Transactions

of the

Dumfriesshire and Galloway Natural History

and

Antiquarian Society

LIII 1977-8

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Dumfriesshire and Galloway Natural History

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Contents

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.

A copy of the Rules passed at the Special General Meeting on 4th May, 1977 appeared in Volume 52. A list of members is contained in this Volume. A note on the recent questionnaire on the Transactions appears overleaf.

Presentations and Exhibitions should be sent to the Hon. Secretary Mrs Eva Adamson, 39 Roberts Crescent, Dumfries, and exchanges to the Assistant Hon. Librarian, Tranzay Villa, Maxwell Street, Dumfries. Enquiries regarding purchase of Transactions should also be made to the Assistant Hon. Librarian. New members are invited to purchase back numbers — see rear cover — which, and also offprints of individual articles may be available from the Assistant Librarian. As many of the back numbers are out of stock, members can greatly assist the finances of the Society by arranging for any volumes which are not required, whether of their own or those of deceased members, to be handed in. It follows that volumes out of print may nevertheless be available from time to time. For Prof. Robertson's "Birrens", also see rear cover. Payment of subscriptions should be made to the Hon. Treasurer, Miss Morag Donald, 26 Mosspark Avenue, Dumfries (Tel. 64796) who will be pleased to arrange Bonds of Covenant, which can materially increase the income of the Society without, generally, any additional cost to the member. The attention of Members and friends is drawn to the important Capital Transfer Tax and Capital Gains Tax concessions which are conferred on individuals by the Finance Act 1972, in as much as bequests to or transfers of shares to the Society are exempt from these taxes.

Limited grants may be available for excavations or other research; applications should be made prior to 28th February in each year to the Secretary. Researchers are also reminded of the existence of the Mouswald Trust founded by our late President Dr. R. C. Reid. Applications for grants from the Trust, which are confined to work on the Early Iron Age, Roman, Romano-British and Early Christian periods should be made to Primrose and Gordon, Solicitors, Irish Street, Dumfries.

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, and the Council also expresses its thanks to the University of Newcastle upon Tyne and the Mouswald Trust for substantial grants towards the publication costs of Mr Jobey's important paper on Burnswark.

Note on Questionnaire

With regard to the recent questionnaire on the contents of the Transactions although about 465 copies were issued replies were received from 32 members i.e. some 7% only. Of these 32, only one was critical of the present policy, which accordingly has been endorsed by the Council. A copy of the Editor's summary report can be obtained on application to him but in brief the Council's policy for the Transactions is as follows :—

An endeavour is made to strike a reasonable balance between the natural sciences on the one hand and archaeological and antiquarian subjects on the other, although there has been difficulty in the recent past in obtaining suitable articles dealing with the natural sciences. Nearly every volume contains one or two articles consisting mainly of lists often of a specialised nature. While these are often far from being light reading it is felt that they are the very substance of future research and that it has been with material of this kind that the Transactions have attained their present reputation.

On the other hand, members have the right to something readable, so an endeavour is therefore made to include some articles of the antiquarian or bygones nature in every volume. Addenda Antiquaria also is considered popular since it generally combines readable material with diversity and valuable record. Owing to the high cost of printing, interim reports are eschewed except in certain limited cases for example, when an excavation is expected to extend over several years but an early significant result requires to be publicised. Among the most popular of our volumes have been the thematic ones such as those on Whithorn, Hoddam or Maponus and endeavours are being made by the editorial committee to repeat this type of volume.

The Council will always be very pleased to receive suggestions from time to time for the improvement or variation of the Transactions.

Questionnaire issued with volume 52 of Transactions

See report in Editorial

QUESTIONNAIRE ON TRANSACTIONS

The Council would like to know how members feel about the **Transactions.** You are invited to fill in the accompanying questionnaire, and return it to **Mr J. Williams, Tranzay Villa, Maxwell Street, Dumfries.** This information will be very valuable in helping them to determine future policy. Thank you for your co-operation.

1. Listed below are the contents of this and the previous two volumes. Tick those articles which you consider to be of particular value. Delete those articles which you consider are of little or no interest to yourself. If you can give reasons briefly, please do so after 3 below.

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2. Which areas of study are of interest to you personally? (For example—place names, customs, family history, local industries, agriculture, archive material, the church, military history, local government, trade and commerce, local biography, mineralogy, geology, flora, fauna, prehistory, the Middle Ages, early modern history post-1800).

3. Have you any comments to make, either on individual articles, or on the contents as a whole? (For example is there a reasonable balance between different types of article? Do you prefer articles to be long or short? Does it seem important that articles should be original? Are some articles aimed at too restricted a readership?)

RADIOACTIVE WASTES

The Loch Doon Pluton as a Burial Site.

by A. D. Gibbs,
Bedford College, University of London

Highly radioactive wastes are produced by existing commercial and military nuclear programmes. At present such materials are stored as liquids in sealed tanks at sites such as Windscale. Despite constant monitoring and maintenance leakages have occurred, both in this country and in the United States (Carter, 1977). The waste contains components with very long half-lives such as Iodine-129, 1.7 x 10^7 yrs., Neptunium-237, 2.14 x 10^6 yrs. and Plutonium-239, 2.4 x 10^4 yrs. (Weast, 1974). The short term storage of radioactive nuclides with such long half-lives is unrealistic and undesirable for several reasons including the probability that the political and technological climate for its continued safe handling cannot be guaranteed over a sufficiently long period. Some method of long term isolation of the radioactive waste must be found and the most promising solution is that of burial in a suitable geological formation (Schneider and Platt, 1974; Gray and others, 1976).

Gray and others (1976) have reviewed some of the relevant criteria for nuclear waste disposal in the United Kingdom taking a minimum of 10^4 years as the desired period of total isolation from the biosphere. This somewhat arbitrary figure must be a matter of debate and a figure of 3 x 10^7 years has been mentioned by the national press (Tucker, 1977). In the event of any leakage from the immediate storage site the radioactive nuclides should either be contained in the formation close to the site or be dispersed at a 'safe' concentration.

It is not the purpose of this paper to discuss the desirability or otherwise of a nuclear energy programme, nor to assess the sociological or ecological impact of waste disposal in geological formations. But rather is an attempt to review the geological criteria relevant to one suggested site, the Loch Doon pluton, and to assess the site's suitability in accordance with published design criteria.

The choice of a suitable storage site is governed by a number of criteria depending on the nature of the waste. (Schneider and Platt, 1974). The design criteria for the United Kingdom as delineated by Gray and others (1976) are summarised below.

1) The rock formation should be of suitable type and thickness to contain the waste at a minimum burial depth of 300 m.
2) The physical and chemical properties of the rock should be such as to minimise reaction with the containing vessel, and the possibility of hydraulic transport. Heat dissipation should be maximised and chemical exchange processes should be favourable to the containment of any leakage. In the event of over-heating the rock should be able to contain a melt of rock and radioactive waste in such a way that cooling can occur without contact with ground water. (The increase in vapour pressure after ground water came in contact with hot nuclear wastes is thought

to have caused the disaster some observers believe to have happened in the Urals in 1957 (Medvedev, 1976 and 1977).

3) Access of circulating fluids, principally water, should be limited and likely to remain so in the probable event of climatic change (e.g. glaciation, onset of pluvial or arid conditions) during the lifetime of the storage site.
4) The region should be aseismic and likely to remain so. It should lie outside regions of "recent" geological activity.
5) The site should not be within areas involved or likely to be involved in extensive economic activity such as major mining or civil engineering projects.
6) Possible physiographic changes, sea level changes, glacial erosion or deposition should not change the geological environment so as to affect any of the previously mentioned conditions.

While these criteria have been discussed in some detail in the scientific litera-

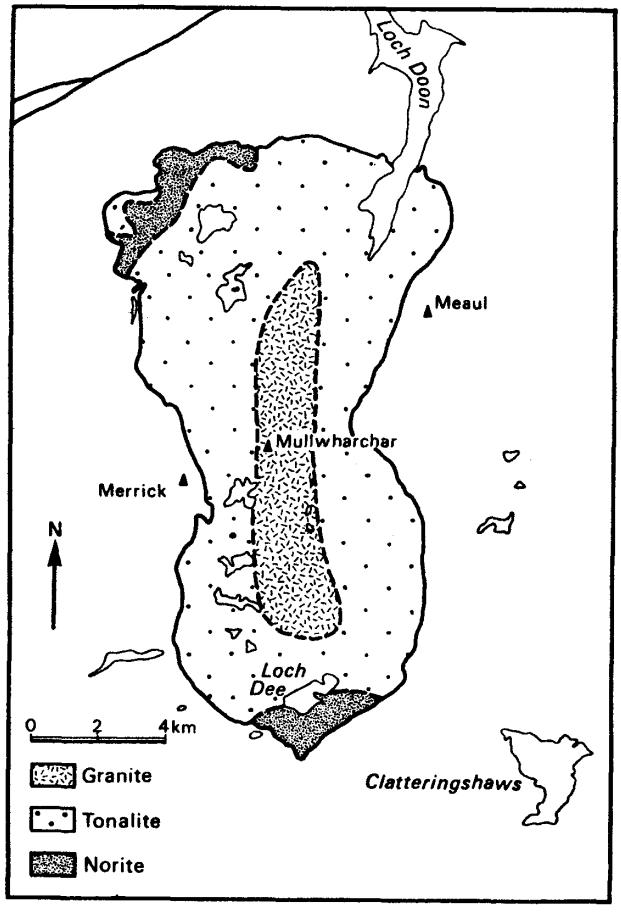

Fig. 1: Geological sketch map (after Gardiner and Reynolds, 1931).

ture (Gray and others, 1976, De Buchananne, 1974 and Schneider and Platt, 1974) no precise design conditions have been formulated. Limiting values for such properties as porosity, permeability, thermal conductivity, seismicity, intact and fractured rock strengths or acceptable values for differential stress and fluid pressures are not known. No country has yet had experience in designing and researching a civil engineering project of this magnitude or projected lifespan.

The Loch Doon pluton (Fig. 1) is a composite intrusion ranging in composition from norite in the northwest and south through tonalites to granite at the centre around the Mullwharchar and Craignaw (Gardiner & Reynolds, 1931 and McIntyre, 1947). Contacts between the tonalite and granite are gradational while in places the tonalite intrudes the norites. Locally thin sheets of microgranite, aplite and pegmatite post-date the earlier igneous rocks.

Texturally the granite is homogeneous although a weak foliation is developed in the tonalites close to the surrounding greywackes. The foliation formed by alignment of biotites and muscovite is subparallel to the contact and is probably associated with a late phase of emplacement in a semi-solid state. The Criffel granite (Phillips, 1956) has two similar foliations close to the margin which were developed during emplacement. Xenoliths of greywacke, some showing signs of assimilation are present near the contacts suggesting that the pluton was emplaced in part by stoping.

Four joint sets can be identified with a horizontal and vertical spacing of 2 m or less. Three steeply dipping sets strike north-south, west northwest-east southeast and east northeast-west southwest respectively and the fourth set is shallow dipping. The subhorizontal set is probably due to stress relief close to the surface during progressive unroofing and erosion of the pluton. It is likely that this set will not be developed below a limiting depth, but the lower limit will move downwards with further erosion. All of the three other sets are associated with master joint zones which may be identified both on the ground and as prominent photogeologican lineaments. Figure 2 shows the position and distribution of these joints as mapped from air-photographs. Poorly exposed areas with peat and soil cover show up as areas of low joint density. It can be seen that the mean spacing of the master joints is of the order of 500 m and that they form a reticulate network interconnecting with lineaments in the surrounding greywackes.

