970
Brown, Mrs W. L., Taynord, St Georges, Castle- Douglas	1968

LIST OF MEMBERS

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- Bryden, Thomas, Hollywood Schoolhouse, New-
bridge, Dumfries 1968
Bryson, Mrs Marjory, Kirkbrae, New Gallo-
way 1966
Buchanan, Jack, c/o Walker, 14 Alderman Place,
Glasgow 1957
Buchanan Jardine, Lady, Castlemilk, Lockerbie
..... 1965
Burwell, A. J., Nithhill, 3 Lovers' Walk, Dum-
fries 1971
Burwell, Mrs A. J., Nithhill, 3 Lovers' Walk,
Dumfries 1964
Campbell, Eoin, St Nicolas, Ballplay Road,
Moffat 1960
Campbell, Mrs E., St Nicolas, Ballplay Road,
Moffat 1960
Carlyle, Miss E. M. L., Templehill Waterbeck,
Lockerbie 1946
Carroll, Miss Kathleen M., A.R.I.B.A., Meadow-
side, 14 Summergate Road, Annan 1961
Carruthers, Miss Denise Joy, Mossie, Troqueer,
by Dumfries 1967
Carruthers, John D., 26 Glencaple Avenue, Dum-
fries 1968
Carruthers, Mrs J. D., 26 Glencaple Avenue,
Dumfries 1968
Carver, Capt. M. O. H., 17 Allergate, Durham
City 1971
Cessford, G. A., 10 Almond Court East, Brae-
head Park, Edinburgh 1956
Cheshire, Bernard Anthony, B.Sc., Whitelea, 17
Loch Road, Dumfries 1966
Chinnock, J. E., 63 Albert Road, Dumfries 1968
Clark, John D., 26 Catherinefield Crescent,
Heathhall, Dumfries 1971
Clavering, Miss Molly, Clover Cottage, Moffat
..... 1949
Clayson, Dr Christopher, Cockiesknowe, Loch-
maben 1965
Cluckie, James, Merlin, Carsethorn, by Dum-
fries 1955
Cochrane, David, 13 Bloomfield Road, Dum-
fries 1965
Cochrane, Miss M. S., 119 Lockerbie Road,
Dumfries 1944
Coles, Dr J. M., Faculty of Archaeology and
Anthropology, Cambridge 1964
Collin, T. R., Kirkcudbright Museum 1973
Beresford-Cooke, Miss K. M., Castle Cottage,
Glencaple Road, Dumfries 1962
Condry, Mrs J. M., 38 Main Street, Cross-
michael 1973
Corcoran, Dr J. X. W. P., Department of
Archaeology, University of Glasgow 1964
Cormack, William, LL.B., W.S., F.S.A.Scot.,
Starny, Dryfe Road, Lockerbie 1951
Corrie, Miss Margaret A., Gargowan, Mile-House
Crescent, Dumfries 1971
Corsan, John C., M.C., F.R.S.A., 110 Collage
Road, Dulwich, London, S.E. 21 1961
Coulter, Major J. A., Corncockle Cottage, Temp-
land, Lockerbie 1970
Coulter, Mrs J. A., Corncockle Cottage, Temp-
land, Lockerbie 1970
Coulthard, William, Wellholme, Scotby, by
Carlisle 1959
Cowan, Dr Ian B., Ph.D., 119 Balshagray Avenue,
Glasgow, W.I. 1962
Cowan, Mrs H., Chapelhill, Caerlaverock 1958
Craven, Miss H., 7 Queen Street, Lochmaben 1967
Crawford, Colonel Mervyn, D.S.O., Dalgonar,
Dunscore, Dumfries 1963
Crawford, Mrs Mervyn, Dalgonar, Dunscore,
Dumfries 1963
Croall, M. L., Upper Balmaine, 15 Dalbeattie
Road, Dumfries 1964
Cunningham, Mrs David, Lamorna, Georgetown
Road, Dumfries 1948
Currah, Dr John, Crichton Royal Hall, Dum-
fries 1971
Currie, A. W., 3 Annan Road, Gretna 1972