On some of the master joints thin (2 to 2 mm) deposits of haematite are present. The old mines within and close to the contact of the granite mass on the western flanks of Meaul were worked for low grade ore from a north-south trending breccia zone parallel to one set of the joints. This evidence indicates that we must regard the joints as geologically open systems at depth through which fluids have been free to migrate.

The rocks surrounding the intrusion consist of steeply dipping thin-bedded greywackes (Teall, 1899) with shale and chert horizons. The structure of these rocks is not known in detail although observations suggest that it is comparable with that in the coastal belt to the south (Walton, 1963 and Rust, 1965). Early folds of varying styles are found both within the layering and folding the layering.

These folds are identified as wet sediment deformation possibly due to slumping before diagenesis took place (work in progress). Chevron and isoclinal folding occurs with a strong axial planar slatey cleavage in the argillaceous sediments and a fanning fracture cleavage in the more arenaceous units. Steeply dipping thrust faults can be identified in places which produce similar tectonic patterns to those in the Moffat region (Fyfe and Weir, 1976).

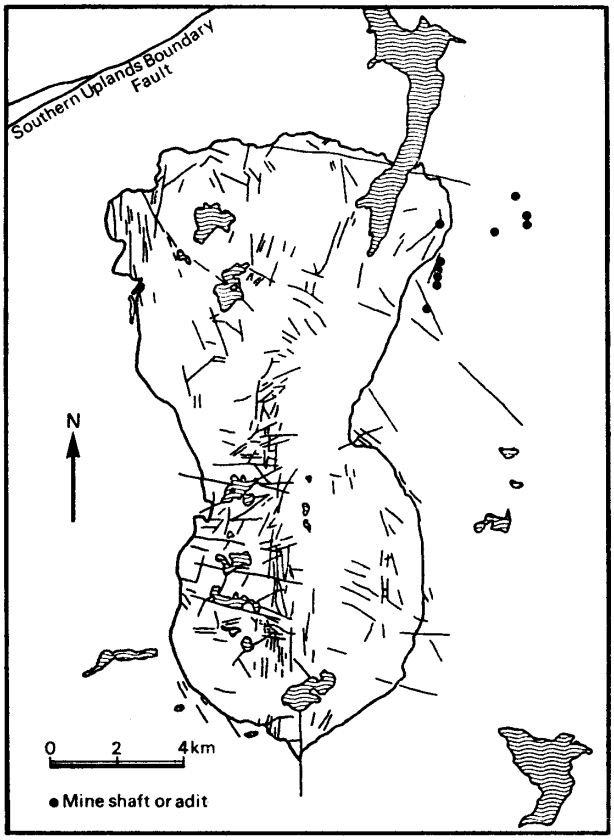

Fig. 2: Joint and fault map of the Loch Doon intrusion

Late open folds are present with a major strike swing in the greywackes close to the pluton which is probably associated with dilatational effects of the emplacement of the granite. Several late fault sets of varying ages are present. Mineralisation occurs in fault breccias as at Talnotry to the southwest and Garryhorn to the northeast. The structural history can be summarised:

Caledonian	D1	Slumping and wet sediment deformation.
	D2	Chevron and isoclinal folding.
	D3	Thrusting and reverse faulting.
	D4	Open folding.
Hercyian to Recent (?)	D5	Late faulting and mineralisation at several periods.

Heavy metal mineralisation occurs at several sites in the area (Wilson and Fleet, 1921) in breccias associated with the north-south fault systems and to a lesser extent on joint surfaces in the granite indicating a post intrusive age. Similar mineralisation around the Criffel intrusion has been dated 185±20 M.a. (Miller and Taylor, 1966). Russell (1969 and 1972) has pointed out that the heavy metal mineralisation of this age in Ireland lies on north-south "geofractures" possibly associated with extension and crustal thinning immediately prior to the formation of the Atlantic. The Loch Doon pluton lies within a few kilometres of the southerly extension of the Loch Lomond line (McLean and Qureshi, 1966) which Russell suggested might belong to the same set of deep crustal structures as the Irish "geofractures". It seems likely that some of the mineralisation in the Loch Doon area may be associated with similar structural controls. The "geofractures" provide ample geological evidence of hydrothermal circulation in relatively open systems and we have no way of knowing the extent to which such systems may be presently active at depth. The existence of a major structural control to mineralisation in Southern Scotland suggests that areas such as Loch Doon may become sites for future mineral exploration and possibly exploitation.

Recent physiographic changes in the Loch Doon area have been described by Jardine (1966). Of particular importance is the overdeepening by glaciation of several valley and lake floors below the present drainage profile. Further overdeepening and profound modification of the valley systems especially in the high ground around the Mullwharchar would likely result from further glaciation of the area.

Large bodies of standing water, two of which are partially or entirely manmade, at present drain to the north and south respectively. Despite the presence of the lakes run-off rates are high due to the glacial nature of the area.

The Loch Doon pluton is likely to fulfil all reasonable design criteria for formation size, intact rock strength and permeability. The possible effect of the differing mechanical properties and response to erosion of the outer tonalites can be reliably estimated and the geo-technical requirements for a long term storage site met in these respects. Likewise the site is essentially aseismic and can confidently be expected to remain so for a sufficiently long period.

Several other criteria, however, cannot be met, such as the long term isolation from circulating fluids along joints, the possibility of profound physiographic changes, and future economic use of the area.

The joint spacing is such that all but the smallest burial chamber would intersect one or more of the interconnecting master joints. While closed or partially closed joints may be impermeable over short periods (10^3 years) they provide open systems over geological time spans. Ground water movement along master joints and faults could be considerable especially during glaciation. Geological evidence exists for such active fluid migration since the emplacement of the pluton.

The porosity in most of the metasedimentary rocks surrounding the pluton is low. Furthermore the abundance of sheet silicates would favour the retention and neutralisation of radioactive nuclides in the event of leakage into the aureole

rocks. The structural history of the metasediments has, however, ensured that permeability along joint, fault and cleavage planes is likely to be high as evinced by known mineralisation. Leakage from the storage chamber into the country rocks could result in radioactive nuclides moving rapidly into circulating groundwater systems. Monitoring and control of any such leakage would be difficult. Current work on the geochemical anomalies in the area (I.G.S., 1976) will provide valuable data on present levels of heavy metals in the superficial deposits of the region.

The possibility that the area lies close to a major deep crustal structure (Russell, 1972) associated with extensive hydrothermal activity in the past is a further contra-indication both from the point of view of the site's integrity over geological timespans and from the possibility that the area may be of future economic importance in a world of wasting mineral resources.

All of the surface hydrological processes suggest that the site is unsuitable. Rapid runoff and drainage into populous areas from a watershed, as well as standing water at various levels are specifically listed as unsuitable for nuclear waste storage (Gray and others, 1976 and De Buchananne, 1974). In the event of leakage encountering surface water the high rates of fluid transport especially at certain times of the year would make containment difficult.

The nuclear disaster reported in the USSR (Medvedev, 1977) is thought to have occurred when ground water entered the hot storage chamber. The probability of such an event is increased in areas of standing water especially in glacial juvenile environments where hydrological instabilities may exist or subsequently exist.

The likelihood of profound climatic changes including local and regional glaciation must also be taken into account. The area around the Merrick and Mullwharchar is certain to be the local seat of any subsequent glaciation in the area. Glaciation would have unpredictable effects on geomorphology and subsequent physiography as well as surface and subsurface drainage during and after glaciation. Maintenance and servicing of a storage site would be difficult if not impossible throughout a glaciation.

In the author's view the known geology and hydro-geology of the Loch Doon pluton and the surrounding sediments makes the site unsuitable for the storage of nuclear waste. Glaciation in the area is likely in the geological future and its effects cannot be predicted. The hydro-geology of the area is unsuitable. The area may be the scene of future economic activity. These considerations outweigh suitability on the grounds of intact rock properties and formation size alone. It is not possible to guarantee the geological integrity of the site for periods in excess of 10^4 years necessary for the safe storage of nuclear waste.

I wish to acknowledge the helpful discussions I have had with my colleagues at Bedford College and Professor A. Smith for use of the department's facilities. I would also like to thank Mr N. Sinclair-Jones for drawing the diagrams and Mrs S. Bishop for typing the manuscript.

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CARRON LINNS AND DRUMLANRIG WOODS NATURE TRAILS

by J. Lyall and J. D. S. Martin

Buccleuch Estates' participation in providing access to the countryside has included the establishment of two nature walks, one at Carron Linns, three miles north of Thornhill on A702, the other in the Castle woods in the valley of the Marr Burn from the Druid Loch eastwards for about three-quarters of a mile. In both cases the Scottish Wildlife Trust acted in an advisory capacity and memmers of the Dumfries and Galloway Branch recorded the flora. In the case of Carron Linns the bird list was compiled by Mr James Maxwell of Hayfield, Thornhill, and at Drumlanrig by Mr George Keith. Descriptive leaflets were prepared in co-operation with Trust members.

The Carron Linns Nature Trail was opened to the public in 1975. It comprises a wide path on the west side of a steepsided valley. The underlying sandstone strata derive from wind-blown sand accumulated under desert conditions which obtained in the region some 250 million years ago. It was during this Permian Age of rock formation that reptiles became widely established on land and were the first vertebrate animals to sever their connection with water.

In former times the valley slopes have borne deciduous trees, oak, ash and hazel, with some Scots pine; many of these have been replaced with closely-planted conifers under which some shade-tolerant remnants of woodland flora still survive. The more open and less shaded places carry a rich variety of wild-flowers and the exposed rock faces form natural rock gardens. Unfortunately bracken is spreading apace and will take possession of the more open valley slopes unless controlled.

There are brown trout in the river and in the autumn salmon and sea-trout make their spawning beds in the gravel after their long journey from the sea.

Roe deer, hares, rabbits, foxes, voles, moles, mice, red squirrels and other mammals frequent the valley.

Over seventy spices of birds have been seen during the year, including many migrants.

The Nature Trail is on the right bank of the stream and entry is adjacent to the car park near the mid-point of the path. The track to the north (left) descends for some three hundred yards to the valley floor and the waterside; the southward path (right), about the same length, descends at first and then rises to the level of the public road but visitors are advised to return to the car park by the valley walk as the road has no footpath. It is hoped that these disadvantages may be overcome when road alterations in the vicinity are completed and entry to the Trail may be at the south end.

Some less common species of plants worthy of mention are:— Golden Saxifrage Chrysosplenium alternifolium and oppositifolium) on damp soil at the north end of the path.

Pink Purslane (Montia sibirica) widespread in Nithsdale on damp places and shingle beds.

The Monkey Flower (Mimulus guttatus) also widespread in Nithsdale on the banks of streams.

Butterbur (Petasites hybridus) on the river banks; in 1976 numerous male and female flowers appeared before the leaves.

Water Avens (Geum rivale) numerous in damp places.

Herb Bennet (Geum urbanum) here and there in the long grass; and a few of the hybrid (Geum intermedium) near the stream.

Slender St. John's Wort (Hypericum pulchrum) on the rock faces.

Golden Rod (Solidago virgaurea) on the upper slopes of the valley.