Dalziel, F. H., Girthon Kirk Cottage, Gatehouse-
of-Fleet 1972
Dalziel, Mrs F. H., Girthon Kirk Cottage,
Gatehouse-of-Fleet 1972
Daniels, Charles, M.A., F.S.A., Museum of Anti-
quities, The Quadrangle, The University,
Newcastle-upon-Tyne 1961
Darke, Mrs Helen, 12 Lakeview, Powfoot,
Annan 1966
Davidson, Dr James, F.R.C.P., F.S.A.Scot.,
Linton Muir, West Linton, Peeblesshire 1938
Desbruslais, Mrs Mary, Riding Hill, 62 North
Street, Annan 1965
Dickie, J. Wallace, 17 Palmerston Drive, Dum-
fries 1954
Dickie, The Rev. J. W. T., 6 Hannay Street,
Gatehouse-of-Fleet 1951
Dinwiddie, Noel, M.A., B.Com., 27 Newall
Terrace, Dumfries 1937
Downey, Mrs George, Eskdale Farm, Tiverton,
Ontario, Canada 1972
Dobie, K., 2 Corbelly Hill, Dumfries 1973
Dobie, Mrs K., 2 Corbelly Hill, Dumfries 1973
Donaldson, D., Westhill Bungalow, Lochfoot
Road, by Dumfries 1968
Donald, Miss Morag, Shrubbery Cottage, Dal-
skairth, by Dumfries 1971
Drew, Dr R. L., B.Sc., Ph.D., 28 Brackenforde,
Slough 1959
Dumville, David N., Dept. of Celtic, University
of Edinburgh 1969
Dunbar-Liddedale, John F., 21 Withyhol Park,
Charlton Kings, Cheltenham, Glos 1966
Duncan, Sir Arthur B., B.A., Gilchristland,
Closeburn, Dumfries (President, 1944-46) 1930
Duncan, Walter, Quarrelwood, Duncow, Dum-
fries 1926
Dundas, Miss Ruth, Kinnaniel, Kirriemuir,
Angus 1966
Dunlop, Mrs A. J., C.B.E., D.Litt., 73 London
Road, Kilmarnock 1952
Edgar, Miss E. T., Laigh Glenling, Port William,
Wigtownshire 1970
Fairbairn, Miss M. L., The Limes, Nelson Street,
Dumfries 1952
Farries, T. C., Craigshields, Newall Terrace,
Dumfries 1948
Farries, Mrs T. C., Craigshields, Newall Terrace,
Dumfries 1969
Fazakerley, G., Coniston, Carsethorn, Kirk-
bean 1970
Ferguson, Miss Elizabeth, 14 Gordon Street,
Dumfries 1968
Ferguson, Ronald, Woodlea House, High Bonny-
bridge, Stirlingshire 1953
Fleming, A., Woodford, Nunholm Road, Dum-
fries 1970
Fleming, Mrs A., Woodford, Nunholm Road,
Dumfries 1970
Fleming, Mrs Mary, Bonshaw, 7 Charnwood
Road, Dumfries 1968
Forman, The Rev. Adam, Dumcrieff, Moffat 1929
Forrest, Mrs M. S., Ashmount, 31 Dalbeattie
Road, Dumfries 1953
Fraser, Mrs Annie, Hannah Lodge, Cummer-
trees 1971
Fraser, Dr I. A. M., Windrush, 42 Rotchell Park,
Dumfries 1963
Fraser, Mrs I. A. M., Windrush, 42 Rotchell
Park, Dumfries 1962
Fraser, Brigadier S. G. G., M.C., 210 Main Road,
Broomfield, Essex 1947
Fullen, Miss Anne E., Carlyle Cottage, Hightae,
Lockerbie 1961
Gair, John H. D., Linden Lea, 23 Rotchell Park,
Dumfries 1945
Gair, Mrs C. M., Dorland, 42 Pleasance Avenue,
Dumfries 1960
Gallon, J. A., 59 New Abbey Road, Dum-
fries 1971
Galloway, The Countess of, Cumloden, Newton-
Stewart 1955
Gemmell, Adam, 106 Loreburn Street, Dum-
fries 1966
Gemmell, Mrs Adam, 106 Loreburn Street, Dum-
fries 1967
Gerdes, Miss Bridget, 27 Ardwall Road, Dum-
fries 1967