The greater part of the Nature Trail in Drumlanrig Castle woods has a substratum of rocks formed during the Silurian period, 435 to 395 million years ago. It was during this period that plants first colonised the land and fishes with jaws appeared in the waters. The overburden of soil in which the plants grow is derived from boulder clay deposited by glaciers. At the eastern end of the Trail is a narrow band of Carboniferous strata, where the soil is alkaline and the herb layer has some species not present on the acid soils of the western part.

The Nature Trail, opened in 1977, is well sign-posted and encompasses both sides of the valley at varying distances from, and heights above the stream. It may be entered from the western end just by the Druid Loch or at a point below the Castle. By reason of the bridges across the Marr Burn, the visitor may undertake a walk of a half-mile, one mile or one-and-a-half miles.

Despite the mignificence of the trees and the uncommon shrubs, the ground cover of wildflowers, grasses and ferns is varied and interesting. As a result of the introduction of the exotic plants and variations in the conditions of soil and micro-climate, many more plant species have been recorded than in Carron Linns.

Some uncommon species of trees and shrubs are:—

Boxwood (Buxus sempervirens) common at Boxhill in Surrey.
Cotoneaster (Cotoneaster).
Dogwood (Cornus sanguinea).
Field Maple (Acer campestre).
Golden Cypress (var. Chamaecyparis lawsoniana).
Oregon Grape (Mahonia aquifolium),
Red-berried Elder (Sambucus racemosa).
Spanish Chestnut (Castanea sativa).
Turkey Oak (Quercus cerris).

Some of the less common wildflowers are:—

Globe Flower (Trollius europaeus), rare in the area.
Monkey Flower (Mimulus guttatus).
Pale-flowered Bellflower (Campanula lactiflora).
Pink Purslane (Montia sibirica).
Pyrenean Valerian (Valeriana pyrenaica).
and a few climbing
Hop Plants (Humulus lupulus).

Of the less common ferns:—

Hart's Tongue (Asplenium scolopendrium) and Maidenhair Spleenwort (Asplenium trichomanes) can be seen on separate rock faces.

Oak Fern (Gymnocarpium dryopteris) is present in numbers in one place on the south slope of the valley.

The bird list is similar to that of Carron Linns with the addition of jays, often heard calling in the trees, and cormorants which are sometimes seen fishing in the Druid Loch.

Mammals are as in Carron Linns although roe deer are seen more frequently. Mink appear occasionally but are kept under control.

For those interested in birds or mammals, sitting quietly on one of the rustic seats by the path, with binoculars at the ready, will bring its rewards.

NOTE Entry to Carron Linns is free at any time and descriptive leaflets are obtainable from the Estate Offices, Dabton, THORNHILL.

The Drumlanrig Castle Woods Nature Trail is open from Easter till the end of August and a charge is made for admission. Descriptive leaflets are available.

The plants listed below have been seen in both sites, except for those marked C (Carron Linns only) or D (Drumlanrig Woods only).

	Achillea millefolium	Yarrow
C	Adoxa moschatellina	Moschatel
	Aegopodium podagraria	Ground Elder
	Ajuga reptans	Bugle
D	Alchemilla glabra	Lady's-mantle
D	A.xanthochlora	Lady's-mantle
D	Allium ursinum	Ramsons
	Anemone nemorosa	Wood Anemone
	Angelica sylvestris	Wild Angelica
	Anthoxanthum odoratum	Sweet Vernal-grass
	Anthriscus sylvestris	Cow Parsley
	Aphanes arvensis	Parsley-piert
	A. microcarpa	Slender Parsley-piert
	Bellis perennis	Daisy
	Caltha palustris	Marsh-marigold
C	Campanula latifolia	Giant Bellflower
	C. rotundifolia	Harebell
C	Cardamine amara	Large Bitter-cress
	C. flexuosa	Wavy Bitter-cress
C	C. pratensis	Cuckooflower
	Centaurea nigra	Common Knapweed
C	Cerastium glomeratum	Sticky Mouse-ear
	C. fontanum	Common Mouse-ear
	Chrysosplenium alternifolium	Alternate-leaved Golden-saxifrage
	C. oppositifolium	Opposite-leaved Golden-saxifrage
	Cirsium palustre	Marsh Thistle
	Conopodium majus	Pignut
C	Crepis paludosa	Marsh Hawk's-beard
	Cytisus scoparius	Broom
	Digitalis purpurea	Foxglove
	Endymion non-scriptus	Bluebell
	Epilobium angustifolium	Rosebay Willowherb

D	E. hirsutum	Great Willowherb
	E. montanum	Broad-leaved Willowherb
D	E. obscurum	Short-fruited Willowherb
C	E. palustre	Marsh Willowherb
D	Filipendula ulmaria	Meadowsweet
D	Fragaria vesca	Wild Strawberry
	Galeopsis tetrahit	Common Hemp-nettle
	Galium aparine	Cleavers
	G. odoratum	Woodruff
D	G. palustre	Common Marsh-bedstraw
	G. saxatile	Heath Bedstraw
D	G. verum	Lady's Bedstraw
C	Geranium pratense	Meadow Crane's-bill
	G. robertianum	Herb-robert
C	G. sylvaticum	Wood Crane's-bill
C	Geum x intermedium	Hybrid Avens
	G. rivale	Water Avens
	G. urbanum	Wood Avens
	Glechoma hederacea	Ground-ivy
D	Gnaphalium uliginosum	Marsh Cudweed
	Heracleum sphondylium	Hogweed
D	Humulus lupulus	Hop
D	Hypericum humifusum	Trailing St. John's-wort
D	H. perforatum	Perforate St. John's-wort
	H. pulchrum	Slender St. John's-wort
	Hypochoeris radicata	Cat'e-ear
	Lapsana communis	Nipplewort
	Lathyrus montanus	Bitter Vetch
D	L. pratensis	Meadow Vetchling
C	Leontodon autumnalis	Autumn Hawkbit
D	Linararia repens	Pale Toadflax
C	Lotus corniculatus	Common Bird's-foot-trefoil
D	L. uliginosus	Greater Bird's-foot-trefoil
C	Lychnis flos-cuculi	Ragged Robin
C	Lysimachia nemorum	Yellow Pimpernel
C	L. vulgaris	Yellow Loosestrife
	Lythrum salicaria	Purple Loosestrife
D	Matricaria matricarioides	Pineappleweed
C	Mentha aquatica	Water Mint
D	Menyanthes trifoliata	Bogbean
	Mercurialis perennis	Dog's Mercury
	Mimulus guttatus	Monkeyflower
	Montia sibirica	Pink Purslane
	Myosotis arvensis	Field Forget-me-not
C	M. scorpioides	Water Forget-me-not
D	Nymphaea alba	White Water-lily
D	Ornithopus perpusillus	Bird's-foot
	Oxalis acetosella	Wood-sorrel
	Pilosella officinarum	Mouse-ear Hawkweed
	Petasites hybridus	Butterbur
	Plantago lanceolata	Ribwort Plantain
	P. major	Greater Plantain
D	Polemonium caeruleum	Jacob's-ladder

D	Polygonum hydropiper	Water-pepper
	P. persicaria	Redshank
D	Potamogeton natans	Broad-leaved Pondweed
	Potentilla erecta	Tormentil
D	P. sterilis	Barren Strawberry
D	Primula vulgaris	Primrose
	Prunella vulgaris	Selfheal
D	Pulmonaria officinalis	Lungwort
	Ranunculus ficaria	Lesser Celandine
	R. repens	Creeping Buttercup
	Rumex acetosa	Common Sorrel
D	R. acetosella	Sheep's Sorrel
	R. obtusifolius	Broad-leaved Dock
D	R. sanguineus	Wood Dock
D	Sagina procumbens	Procumbent Pearlwort
	Scrophularia nodosa	Common Figwort
D	Senecio jocobaea	Common Ragwort
	Silene dioica	Red Campion
C	Solidago virgaurea	Goldenrod
D	Stachys palustris	Marsh Woundwort
	S. sylvatica	Hedge Woundwort
D	Stellaria alsine	Bog Stitchwort
D	S. graminea	Lesser Stitchwort
	S. holostea	Greater Stitchwort
	S. media	Common Chickweed
	S. nemorum	Wood Stitchwort
D	Succisa pratensis	Devil's-bit Scabious
	Taraxacum agg.	Dandelion
	Teucrium scorodonia	Wood Sage
D	Torilis japonica	Upright Hedge-parsley
D	Trifolium pratense	Red Clover
D	T. repens	White Clover
D	Trollius europaeus	Globeflower
C	Tussilago farfara	Colt's-foot
	Urtica dioica	Common Nettle
D	Valeriana officinalis	Common Valerian
D	V. pyrenaica	Pyrenean Valerian
C	Veronica becca-bunga	Brooklime
	V. chamaedrys	Germander Speedwell
	V. montana	Wood Speedwell
D	V. officinalis	Heath Speedwell
	V. serpyllifolia	Thyme-leaved Speedwell
D	Vicia cracca	Tufted Vetch
D	V. sepium	Bush Vetch
	Viola palustria	Marsh Violet
	V. riviniana	Common Dog-violet

Rushes, Sedges and Grasses

D	Agropyron caninum	Bearded Couch
D	Agrostis stolonifera	Creeping Bent
	A. tenuis	Common Bent
	Anthoxanthum odoratum	Sweet Vernal-grass

D	Arrhenatherum elatius	False Oat-grass
D	Brachypodium sylvaticum	False Brome
	Bromus ramosus	Hairy Brome
C	Cynosurus cristatus	Crested Dog's-tail
	Dactylis glomerata	Cock's-foot
	Deschampsia caespitosa	Tufted Hair-grass
D	D. flexuosa	Wavy Hair-grass
	Festuca gigantea	Giant Fescue
D	F. rubra	Red Fescue
D	Holcus lanatus	Yorkshire-fog
	H. mollis	Creeping Soft-grass
D	Melica uniflora	Wood Melick
	Phalaris arundinacea	Reed Canary-grass
	Poa annua	Annual Meadow-grass
D	P. chaixii	Broad-leaved Meadow-grass
D	P. nemoralis	Wood Meadow-grass
D	Sieglingia decumbens	Heath-grass
C	Carex ovalis	Oval Sedge
C	C. pallescens	Pale Sedge
C	C. pilulifera	Pill Sedge
	Juncus effusus	Soft Rush
D	J. subuliflorus	Compact Rush
	Luzula multiflora	Heath Wood-rush
	L. pilosa	Hairy Wood-rush
	L. sylvatica	Great Wood-rush

Trees and Shrubs

D	Azalea sp.	Azalea
D	Bambusa sp.	Bamboo
	Abies grandis	Grand Fir
D	A. nordmanniana	Caucasian Fir
D	A. procera	Noble Fir
D	Acer campestre	Field Maple
D	A. pseudo-platanus	Sycamore
D	Aesculus hippocastanum	Horse Chestnut
D	Berberis vulgaris	Barberry
	Betula pubescens	Downy Birch
D	Buxus sempervirens	Box
	Calluna vulgaris	Heather
D	Castanea sative	Sweet Chestnut
	Carpinus betulus	Hornbeam
D	Chamaecyparis lawsoniana	Lawson's Cypress
	Cornus sanguinea	Dogwood
	Corylus avellana	Hazel
D	Cotoneaster microphyllus	Small-leaved Cotoneaster
D	Crataegus monogyna	Hawthorn
D	C. oxycanthoides	Midland Hawthorn
	Fagus sylvatica	Beech
	Fraxinus excelsior	Ash
	Hedera helix	Ivy
	Ilex aquifolium	Holly
D	Juniperus communis	Juniper