- Gibbs, Allan D., Auchlewan, Landheads, Annan 1968
 Gibson, Miss Jean C., Craig-Rotchell, Dalry 1973
 Gibson, Dr John Alan, M.B., Ch.B., Foremount House, Kilbarchan, Renfrewshire 1968
 Roushdy-Gemie, Mrs Mary, 4 Ladyfield Cottages, Glencaple Road, Dumfries 1970
 Gilchrist, George, F.S.A.Scot., 6 Station Road, Annan 1964
 Gillam, J. P., M.A., F.S.A., Lloyds Bank House, Middle Street, Corbridge, Northumberland 1953
 Glendinning, Mrs Mary, 26 Brooke Street, Dumfries 1957
 Gordon, James Hilston, Ellangowan Hotel, Cree-town 1969
 Gowing, R., 33 Annerley Road, Annan 1971
 Gowing, Mrs R., 33 Annerley Road, Annan 1971
 Graham, Mrs Fergus, Mossknowe, Kirkpatrick-Fleming, Lockerbie 1947
 Grant, G. D., Kelvin, 7 St Anne's Road, Dumfries 1962
 Grant, Mrs G. D., 7 St Anne's Road, Dumfries 1962
 Gray, Dudley Harris, Glen Holm, Templand Road, Lockerbie 1970
 Greeves, Lt.-Col. J. R. H., B.Sc., A.M.I.E.E., Altona, Strandtown, Belfast 1947
 Haggas, Miss, Terraughtie, Dumfries 1944
 Haggas, Miss E. M., Terraughtie, Dumfries 1944
 Halbert, William, 11 Howard Street, Kilmar-nock 1965
 *Harper, Dr J., M.B.E. (President 1956-59), Waterside House, Keir, Thornhill, Dumfries-shire 1947
 Harris, Mrs A. F., Cleveleys, 30 St Anne's Road, Dumfries 1969
 Harris, Bernard F. D., Benmore, Pleasance Ave., Dumfries 1955
 Hatrany, Mrs D. M., 22 St Anne's Road, Dumfries 1971
 Hawley, H. N., Tumby Lawn, Boston, Lincoln-shire 1962
 Hawthorn, E. W., 33 Moffat Road, Dumfries 1971
 Hawthorn, Mrs E. W., 33 Moffat Road, Dumfries 1971
 Henderson, Mrs Doreen, Braeside, 54 Moffat Road, Dumfries 1964
 Henderson, I. G., Beechwood, Lockerbie 1951
 Henderson, Miss J. M., M.A., Ardgowan, 5 Lockerbie Road, Dumfries 1945
 Higgs, G. R., B.Sc., F.I.E.E., The Cleuch, Kirk-cudbright 1967
 Higgs, Mrs G. R., The Cleuch, Kirkcudbright 1967
 Hill, D. M., 23 The Rand, Easttriggs 1970
 Hogg, Mrs, Ercildoune, Robb Place, Castle-Douglas 1972
 Hunter, Miss D. M., 74 Trinity Road, Edin-burgh 5 1967
 Hunter-Blair, Edward T., Parton House, Castle-Douglas 1965
 Huntly, Mrs Margaret H., 10 The Grove, Edin-burgh Road, Dumfries 1966
 Irving, Edward J. B., A.I.E.E., Balgownie, Bellevue Road, Kirkintilloch 1959
 Irving, Miss J. P., 14 Rotchell Park, Dumfries 1962
 Irving, J. Wyllie, Kirkbrae, Lochrutton, Dumfries 1957
 Jameson, Mrs A. M., Ardmor, Gatehouse-of-Fleet 1946
 Jardine, Dr W. Graham (Geology Department, University of Glasgow), 22 Bute Crescent, Bearsden 1966
 Jobey, G., D.S.O., M.A., F.S.A., F.S.A.Scot., 44 Parkside Crescent, Tynemouth 1965
 Johnston, Alexander, 43 Moffat Road, Dumfries 1968
 Johnston, Major F. J., 61 Chester Square, London, S.W.1. 1957
 Johnston, Lt.-Col., Patrick, Bury Hall, Therfield, Royston, Herts. 1956
 Johnston, William, Trevia, Croftmaggot Road, Dumfries 1970
 Johnstone, Miss Elizabeth R., Cluden Bank, Moffat