	Larix decidua	European Larch
	L. leptolepis	Japanese Larch
	Picea abies	Norway Spruce
D	P. sitchensis	Sitka Spruce
	Pinus sylvestris	Scots Pine
C	Prunis avium	Wild Cherry
	P. padus	Bird Cherry
	P. spinosa	Blackthorn
	Pseudotsuga menziesii	Douglas Fir
D	Quercis cerris	Turkey Oak
D	Q. petraea	Sessile Oak
	Q. robur	Pendunculate Oak
D	Rhododendron ponticum	Rhododendron
	Rosa agg.	Wild Roses
	R. canina	Dog Rose
	R. tomentosa	Downy Rose
	R. villosa	Soft-leaved Rose
	Rubus fruticosus	Bramble
	R. idaeus	Raspberry
	Sambucus nigra	Elder
D	S. racemosa	Red-berried Elder
C	Salix aurita	Eared Willow
D	S. caprea	Goat Willow
D	S. cinerea	Grey Willow
	Sorbus aucuparia	Rowan
D	Sequoiadendron gigantea	Wellingtonia
D	Taxus baccata	Yew
D	Tilia vulgaris	Lime
D	Tsuga heterophylla	Western Hemlock
D	Ulmus glabra	Wych Elm
C	Ulex europaeus	Gorse
	Vaccinium myrtillus	Bilberry
	Viburnum opulus	Guelder-rose

Ferns

D	Asplenium scolopendrium	Hart's-tongue Fern
D	A. trichomanes	Maidenhair Spleenwort
	Athyrium filix-femina	Lady Fern
	Blechnum spicant	Hard Fern
	Dryopteris austriaca	Broad Buckler Fern
	D. carthusiana	Narrow Buckler Fern
	D. filix-mas	Male Fern
	D. pseudomas	Scaly Male Fern
	Gymnocarpium dryopteris	Oak Fern
	Polypodium vulgare	Common Polypody
	Pteridium aquilinum	Bracken

Names (except those of exotic conifers) from the "Check List of Flowering Plants and Ferns" issued by the Institute of Terrestrial Ecology. English names of flowering plants from "English Names of Wild Flowers" by Dony, Rob, and Perring.

RECOVERIES OF BLACK-HEADED GULLS RINGED IN DUMFRIESSHIRE & GALLOWAY

by

Derek Skilling

North Solway Ringing Group[1]

The ringing of juvenile Black-headed gulls, *Larus ridibundus*, in Dumfrieshire and Galloway was recorded as early as 1909. In later years there was little or no ringing until individuals resumed ringing large numbers of birds in 1961. This was continued following the formation of the North Solway Ringing Group in 1963 and Black-headed gulls have been ringed annually up to, and including, 1975.

Recovery details from these birds have been collected here, with the aim of learning something about their movement and mortality.

Ringing

Juvenile Black-headed gulls are normally ringed in the latter part of June, occasionally into early July. Ideally the birds should be ringed close to the point of fledging, at which time they have the best chance of leaving the colony alive. The number of birds ringed varies from year to year, as do most of the ringing sites. A total of 3073 birds were ringed during the period 1961-1975. The sites visited varied in size, the smallest being a single nest and the Loch Moan colony being the largest. However, the site at Loch Urr has been the most regularly visited and most of the ringing concentrated there. In 1961 there were 1284 nests at Loch Urr, which is probably about the maximum that the site can hold. On this point, it is interesting that in 1910 Gladstone recorded the total number of nests as 1300.

Birds have been recovered from the following 11 sites[2] :—

Cleughhead, Durisdeer.
Loch Dornal. NX29/76.
Beuchan, Keir. NX86/92.
Langholm.
Loch Moan. NX35/86.
Loch Milton. NX84/71.
Dhu Loch, Penpont.
Black Loch, Sanquhar. NS79/10.
Drumcruilton, Thornhill. NS83/02.
Newton, Thornhill. NX90/96.
Loch Urr. NX76/85.

This list indicates the fairly widespread coverage of the region.

Recoveries

A total of 67 Black-headed gulls — including 8 from Gladstone — have been recovered. These form the basic material for the present work. They are detailed in the appended table. It should be mentioned that not all of these 67 recoveries have been used in every graph or figure. The reason for these apparent discrepancies being the uncertain nature of recovery details in many cases. For example,

1. Hon. Secretary — J. F. Young, Esq., Waterside Mains, Keir, Thornhill, Nr. Dumfries DG3 4DH.
2. Grid References, where shown, given to the nearest 10 km. square.

where only a skeleton is found, the age at death must be unknown. However, such a recovery would still provide information as to the bird's movement.

Between 1961-69 (inclusive) 50 recoveries were made from 2053 birds ringed : A recovery rate of 2.4%. These particular years were chosen to allow for a period during which the ringed birds could 'mature' — it is obviously pointless looking for longevity in birds ringed during the past two or three years. This rate of 2.4% is well below the national total recovery rate of 4.6%. For this difference two main reasons are suggested: firstly intensive gull studies in England have produced some very high recovery rates, which have raised the overall figure and, second, is the fact that we are considering a sparsely populated region where the chances of dead, or injured, birds being found are low. This is still true of a bird population which moves around because it will be seen later that most recoveries are made within 100 miles of the ringing sites.

All the recoveries used are of birds which have fledged from the nesting colonies. Pre-fledging mortalities and recoveries have been omitted. It is worth noting that while the full extent of pre-fledging mortality is unknown, there are indications that it is quite high. On July 2nd 1961 — rather late in the season — 116 juveniles were ringed on the islets of Loch Urr. A search of the islets 14 days later produced 17 dead ringed birds(15%). This is almost certainly lower than the true number, for the following reasons : The work was done when mainly large juveniles were left in the colony — these birds, because of their size have a better chance of survival — but even these can be overlooked in the tussocky growth. Additionally there is predation at this colony, mainly by Rats, *Rattus norvegicus*, and by Pike, *Esox lucius* : Neither of these leave much trace of their prey.

Pattern of recoveries

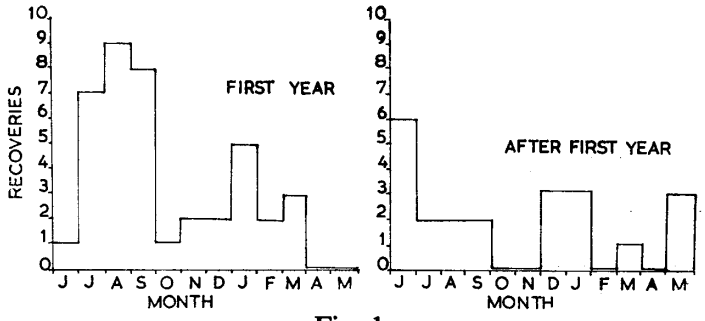

Fig. 1

The pattern of recoveries throughout the year is illustrated in Fig. 1. From this we can see that, perhaps predictably, the largest number of recoveries occur soon after fledging, reaching a peak in August. By October however there is a rapid drop in the number of recoveries. Not until winter does a second, comparatively minor, peak occur again.

Birds recovered after the first year show a marked peak of six recoveries in June. The recovery information does not tell us a great deal about the reasons for the peak. This can be seen from the following list :—

Age	Circumstances
1 year	"Found"
4 years (2)	1. No information
	2. Found injured — died
6 years	Found Dead
8 years (2)	1. Shot
	2. Found dead.

Flegg and Cox note a similar peak, ascribing it to breeding season stresses and this cannot be precluded here. In winter there is again a rise in recoveries, as with 1st year birds. Fig 2, month recovered — all ages, shows this winter peak clearly.

Mortality v. age

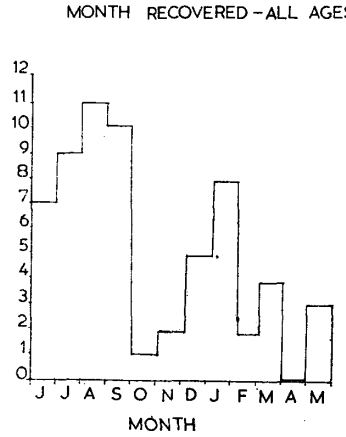

Fig. 2

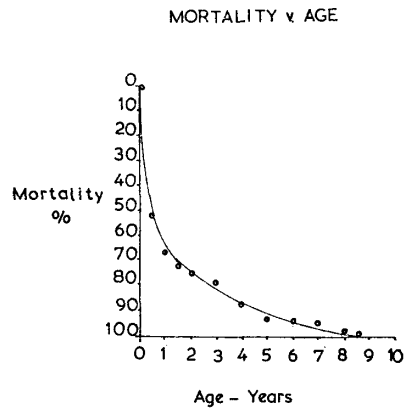

Fig. 3

The curve shown in Fig. 3., mortality v. age, illustrates the life expectancy of any 100 birds, assuming that no recruitment takes place. Almost 70% of Black-headed gulls die in the year after fledging and only 25% reach breeding age — which is taken as two years. In less than nine years all of the 100 birds would be extinct. This agrees broadly with Flegg & Morgan who show that a similar population would still have some birds surviving after 10 years.

Movement

As already mentioned, ringing recoveries provide information on bird movement, about both direction and distance.

Direction of Recovery : Fig. 4 gives us a picture of apparently random movement in all directions.

Direction of seasonal movement: Fig. 5, attempts to relate recoveries to time of year, shows a slightly different state of affairs: In January and December — the precise months when the winter peak of recoveries occurs, as shown in Fig. 2, a distinct southward bias appears in the pattern of recoveries. Presumably these are a consequence of hard-weather movements. In addition Fig. 5 also shows that throughout the summer there is an almost perfect balance of recoveries with a north or south component.

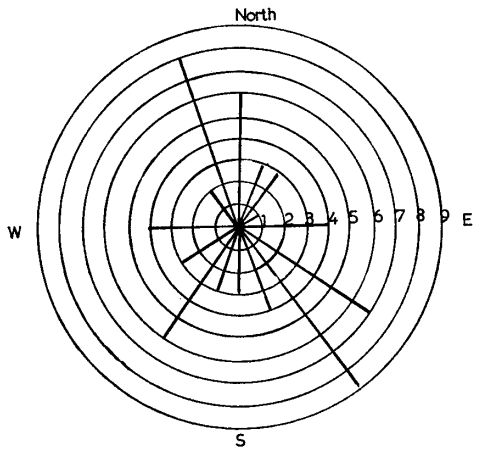

Fig. 4

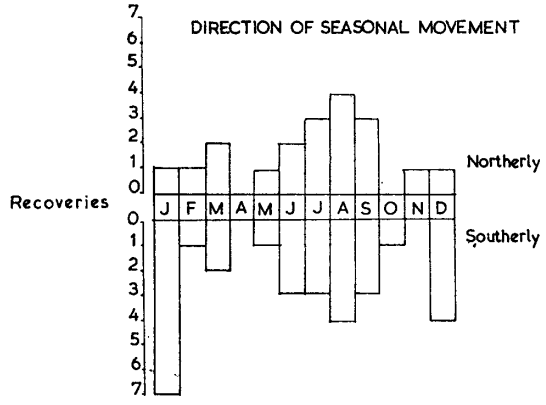

Fig. 5

Distance to Recovery point: The bulk of Black-headed gulls appear not to be long distance wanderers. Only one local bird was recovered outside Britain and Ireland — in Northern Spain. Fig. 6 also shows that the vast majority of birds (86%) were recovered within 100 miles of the ringing site.