 Kerr, Charles M., 1 Raveiston House Loan, Edinburgh 1961
 Kerr, William B., 8 Hillview Avenue, Dumfries 1971
 Kingan, James, Laneside Farm, Troqueer, by Dumfries 1971
 Kingan, Mrs J., Laneside Farm, Troqueer, by Dumfries 1971
 Kirkpatrick, H. S., F.S.A.Scot., c/o Dr D. Cohen, 17 Springpool, University of Keele, Staffs. 1964
 Knott, Miss Hilda, M.A., The Lymes, Nelson Street, Dumfries 1964
 Koller, Mrs C., 2631 Woolsey Street, Berkeley, California 1969
 Lambie, Ian, 10 Endor Grove, Burley-in-Wharfedale, Yorks. 1965
 Lambie, Mrs Ian, 10 Endor Grove, Burley-in-Wharfedale, Yorks. 1965
 Laurence, David W., St Albans, 43 New Abbey Road, Dumfries 1939
 Little, Robert J., East Hayrigg, Lockerbie 1961
 Loxam, Miss June, Sidney House, Greenbrae Loaning, Dumfries 1971
 McAdam, Dr William, M.D., M.R.C.P., D.P.M., Flat 1, 434 Upper N/Airde, Belfast 4 1952
 McAdam, Mrs Helen, Flat 1, 434 Upper N/Airde, Belfast 4 1952
 McCall, Peter, Crawford Villa, Johnstone Park, Dumfries 1970
 McClellan, O. Sleight, 2122 Holly Oaks River Drive, Jacksonville, Florida 1969
 McCracken, Alexander, B.Sc., F.S.A.Scot., 3 Alexandra Place, Annan 1961
 McCulloch, A. J., W.S., Gaigil, Twynholm, Kirkcudbright 1963
 Macdonald, James R., Inversnaid, 9 Cardoness Street, Dumfries 1968
 Macdonald, Neville H., Hazelwood, Laurieknowe, Dumfries 1952
 Macdonald, Mrs N. H., Hazelwood, Laurieknowe, Dumfries 1952
 McDouall, J. C., The Old School House, Souldern, Bicester, Oxfordshire 1971
 McEwen, Robert H., B.Sc., Seaforth, Douglas Terrace, Lockerbie 1969
 McEwen, Mrs R. H., Seaforth, Douglas Terrace, Lockerbie 1969
 McFadden, John A. C., 20 Moffat Road, Dumfries 1969
 McFadden, Mrs John A. C., 20 Moffat Road, Dumfries 1969
 Macfie, Miss K., Knockinharrie, Islesteps, Dumfries 1969
 McGarrigle, B. E., 16 Great George Street, Glasgow 1972
 McGhie, Miss Mary C., Fairleigh, Dunmuir Road, Castle-Douglas 1957
 McGuffog, Mrs A. D., Braecroft, Charnwood Road, Dumfries 1972
 McJannet, W. I., 4 Albany Place, Dumfries 1969
 McJannet, Mrs W. I., 4 Albany Place, Dumfries 1969
 McKerrow, H. G., Whiterne, 61 Albert Road, Dumfries 1953
 McLaren, Alastair, Royal Commission on Ancient and Historical Monuments of Scotland, 52-54 Melville Street, Edinburgh 1965
 McLaren, W. G., Forita, Sherwood Crescent, Lockerbie 1964
 McLauchlan, Ian, 38 Waverley Road, Dumfries 1970
 *McLean, Mrs M. D., St Helens, Albert Road, Dumfries (President 1959-62) 1946
 McLellan, James, Orchard Knowes, Kippford 1971
 McLennan, Miss Mary A. C., 11 Great King Street, Dumfries 1968
 MacLeod, Innes F., M.A., 91 St Mary Street, Kirkcudbright 1963
 Macmillan, Mrs Mary B., Overton, Southwick Road, Dumfries 1963
 MacMillan-Fox, Mrs M. M. G., Glencrosh, Mon-aive 1950
 MacMillan-Fox, Miss J. M. G., Glencrosh, Mon-aive 1950