Acknowledgements

The ringing of more than 3000 juvenile Black-headed gulls involved a great deal of hard work and expense, especially when carried out over a long period and at numerous sites. The credit for this belongs to all past and present members of the North Solway Ringing Group. In addition thanks are due to the many helpers, and to those people who gave us permission to ring birds on their property.

We are indebted to the Dumfriesshire & Galloway Natural History and Anti-

quarian Society for financial assistance and for encouraging the publication of these results.

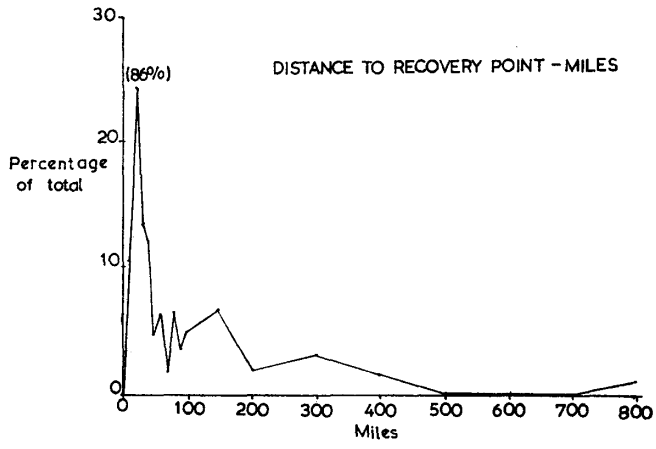

Fig. 6

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DETAILS OF BLACK HEADED GULL RECOVERIES

Ring No.	Where Ringed	Where Recovered	Distance (Miles)	Direction	Date Ringed	Date Recovered	Age at Recovery	Circumstances
3649	Penpont	Carluke, Lanarkshire	35	N	12/7/09	27/11/09	4 months	Unknown
9473	Durisdeer	Paisley	40	NNW	29/6/10	1/8/10	1 month	Unknown
9469	Durisdeer	Darlington	110	SE	26/6/10	7/2/11	7 months	Unknown
9489	Durisdeer	Perth	80	N	29/6/10	1/8/10	1 month	Unknown
22767	Penpont	Kirkmichael Dumfriesshire	14	SE	28/6/11	20/7/11	1 month	Unknown
22754	Penpont	Dumfries	15	SSE	28/6/11	17/7/11	1 month	Unknown
Unknown Gladstone (1923)	Penpont	Cockermouth, Cumberland	45	SSE	28/6/11	0/3/12	8 months	Unknown
	Durisdeer	Penpont, Dumfriesshire	3	SSW	27/7/12	13/6/16	4 years	Unknown
393.728	Loch Urr	Airdrie	48	N	27/6/55	12/9/55	3 months	Found dead
AT79.027	Loch Urr	Annan	30	ESE	2/7/61	4/1/64	1 year 6 months	Leg and ring only
AT79.044	Loch Urr	Wallsend-on-Tyne	92	E	2/7/61	12/8/61	1 month	Found dead
AT79.051	Loch Urr	Chester-le-Street	93	ESE	2/7/61	6/1/62	6 months	Found unable to fly
AT79.002	Black Loch, Sanquhar	Knaresborough, Yorkshire	132	SE	2/7/61	1/1/62	6 months	Caught and released
AT79.008	Black Loch, Sanquhar	Ennis, County Clare	270	SW	2/7/61	27/1/62	7 months	Caught and released (cold weather)
300.4242	Black Loch, Sanquhar	Coylton, Ayrshire	22	W	2/7/61	26/9/61	2 months	Shot
AT79.177	Loch Urr	Glencaple, Dumfriesshire	17	SE	23/6/62	30/12/63	1 year 6 months	Presumed dead
AT94.404	Black Loch, Sanquhar	Lochside, Sanquhar		Local	23/6/62	4/7/63	1 year 1 month	Found dead
300.4232	Loch Milton	Kirkinner, Wigtownshire	28	WSW	24/6/62	16/1/63	7 months	Found dead
300.4300	Loch Milton	Balmore, Glasgow	63	NNW	24/6/62	14/1/71	8 years 6 months	Exhausted, unable to fly
AT91.528	Loch Urr	Dalry, Kirkcudbrightshire	9	W	15/6/63	0/6/71	8 years	Dead (shot?)

Ring No.	Where	Where Recovered	Distance (Miles)	Direction	Date Ringed	Date Recovered	Age at Recovery	Circumstances
AT92.042	Loch Urr	Sunderland	100	E	4/7/64	0/9/64	2 months	Found dead
AT92.067	Loch Urr	Thornhill, Dumfriesshire	10	NE	4/7/64	23/12/64	5 months	Found dying
SS13.521	Loch Moan	Kirkcudbright	35	SE	25/6/64	6/6/68	4 years	Found injured, died
SS13.523	Loch Moan	Crosshill, Ayrshire	13	N	25/6/64	25/2/65	8 months	Found dying
SS13.758	Drumcruilton, Thornhill	Girvan, Ayrshire	42	W	5/6/64	15/9/68	4 years 3 months	Found with broken wing
SS13.761	Drumcruilton, Thornhill	East Kilbride	35	NNW	5/6/64	27/3/67	3 years 10 months	Found dead
AT92.178	Loch Urr	Enniscorthy, Wexford	210	SW	16/6/65	8/1/69	4 years 5 months	Caught alive while ploughing
AT92.194	Loch Urr	Banbridge County Down	105	WSW	16/6/65	10/1/66	7 months	Killed on wires
AT92.259	Loch Urr	New Cumnock, Ayrshire	20	NNW	16/6/65	1/6/66	1 year	Found
309.0959	Durisdeer, Thornhill	Moniaive	10	SW	26/6/65	22/8/65	2 months	Found in weak condition
EC94.680	Loch Urr	Callander, Perth	75	N	21/6/66	26/7/66	1 month	Injured
EC94.683	Loch Urr	Penrith, Cumberland	55	SE	21/6/66	9/1/70	3 years 6 months	Killed by car
EC94.691	Loch Urr	Andreas, Isle of Man	55	SSW	21/6/66	20/2/67	8 months	Found, dead for some time
EC94.694	Loch Urr	Dumfries	14	ESE	21/6/66	27/8/66	2 months	Found dead
EC94.725	Loch Urr	Virkie, Shetland	340	NNE	21/6/66	29/8/67	1 year 2 months	Found with broken wing
EC94.774	Loch Urr	Auldgirth, Dumfriesshire	10	E	21/6/66	27/6/66	6 days	Found dead
EC94.771	Loch Urr	Dunscore, Dumfriesshire	7	E	21/6/66	5/7/66	2 weeks	Found dead
SS49.982	Loch Urr	Off Suances (Santander), Spain	800	SSE	21/6/66	25/3/67	9 months	Killed
SS49.987	Loch Urr	Cumnock, Ayrshire	23	NNW	21/6/66	20/9/66	3 months	Found dead

Ring No.	Where	Where Recovered	Distance (Miles)	Direction	Date Ringed	Date Recovered	Age at Recovery	Circumstances
EC94.613	Loch Dornal	Girvan, Ayrshire	16	NNW	18/6/66	12/6/72	6 years	Found dead, dehydrated
EC94.650	Loch Dornal	Creetown	16	SE	18/6/66	18/6/72	6 years	Found dead
AT92.380	Drumcruilton, Thornhill	Auchencairn, Kirkcudbrightshire	33	S	22/6/66	23/7/66	1 month	Found dying
EC94.551	Kier, Thornhill	Longtown, Cumberland	35	ESE	23/6/66	7/8/68	2 years 2 months	Skeleton found
204.6286	Loch Urr	Loch Leven, Kinross	74	NNE	29/6/67	6/5/70	2 years 10 months	Found dead
AT92.066	Loch Urr	Glencaple, Dumfriesshire	16	ESE	4/7/67	2/8/71	4 years 1 month	Found dead
EC99.302	Loch Urr	New Cumnock, Ayrshire	20	NNW	25/6/68	29/7/68	1 month	Killed by predator
EC99.350	Loch Urr	Ballymahon, Longford	190	SW	25/6/68	1/11/68	4 months	'Captured'
EC99.248	Beuchan	Kelso	59	ENE	24/6/68	24/6/76	8 years	Found dead
204.6388	Newton	Dumfries	14	SSE	23/6/68	21/9/72	4 years 3 months	Found dead
EC99.296	Beuchan	Maghery, County Armagh	119	WSW	24/6/68	24/12/76	8 years 6 months	Found dead
EC99.495	Loch Urr	Southerness, Kirkcudbrightshire	22	SE	25/6/69	10/8/69	1½ months	Found dead
EC99.583	Loch Urr	Downpatrick, County Down	85	SW	25/6/69	8/10/69	3½ months	Found dead
EC99.742	Loch Urr	Castle Douglas	13	S	25/6/69	27/8/69	2 months	Found, presumed dead
SS34.275	Loch Urr	Cumnock, Ayrshire	23	NW	25/6/69	21/8/69	2 months	Found injured
SS34.284	Loch Urr	Moffat	25	NE	25/6/69	20/7/69	1 month	Found dead
EC99.111	Keir	Dumfries	12	SE	20/6/69	9/12/72	3 years 5½ months	Found dead
EC99.432	Keir	New Cumnock, Ayrshire	18	NW	20/6/69	20/9/69	3 months	Fresh leg only — predator?
EC99.453	Beuchan	Bangor, County Down	82	SW	20/6/69	6/12/69	5½ months	Found dead
SS11.561	Loch Moan	Inverkeithing, Fife	75	NE	25/6/69	17/7/70	1 year 1 month	Found dead

Ring No.	Where	Where Recovered	Distance (Miles)	Direction	Date Ringed	Date Recovered	Age at Recovery	Circumstances
EF32.261	Loch Urr	Twynholm, Kirkcudbrightshire	19	SSW	2/7/70	11/9/70	2 months	Found injured — died
EF32.304	Loch Urr	Biggar, Lanarkshire	36	NNE	2/7/70	8/8/70	1 month	Killed by cat
EF32.405	Loch Urr	Dumfries	13	ESE	2/7/70	25/9/70	2 months	Ring only found
EC99.393	Loch Urr	Carsphairn, Kirkcudbrightshire	19	W	25/6/70	21/5/76	5 years 11 months	Leg found beside fox den
EF32.009	Loch Milton	Cumnock	34	NNW	30/6/70	10/9/70	2 months	Found dead
EC99.911	Langholm	Rockcliffe Marsh, Cumberland	12	S	9/6/70	22/5/76	5 years 11 months	Remains found — predator?
EF62436	Loch Urr	Dunscore, Dumfriesshire	7	ESE	20/6/72	26/9/72	3 months	Found dead
EF62.567	Loch Urr	Lenzie, Glasgow	53	N	20/6/72	26/3/73	9 months	Found with damaged wing