- McNaught, James, M.A., Kilneiss, Moniaive 1965
 McNaught, Mrs James, Kilneiss, Moniaive 1969
 McQueen, John, M.A., 9 Learmonth Gardens, Edinburgh 1952
 Macrae, K., c/o 29 Drive Road, Linthouse, Glasgow 1970
 McRobert, Mrs F., Whistlebare, Closeburn 1948
 Mackie, Miss Margaret, Tientsin, 42 Hardthorn Crescent, Dumfries 1971
 *Martin, J. D. Stuart, B.Sc., Old Bank House, Bruce Street, Lochmaben (President 1965-68) 1946
 Martin, Mrs J. D. Stuart, Old Bank House, Bruce Street, Lochmaben 1946
 Masters, L. J., B.A., F.S.A.Scot., F.R.S.A.I., 8 Lovers' Walk, Dumfries 1966
 Matheson, Miss Christine E., B.Sc., 38 Rae Street, Dumfries 1967
 Maton, Miss J. M., C.B.E., M.A., The Old Tannery, Gatehouse-of-Fleet 1970
 Maxwell, Mrs Bernard, Steadstone House, Dalbeattie 1963
 Maxwell, Mrs Sheena M., 15 Gordon Road, Edinburgh 1954
 Maxwell, Stuart, M.A., F.S.A.Scot. (National Museum of Antiquities of Scotland), 23 Dick Place, Edinburgh 1966
 Maxwell-Irving, Alastair, B.Sc., F.S.A.Scot., 59 Allanvale Road, Bridge of Allan 1957
 Meldrum, Martin, Sandon, 19 Moffat Road, Dumfries 1965
 Meyler, Miss Ruth M., Wells Cottage, Moniaive 1967
 Micklewright, F. H. A., M.A., F.R.H.S., F.S.A.Scot., Bishops' Foyle, 228 South Norwood Hill, London 1967
 Millar, James, M.A., B.Sc., Peacock Knowe, Closeburn 1949
 Miller, J. C., Crannog, Lochmaben 1963
 Miller, Lt. Com. Ronald H., V.R.D., R.N.R., Oakmere, South St., Garlieston, Wigtownshire 1963
 Milligan, Donald, 1204 S.W. 296th Federal Way, Washington 98002 U.S.A. 1969
 Mitchell, Mrs Elizabeth J., 79 Great King Street, Edinburgh 1953
 Moffat, Miss N. B., Bridgend Cottage, Annan Water, Moffat 1972
 Morris, F. G., 45 Potton Road, Everton, Sandy, Beds. 1970
 Morris, Mrs F. G., 45 Potton Road, Everton, Sandy, Beds. 1970
 Morrison, Alex., M.A., F.S.A.Scot., Department of Archaeology, University of Glasgow 1966
 Morton, Miss Jane D., 35 George Street, Dumfries 1947
 Muir, Miss A. N., 3 Janehead Drive, Dumfries 1965
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 Thomson, Richard, Lochpatrick Mill, Kirk-
 patrick-Durham 1969