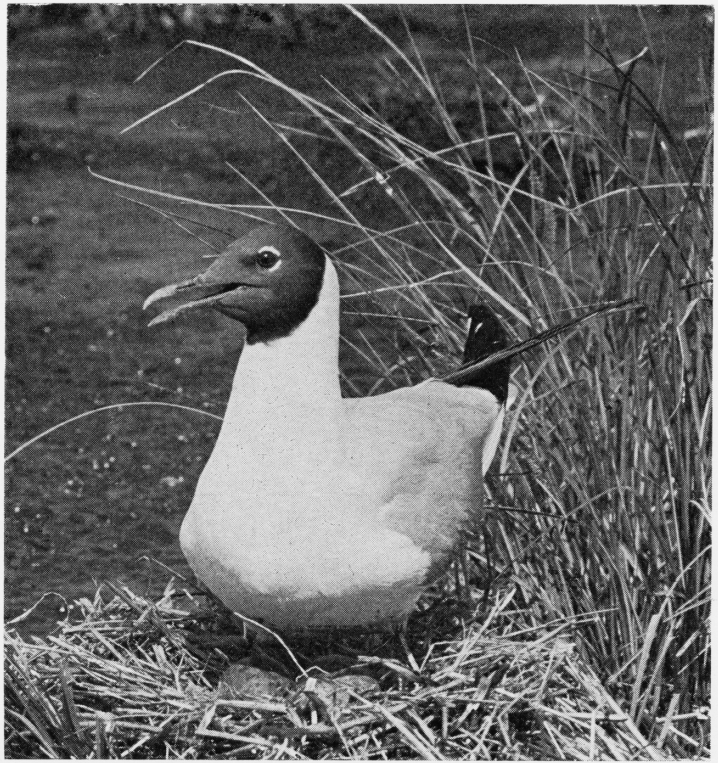

Plate I Black-headed Gull, **Larus ridibundus,** at the nest. Photo : Robert T. Smith.

THE ROOKERIES OF DUMFRIESSHIRE, 1973

Including comparisons with the surveys of 1908, 1921, 1963 and 1975.

by R. T. Smith and J. Williams, F.S.A.Scot.

Introduction:—

This paper has been prepared as the result of a joint effort by the present writers: To Robert T. Smith fell the considerable responsibility of making the necessary preparations, organising the fieldwork, and collating the results in the form of parochial lists. James Williams has analysed these results and produced the following summary tables/notes and for which opinions he alone is responsible.

In the years 1908,[1] 1921,[2] and 1963 Census returns were prepared detailing the rook population, and its distribution, within the County of Dumfries. The census of 1963 has been discussed and compared with the results of earlier surveys in Volume XLIII of these Transactions.[3] The results obtained from the 1963 returns appeared to show a relatively stable population, represented by approximately 16,000 - 17,500 nests, but with a marked tendency towards an increased number of colonies bearing a reduced average population. There has always been concern that the results from the 1963 census may have been atypical following as they do upon the most severe of recent winters. In an endeavour to examine these trends in greater depth, and if possible to vindicate the 1963 results, a further census was carried out during the late spring of 1973 prior to the appearance of tree foliage.

Species of Tree

During the 1973 census 261, or approximately 96%, of the rookeries examined were classified according to tree species. Of these 261 rookeries some 125 (48%) were deciduous, 63 (24%) coniferous and the remaining 73 (28%) were of a mixed coniferous/deciduous composition. Single species plantations accounted for 121 (46.4%) of this total figure and the distribution of the individual species within this category is summarised in Table I. Beech, *fagus sylvatica;* and Oak, *quercus rubor,* were the predominant species and account for some 74.5% (41.4% and 31.1% respectively) of the single species plantations noted. Scots Pine, *pinus sylvestris,* in contrast to its predominance nationally,[4] has a poor representation at 14.1%. It should, however, be noted that there is some evidence to suggest that it, Scots Pine, may be chosen preferentially by nesting birds in plantations of mixed species. All other species of tree form an insignificant proportion of the whole but the following, in addition to those noted in Table I, have been observed in plantations.—Birch, *betula;* Chestnut, *aesculus;* Popular, *populus;* and "Fir".

1. Birds of Dumfriesshire, Hugh S. Gladstone, 1910, pp. 124-46.
2. Notes on the Birds ofD umfriesshire. Hugh S. Gladstone. These Transactions, IIIrd Series, Volume Volume IX, pp. 10-117.
3. The Rookeries of Dumfriesshire, 1963. D. Skilling, R. T. Smith & J. G. Young. IIIrd Series, Volume XLIII, pp. 49-64.
4. Rookeries in Scotland, 1975. M. E. Castle. Journ. Scot. Ornithologists' Club, Volume 9, No. 7, (Autumn 1977), pp. 327-334.

Table I. Rookeries in single species plantations.

Beech, *fagus sylvatica*	50	41.4
Oak, *quercus rubor*	40	33.1
Scots Pine, *pinus sylvestris*	17	14.1
Spruce, *picea*	4	3.3
Larch, *larix*	3	2.5
Ash, *fraxinus excelsior*	2	1.6
Sycamore, *Acer*	2	1.6
Lime, *tilia Vulgaris*	1	0.8
Birch, *betula* (various)	1	0.8
Elm, *ulmus procera*	1	0.8
Totals	121	100.0%

Population Trends

The total figures for nests and rookeries in 1973 are detailed in Table II along with the appropriate results from the earlier returns of 1908, 1921, and 1963. The results pertaining to Dumfriesshire in the more recent National (Scottish) Census of 1975 have also been appended. The distribution of numbers of nests per colony for the years 1908-73 has been summarised in Table III.

Table II. Number of Nests and Rookeries

Year	Number of nests	Number of Rookeries	Nests per Rookery
1908	17,555	122	143.9
1921	15,999	116	137.9
1963	16,945	200	84.7
1973	20,763	270	76.9
1975	21,869	280	78.1

Table III. Changes in size of Rookeries

Numbers of nests	Year 1908	1921	1963	1973[5]
1- 20	13.1	14.6	22.0	22.6 (61)
21-150	62.3	57.9	63.0	65.5 (177)
151-250	13.1	14.6	10.0	8.2 (22)
251-500	7.4	11.2	3.5	3.0 (8)
501-750	0.0	0.0	1.5	0.7 (2)
751-1000	4.1	1.7	0.0	0.0
	100.0	100.0	100.0	100.0
Total number of Rookeries	122	116	200	270

From those figures detailed in Table II it becomes apparent that there has been, in marked contrast to the general trends (Castle), a significant **increase** in the total numbers of nests recorded. The increases in 1973 and 1975, over those recorded in 1963, were +22% and +29% respectively. Similarly quite significant **increases** are also to be noted in respect of the numbers of rookeries recorded during 1973 and 1975. The increases over the 1963 figures in this case being+35% and +40% respectively. These latter increases represent the establishment of new

5. Numbers of nests in each range noted in brackets.

colonies: Many of these will be of small size and thus explain the marked reduction in average colony size from the 144 nests of 1908 to the 77 nests of 1973. (The slight increase to 78 nests per rookery noted in 1975 is probably not significant.) This trend towards smaller rookeries is well illustrated by the figures detailed in Table III.

Acknowledgements

This study has been carried through to completion as the result of a splendid team effort. The writers must extend their sincere thanks to all those persons detailed below who gave so freely of both their time and expertise: Without their whole-hearted involvement the whole project would have been rendered an impossible task. Especial thanks must also be given to Dr Norah E. Armstrong who gave extensive assistance throughout the project. The preparation of the parochial tables owe much to her efforts. Permission to publish the results of the survey is also gratefully acknowledged to E. Dicerbo, Miss J. Donnan, T. Irving, Mrs B. Johnstone-Fergusson, J. McCubbin, J. Maxwell, T. Nisbet, D. Purdie, H. Russell, R. Smith, A. Taylor, J. Todd, J. F. Young and J. G. Young.

ROOK CENSUS

						Height	
Annan (1)	1908	1921	1963	1973	Trees	Feet	No.
Annan West	0	0	83	101	Beech	80/80	1
Blacketlees	0	0	102	98	Mix/Dec.	80/90	2
Cemetery	0	0	0	4	Mix/Dec.	40	3
Carse Hill	0	0	119	0	Mix/Beech		
Croft Head Cottage	0	0	0	70	Mix/Birch	18/20	4
Fruid Park	40	20	0	0			
Green Bank	Some	20	0	0			
Mount Annan	1000	300	110	100	Beech	80	5
Solway Cottage	0	20	0	0			
The Moat	30	49	0	0			
Violet Bank	0	0	15	17	Oak	50	6
	1070	409	429	380			
Applegarth & Sibbaldbie (2)							
Annanhill	0	0	0	2	Beech	60/80	7
Balgray	120	120	372	171	Pine	60/70	8
Blindhillbush	0	0	0	29	Beech	60	9
Dalmakether	0	0	0	10	Spruce	35	10
Dinwoodie Green	0	60	119	3	Beech	50/60	11
Dinwoodie Lodge Hotel	0	0	0	4	Beech/Birch	70/80	12
Dinwoodie Lodge Hotel (Lay By)	0	0	0	52	Pine	30 50/60	13
Dinwoodie Lodge Hotel (¼ Mile East)	0	0	0	76	Birch/Con	30	14
Dinwoodie Mains ¼ Mile N/E	0	0	0	48	Con/Dec	50	15
Fourmerkland	0	0	46	76	Pine	90/100	16
Hallhills Glen	0	190	0	51	Con/Dec	60/80	17

Caerlaverock (3)	1908	1921	1963	1973	Trees	Height Feet	No.
Hewke	64	100	77	54	Con/Dec	70/80	18
Jardine Hall	1020	900	237	0			
Lammonbie	0	120	28	0			
Millhousebridge	0	0	85	21	Pine	80	19
Newbigging	0	0	0	58	Dec/Spruce	50/70	20
						40	
Perchall	0	0	13	0			
Ravenscleugh	0	0	0	6	Larch	50	21
					Spruce	50	
Sibbaldbie	70	70	0	63	Spruce/Beech	60	22
Sibbaldbie Wood ¼ West of	0	0	0	0			
	1274	1560	977	744			
Caerlaverock Manse	0	0	7	39	Elm/Beech	40	23
Conheath House	0	0	24	23	Oak/Beech	35	24
Hutton Hall	50	0	0	0			
Wardlaw Hill	100	280	96	32	Con/Dec	25/35	25
	150	280	127	94			
Canonbie (4)							
Auchenrivok Bank	10	0	0	0			
Bowholm	0	0	0	18	Oak	60/70	26
Broad Meadows	0	0	0	16	Scots Pine	25/45	27
Byre Burn	0	0	120	10	Scots Pine Nor/Spruce Oak	70	28
Cannonbie	0	0	43	0			
Crow Wood	Some	0	0	0			
Enthorn	0	0	0	130	Scots Pine Nor/Spruce Oak	70/100	29
Gilnockie	0	0	55	0			
Irvine House	3	0	0	0			
Lady Howsteads	0	0	0	23	Oak	40/60	30
Orchard	0	0	20	18	Scots Pine Nor/ Spruce	45/50	31
Rowan Burnfoot	0	0	40	78	Scots Pine Nor/Spruce	70/90	32
Tarras Farm	0	0	41	0			
Tom Shieldburn	0	0	0	3	Beech	25/30	33
Upper Murbie	0	0	10	0			
	13	0	331	296			
Closeburn (5)							
Brattlesbelt	200	120	0	0			
Castlewood	350	280	0	0			

	1908	1921	1963	1973	Trees	Height Feet	No.
Clauchrie Glen	0	0	70	0			
Closeburn Castle	0	0	57	70			34
Closeburn Manse	0	0	111	146			35
Crichope Linn	0	0	104	98			36
Dessert Land	0	0	131	173			37
Hatchery Wood	0	0	84	122			38
Park Wood	0	4	0	0			
Sand River Belt	50	50	0	0			
Shawsmuir	0	0	131	410			39
Sheep Parks	150	100	0	0			
	750	554	688	1009			
Cummertrees (6)							
Charlesfield	0	0	60	88	Oak/Beech	60/70	40
Cummertrees Station	50	0	0	0			
Forkhill	200	100	0	0			
Glenstewart	150	350	537	166	Oak/Beech	50/60	41
Hoddam	200	0	0	0			
Murraythwaite	220	0	0	0			
Hoddam Castle	150	0	0	0			
Wintersheugh	0	0	0	92	Oak/Beech	60/65	42
	970	450	597	346			
Dalton (7)							
Braehill Bank	0	35	0	0			
Dalton Church	0	0	0	5	Scots Pine	50	43
Denbie House	95	95	93	87	Beech	60	44
Denbie (½ Mile East of)	0	0	0	56	Mainly Scots Pine	60	45
Dormont	250	450	93	75	Beech	50/60	46
Hetland House	0	0	0	18	Pine/Dec.	50	47
Hindgill above Manse (½ Mile from Church)	0	0	0	18	Beech	50	48
Kirkwood	850	1020	613	632	Mixed/Dec. some Scots Pine	50/100	49
Little Dyke	0	0	0	16	Scots Pine	50	50
	1195	1600	799	907			
Dornock (8)							
Robgill Tower	150	0	32	147	Scots Pine Mix/Dec.	45/55	51
Stapleton	180	190	56	0			
Woodhall	0	0	7	0			
	330	190	95	147			

	1908	1921	1963	1973	Trees	Height Feet	No.
Dryfesdale (9)							
Bishopcleugh	50	12	67	71	Mix/Dec. Pine/Spruce	50/60	52
Broadholm Pars	0	0	136	238	Scots Pine	60/70	53
Catlin (east of)	0	0	0	80	Beech	50/60	54
Croftheads	0	300	0	0			
Dam	0	0	49	92	Mix/Dec. Scots Pine	70/80	55
Dam (west of)	0	0	74	88	Mix/Dec. Scots Pine	60/80	56
Dryfesdalegate	0	0	0	10	Scots Pine	60/70	57
Hayrigg	0	0	0	10	Decidious	60/80	58
Lockerbie (Burgh of)	Some	0	26	10	Decidious	60	59
Linns/Raggiewhaite	0	0	32	51	Scots Pine	50	60
Mainholm	0	0	41	0			
Newfield (north of)	0	0	0	68	Beech	40/50	61
Newfield (south of)	0	0	0	91	Mix/Dec.	40/60	62
Newfield (east of)	0	0	0	61	Beech	40/50	63
Old Walls	0	150	269	51	Mix/Dec.	60/70	64
Peel Houses	0	0	69	68	Dec. most nests Scots Pine	60/70	65
Peel Houses (east of)	0	0	0	88	Scots Pine	30/40	66
Quass (Wood)	0	0	41	0			
Roberthill	0	0	0	3	Sycamore 2 Spruce 1	60/70 45	67
Rosebank	0	0	0	41	Mix/Dec. Scots Pine	50/60	68
Rosebank/Watscales	0	0	0	32	Mix/Dec. Scots Pine	50/60	69
South Corrielaw	0	0	0	69	Dec./Spruce	30/40	70
South Corrielaw (east of)	0	0	0	61	Scots Pine	40/50	71
St. Michaels	8	70	0	109	Beech	80+	72
Underwood	100	100	0	42	Scots Pine	50	73
Watscales	0	0	0	11	Decidious	40/50	74
	230	632	804	1445			
Dumfries (10)							
Acrehill	0	0	112	0			
Crichton Royal	0	90	0	19	Dec.		75
Castle Dykes	141	36	0	0			
Castle Street	2	0	0	0			
Dalscone Bank	40	0	0	0			
Hannafield	0	0	26	0			
Heathhall	0	0	61	9	Beech/Fir	35	76
Marchfield	0	0	0	2	Beech	30	77
Marchmount	0	0	15	6	Beech	35	78
Netherwood	0	0	0	16	Beech/Fir	35	79
Signpost Wood	60	24	0	0			
	243	150	214	52			

						Height	
Dunscore (11)	1908	1921	1963	1973	Trees	Feet	No.
Dalgonar	175	250	683	308	Beech/Conifer	70/80	80
Friars Carse	850	450	351	417	Beech/Oak/Conifer	70/90	81
Greenhead	35	25	95	63	Beech	70	82
McCheynston	0	0	51	58	Oak Beech 46 Conifers 12	70	83
McMurdoston	0	0	118	48	Oak few Larch	60	84
Sundywell	30	0	0	0			
Upper Linburn	40	0	0	0			
	1130	725	1298	894			
Durisdeer (12)							
Castehill	0	0	129	80	Ash	75	85
Chapel	0	0	0	25	Scots Pine	75	86
Coshogle (east of)	0	0	110	69	Beech/Scots Pine	80	87
Coshogle (west of)	0	0	7	8	Sycamore	80	88
Durisdeer	0	0	0	38	Scots Pine	75	89
Gateslack Cottage	0	0	185	131	Scots Pine	80	90
Gateslack Round	0	0	107	77	Scots Pine	70	91
Gateslack Farm	0	0	26	0			
Woodhouse Lea	0	0	177	224	Larch	65	92
	0	0	741	652			
Eskdalemuir (13)							
Crurie	0	200	0	0			
Eskdalemuir Manse	0	0	9	29	Scots Pine	30/70	93
Lyneholm	0	0	47	0			
Raeburnfoot	0	0	11	74	Scots Pine	40/60	94
	0	200	67	103			
Ewes (14)							
Eweslees	0	0	0	14	Scots Pine	45/50	95
Moss Peebles	Some	0	0	18	Scots Pine	50	96
Sorby	12	0	0	0			
Unthank	Some	0	0	96	Scots Pine	60/80	97
The Manse	Some	0	0	0			
	0	0	0	128			
Glencairn (15)							
Barbuie	10	0	0	0			
Dallhag	0	0	0	94			
Dalwhat	1	0	0	100+	Spruce & Larch	40/50	98
Dardarroch	0	0	254	331	Conifers	40/50	99
Gaitloch	100	0	0	0	Oak	60/70	100
Gilmerston	60	40	16	134	Scots Pine	30/40	101

	1908	1921	1963	1973	Trees	Height Feet	No.
Shancastle	11	0	0	0			
Snade	100	125	0	0			
Stewarton	0	0	39	94	Scots Pine	60/70	102
Woodhead	0	0	0	10	Larch	50	103
	282	165	309	763			
Gretna (16)							
Aitchisons Bank	2	0	93	216	Scots Pine	50/55	104
Alisons Bank	0	0	6	0			
Browhouses Road	0	0	14	13	Beech	60/70	105
Douglas Farm (east of)	0	0	0	16	Oak	50/55	106
East Scales	50	75	0	0			
Gretna Hall	Some	200	40	0	Beech	50/55	107
Gretna Green	0	0	14	0	Beech	45/50	108
Hills	0	0	63	0			
Mount Pleasant	0	0	0	24			
Redkirk	0	0	20	2			
Solway Lodge	0	0	8	0			
The Green	0	0	0	6	Beech	50/55	109
West Hills (ammo. depot)	0	0	30	81	Beech	50/60	110
Scales Bank	20	10	0	0			
	70	285	293	358			
Half Morton (17)							
Half Morton	0	0	0	0			
	0	0	0	0			
Hoddam (18)							
Aitchisons Hill	30	0	0	0			
Burnfoot	0	0	215	0			
Burnswark	150	100	181	44	Oak & Sycamore	30/40	111
Crossfield	2	2	0	0			
Ecclefechan Station	0	0	0	3	Oak	55	112
Ecclefechan (North of)	0	0	100	0			
Ecclefechan ,East of)	0	0	180	0			
Ecclefechan (West of)	0	0	0	54	Beech	50/55	113
Ecclefechan: Supplebank Rd.	0	0	0	55	Beech/Oak/Conifers	45/50	115
Hoddam Cross	0	0	0	186	Beech	55/65	116
Hoddam Kirk	8	0	0	0			
Kirkconnel Hall	150	150	0	0			
Knockhill	250	300	93	326	Beech/Oak/Chestnut	60/70	117
Newfield House	100	100	74	59			118
Newfield (Hillwood)	0	0	0	201			119
Newfield (Three cornered wood)	0	0	0 not known	61			120
Parkgate	0	0		172	Deciduous	60/70	114

	1908	1921	1963	1973	Trees	Height Feet	No.
Relief	100	100	0	0			
					Oak Ash Chestnut		
Rickerbie School	0	0	0	54	& Conifer	50/55	121
Shortrigg	50	0	39	0			
	840	752	913	1451			
Holywood (19)							
Broomrigg	Some	0	169	13	Beech	80	122
Cairvale	0	0	18	0			
Cluden Bank (East of)	25	83	82	82	Beech & Pine	70	123
Cowhill Tower	250	250	51	77	Beech & Elm	70	124
Fourmerkland Tower	0	0	22	42	Larch mainly	60/70	125
Gribton	200	200	232	173	Beech mainly	80/90	126
Holywood Station	0	0	33	0			
Holywood Church	0	0	0	7	Oak	60	127
Killylung	0	0	0	124	Beech	60/70	128
Kilness	0	0	25	0			
Lower Stepford	0	0	0	38	Oak	70	129
Nether Gribton	0	0	34	0			
Portrack	250	350	202	147	Beech	70	130
Slaethorn Croft	0	0	0	4	Oak	70	131
Steilston	0	0	49	44	Oak	70	132
Stepford House	0	0	20	172	Conifer/Oak (approx. 50/50)	70/80	133
	725	883	937	923			
Hutton & Corrie (20)							
Balstack	0	27	0	0			
Broomhill	0	0	0	104	Scotsfir some Spruce & Sycamore	45/60	134
Corrielea	0	0	0	53	Spruce/Scots Fir/ Mixed/Deciduous	50	135
Cowburn (Hill Wood)	40	106	0	67	Beech	60/70	136
Marygill	40	52	348	254	Scots Pine/ Spruce/ Beech	40/60	137
Paddockhole	32	90	0	0			
Parkcleughfoot	0	0	95	0			
Shaw of Dryfe	200	350	151	30	Spruce/Sycamore	50/70	138
Shaw of Dryfe (road end)	0	0	0	173	50 Spruce 80 Beech	50/80	139
Upper Hutton	10	20	0	0			
Whiteknowe	0	80	0	0			
	322	725	594	681			