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- Andersonian Naturalists' Society.
 Archaeological Society of Glasgow, 4 Clifton
 Street, Glasgow 3.
 Ayrshire Archaeological and Natural History
 Society, Carnegie Public Library, Ayr.
 Botanical Society of Edinburgh, Royal Botanic
 Gardens, Edinburgh 4.
 Carnegie Trust for the Universities of Scotland,
 Merchants' Hall, 22 Hanover Street, Edin-
 burgh 2.
 Edinburgh Geological Society, Grant Institute of
 Geology, King's Buildings, West Mains Road,
 Edinburgh 9.
 Glasgow Geological Society, c/o The Mitchell

- Library, North Street, Glasgow C3.
 Hawick Archaeological Society, Public Library,
 Hawick.
 National Library of Scotland, Edinburgh 1.
 Society of Antiquaries of Scotland, Queen Street,
 Edinburgh.

England

- Ashmolean Museum, Oxford.
 British Museum, Natural History Department,
 South Kensington, London.
 British Museum, Bloomsbury Square, London.
 Cambridge University Library, Cambridge
 Council for Nature Intelligence Unit, 41 Queen's
 Gate, London S.W.7.

Cumberland and Westmorland Antiquarian Society, Tullie House, Carlisle.
 Durham and Northumberland Architectural and Archaeological Society, Prebends Gate, Durham.
 Institute of Archaeology, London University, 31/34 Gordon Square, London W.C.1.
 Oxford University, The Bodleian Library, Oxford.
 Society of Antiquaries of London, Burlington House, London.
 Yorkshire Archaeological Society, 10 Park Place, Leeds.

Ireland

Belfast Field Naturalists' Club, The Museum College, Belfast.
 Belfast University Library, Queen's University, Belfast.
 Royal Irish Academy, 19 Dawson Street, Dublin 2.

Isle of Man

Isle of Man Natural History and Antiquarian Society, Manx Museum, Douglas, Isle of Man.

Wales

National Library of Wales, Aberystwyth.

Holland

Rijksdienst Voor Het Oudheidkundig Bodemonderzoek, Amersfoort, Kleine Haag, Nederland.

Sweden

Lund University, University Library, Gift and Exchange Division, P.O. Box 1010, S 221 03, Lund 1, Sweden.
 Stockholm O. Bibliotek K., Vitterhetsakademien, Storgården, 41, Sweden.
 Uppsala Universitets, Biblioteket, Uppsala, Sweden.
 U.S.A.

American Museum of Natural History, Central Park West, at 79th Street, New York 10024.
 United States Geological Survey, Room 1033, General Services Administration Building, Washington D.C. 25.

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 H.M. Ordnance Survey, Archaeology Division (Scotland), 43 Rose Street, Edinburgh 2.
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 Institute of Geological Sciences, 19 Grange Terrace, Edinburgh.
 The Royal Commission on Ancient and Historical Monuments of Scotland, 52/54 Melville Street, Edinburgh.
 Scottish Record Office, H.M. General Register House, Edinburgh.
 Royal Scottish Museum, Chambers Street, Edinburgh.
 St Andrews University Library, St Andrews.
 Society of Writers to H.M. Signet, The Signet Library, Edinburgh.
 Trinity College Library, Lyndoch Place, Glasgow C.3.
 Wigtownshire Education Committee, Education Offices, Stranraer.

England

Birmingham University Library, Birmingham.
 Cumberland County Library, 1 Portland Square, Carlisle.
 Exeter University, University Library, Prince of Wales Road, Exeter.
 Leicester University Library, University Road, Leicester.
 Liverpool University, University Library, Liverpool 3.
 Institute of Historical Research, University of London, Senate House, London W.C.1.
 London Library, 14 St James Square, London S.W.1.
 Nature Conservancy, 19 Belgrave Square, London S.W.1.
 Newcastle University Library, Queen Victoria Road, Newcastle upon Tyne.
 Passmore Edwards Museum, Romford Road, Stratford, London E.15.
 John Rylands University Library of Manchester, Oxford Road, Manchester.
 Science Reference Library, 10 Porchester Gardens, London W.2.

Sheffield University Library, Western Bank, Sheffield.
 Society of Antiquaries, Black Gate, Newcastle upon Tyne.
 University of Southampton, Southampton.
 National Lending Library for Science and Technology, Boston Spa, Yorkshire.

Ireland

Belfast Library and Society for Promoting Knowledge, 17 Donegal Square North, Belfast.
 University College of Galway.
 National Library of Ireland, Dublin 2.
 National Museum of Ireland, Kildare Street, Dublin 2.
 Department of Antiquities, Ulster Museum, Stranmillis, Belfast.

Wales

National Museum of Wales, Cardiff.
 South Wales University Library, Cathays Park, Cardiff.

Sweden

Kungl Vetenskapsakademiens Bibliotek, Stockholm 50.

Germany

Römisch-Germanische Kommission des Deutschen Archäologisch Instituts, 6 Frankfurt am Main, Palmengartenstrasse 10-12.
 Niedersächsische Staats Universitäts Bibliothek, Prinzenstrasse 1, Göttingen.

Canada

McGill University Libraries, Serials Department, 3459 McTavish Street, Montreal.
 University of Guelph, Ontario.
 University of Toronto Library, Toronto.

U.S.A.

California University Library, 405 Hilgard Avenue, Los Angeles, California.
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 National Agricultural Library, U.S. Department of Agriculture, Beltsville, Maryland.
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