	1908	1921	1963	1973	Trees	Height Feet	No.
Johnstone (21)							
Dykehead	0	0	200	31	Deciduous	80/100	140
Johnstone Bridge School	0	0	0	17	Deciduous	90/100	141
Panlands	0	0	22	145	Deciduous	60/70	142
Skemrigg	0	0	0	24	Deciduous	70/80	143
	0	0	222	217			
Keir (22)							
Auchenge	0	0	98	141			144
Barndennoch	130	0	0	0			
	130	0	98	141			
Kirkconnel (23)							
Gateside	0	7	194	680	Scots Pine	40/50	145
Kelloside	0	0	27	160	Scots Pine	40	146
Tower	0	0	378	173	Scots Pine & Oak	40/50	147
	0	7	599	1013			
Kirkmahoe (24)							
Carnsalloch	200	0	0	0			
Castlehill	65	65	0	0			
Cullivate	170	240	107	103	Beech	70	148
Duncow	300	220	205	125	Scots Pine	40/60	149
Kirkton	0	0	0	84	Scots Pine & Oak	70	150
	735	525	312	312			
Kirkmichael (25)							
Burrance of Courance	0	0	110	120	Deciduous	40/70	151
Corsway Cottage	0	0	35	44	Conifer	50/70	152
Courance	Some	0	10	57	Mixed	50/80	153
Dalfibble	0	0	13	26	Conifer	50/70	154
Gillrigg	0	0	320	286	Deciduous	30/50	155
Kirkland 1	0	0	27	49	Deciduous	80/90	156
Kirkland 2	0	0	110	54	Mixed	40/70	157
Kirkmichael Estate	0	50	0	0			
Kirkmichael Manse	100	196	0	15	Mixed	50/60	158
Nethermill	0	0	40	51	Conifer	60/80	159
The Barony	0	100	0	26	Mixed	60/80	160
Third north east of Kinnel Water	0	0	0	29	Deciduous	30/40	161
Townhead	0	0	92	24	Deciduous	60/70	162
	100	346	747	781			

Kirkpatrick Fleming (26)	1908	1921	1963	1973	Trees	Height Feet	No.
Broats House	50	0	0	0			
Grahamshill	90	50	144	0			
Hayfield	50	0	0	0			
Hillhead	0	12	0	0			
Kirkpatrick House	20	60	0	0			
Kirkpatrick Station	0	0	0	16	Oak & Ash	45/50	163
Mossknowe	450	20	78	94	Sycamore Oak Ash & Lime	55/60	164
Newhope	0	0	0	36	Oak	40/45	165
Springkell	6	0	0	0			
Raeburnhead	0	0	0	75	Beech Oak & Ash	50/55	166
Williamsfield	0	0	0	8	Beech & Ash	45	167
Woodhouse	900	200	0	0			
Wyseby Lodge	200	0	43	125	Mixed Conifers	50/55	168
	1760	342	271	354			

Kirkpatrick Juxta (27)							
Beattock Manse	0	0	16	4	Oaks	60	169
Beattock Station	0	0	0	18	Deciduous	70	170
Craigielands	0	0	59	53	Fir & Deciduous	70	171
Harthope	0	0	22	21	Pines/Spruce	50	172
Holms Farm	0	0	0	32	Mixed	60	173
Marchbanks Wood	0	0	26	41	Oak	50/60	174
Palace Knowe	0	0	29	22	Beech	60/70	175
Skellywell	0	0	57	65	Mixed	70	176
Woodfoot	0	0	42	35	Conifers	50/60	177
	0	0	251	291			

Langholm (28)							
Eastons Walk	0	0	0	80	Oak/Norway Spruce	100	178
Erkin Holm	20/30	0	32	0			
Green Bank	100	0	15	11	Lime	100	179
Green Cleugh	0	0	0	30	Poplar/Norway Spruce & Sitka	60/80	180
Langholm Burgh	60	50	40	0			
Townhead Kirk	90	150	0	0			
West Water	0	0	0	66	Oak/Birch	30	181
	275	200	87	187			

Lochmaben (29)	1908	1921	1963	1973	Trees	Height Feet	No.
Amagill ¼ mile N.E.	0	0	0	83	Some Conifers Deciduous	60	182
Beebinklees	0	0	20	0			
Broadchapel	100	100	0	192	A few Hardwoods Scots Pine	60	183
Broadchapel ¼ mile N.	0	0	0	33	Scots Pine/Beech	50	184
Broom Wood	200	100	0	0			
Bruces Castle	150	0	0	0			
Cocket Hill ¼ mile N.	0	0	31	21	Mixed Deciduous	50	185
Corncockle	0	200	0	0			
Hallheaths	0	0	16	15	Mixed Deciduous	50	186
Hunterhouse	0	0	14	0			
Kinnel Bridge	0	0	3	0			
Millriggs	0	200	9	0			
Millriggs Wood	0	0	140	142	Scots Pine	60	187
Old Spedlins	0	31	0	0			
Priestdykes	0	0	9	43	Oak	60	188
Small Rigg	0	0	148	143	Beech	50	189
Thorniewhaite	Some	0	0	0			
Todhillmuir	0	0	26	105	Beech	60/80	190
	450	631	416	777			

Middlebie (30)							
Blackwood House	Some	0	0	0			
Burnfoot	100	80	20	60	Spruce Silver Fir & mixed Deciduous	50/70	191
Broadlea	0	0	0	7	Sycamore	60	192
Craigs	85	0	0	0			
Dockenflat	0	0	0	15	Elm	40/50	193
Donkins Kirtle	Some	105	0	0			
Dunnabie	0	0	0	71	Spruce/Scots Pine mixed Hardwood	50/60	194
Eaglesfield	0	30	0	0			
East Linbridgeford	0	0	0	72	Beech 35/Sycamore/Spruce & Birch 35	50/60	195
Gilmartin	150	250	0	0			
Kirtledene	0	0	0	250	Few Spruce Scots Pine mainly	40/60	196
Kirtleton	0	0	143	105	Mixed	50/70	197
Kirtle Water	80	0	0	0			
Torbeckhill	150	200	65	160	Beech & Spruce	50/70	198
Torbeckhill Res East of	0	0	0	68	Beech	50	199
Waterbeck	Some	0	0	0			
	565	665	228	808			

Moffat (31)	1908	1921	1963	1973	Trees	Height Feet	No.
Alton	0	0	0	0			
Archbank	34	38	0	0			
Ballplay	40	0	4	0			
Bodesbeck	0	0	45	36	Conifers	70	200
Craigbeck	0	0	17	20	Beech	60	201
Craigieburn wood	200	465	30	20	Beech	60	202
Crofthead	0	0	37	0			
Dumcrief	Some	0	0	0			
Ericstane	0	0	86	91	Beech	60/70	203
Emu Villa	26	22	0	0			
Golf Hill	0	0	0	59	Beech	70	204
Granton	0	0	0	54	Beech & Fir	50/60	205
Heathery Haugh	50	13	37	52	Spruce/Pine/Beech		206
Larchhill	0	0	16	18	Pines mostly	70	207
Laurencefield	Some	0	0	0			
Millmeadows	0	127	0	0			
Parish Kirk	75	15	0	0			
Penrose Hill	0	0	3	0			
Shortwood End	Some	0	0	0			
Tank Wood	0	0	10	0			
Torthorwald Wood	0	0	86	69	Beech mostly	60/70	208
Woodhead	0	0	0	181	Beech/Oak	50	209
	425	758	371	600			
Morton (32)							
Hayfield	0	0	0	4	Ash/Elm & Oak	85	210
Thornhill Station	0	0	18	110	Ash/Sycamore	70	211
Thornhill Village	0	0	3	26	Oak	80	212
	0	0	21	140			
Mouswald (33)							
Boghead (A 75)	0	0	0	127	Pines & Deciduous	50/60	213
Beyond the Burn	75	300	0	0			
Brocklehurst	100	0	0	0			
Manse	24	3	0	0			
Rockhall ¼ mile S. on A75	0	0	0	210	Scots Pine/Sycamore Lime		214
	209	303	0	337			
Penpont (34)	0	0	0	0			
	0	0	0	0			

Ruthwell (35)	1908	1921	1963	1973	Trees	Height Feet	No.
Belridding Farm	80	13	23	0			
Comlongon Castle	0	0	20	10	Spruce/Beech	70	215
Comlongon Castle Wood	0	0	75	13	Oak	80	216
Lovers Plantation	0	0	3	0			
Mid Locharwoods	80	40	28	94	Mixed Deciduous	60/80	217
Nether Locharwoods	230	0	0	0			
Straggling Walk	0	50	0	0			
Summerfield	125	108	0	0			
The Manse	100	100	0	0			
	615	320	149	117			

St Mungo (36)							
Blackford	0	0	0	31	Deciduous	60	218
Castlemilk	200	10	30	39	Scots Pine/Deciduous	60	219
Firpark	0	0	0	74	Scots Pine	70/90	220
Highlaw	0	0	20	62	Scots Pine 3 Deciduous	60/80	221
Murrayfield	0	0	130	9			
Norwood	0	0	25	45	Spruce/Deciduous	60/80	222
Queens Hotel	0	0	0	5	Deciduous	70/80	223
Whitehill (1)	0	0	101	22	Conifers/ Deciduous	60/80	224
Whitehill (2)	0	0	0	25	Conifers/ Deciduous	60/80	225
	200	10	306	303			

Sanquhar (37)							
Blackaddie	0	40	64	10	Scots Pine	50/60	226
Braefoot	0	0	0	97	Spruce/Larch Scots Pine	60	227
Brandleys	0	0	112	120	Spruce/Planes Scots Pine	50/60	228
Glengenny	0	33	0	0			
Littlemark	400	170	169	0			
Newmark	0	0	0	47	Scots Pine	50	229
The Manse	125	120	0	0			
Twenty Shilling	0	100	0	0			
	525	463	345	274			

Tinwald (38)	1908	1921	1963	1973	Trees	Height Feet	No.
Amisfield	Some	150	156	25	Beech	30/40	230
Amisfield Tower	0	0	203	177	Beech & Spruce	60/70	231
Amisfield	0	0	0	37	Beech	60	232
Bankhead	0	0	30	113	Beech & Oak	50/60	233
Barshill	0	0	0	160	Beech	60	234
Brickfield	0	0	0	2	Beech	60	235
Burnbank	0	0	53	84	Scots Pine some Oak	50	236
Garse Glen	400	280	0	0			
Dalrushcan	140	90	0	89	Oak	40	237
Fulton House	0	0	0	5	Beech	50	238
Glenae	Some	0	42	33	Beech	60/70	239
Hazelrigg	0	0	67	147	Mainly Oak some Ash	60	240
Pinnaclewood	0	0	47	79	Silver Birch	30	241
Robertland	0	0	22	0			
Tinwald House	0	0	190	122	Beech	70	242
Tinwald Shaws	0	0	157	29	Beech	50	243
The Slacks	0	0	146	0			
	540	520	1113	1102			
Torthorwald (39)							
Barlouth (1)	0	0	75	94	Spruce	50	244
Barlouth (2)	0	0	0	65	Spruce	30	245
Linns	0	0	50	20	Ash	50	246
Redhills	0	0	12	202	Silver Birch	60	247
Manse	Some	0	0	0			
	0	0	137	381			
Tundergarth (40)							
Burnhead Cot. (S of)	10	0	33	22	Beech	50	248
Burnhead Cot. (W of)	0	0	0	46	Beech	50	249
Chapelfoot	0	0	15	0			
Craighousesteads	0	0	0	98	Spruce	60/70	250
Crawthat	0	0	37	53	Scots Pine	30/50	251
Cudscroft	0	250	0	0			
Dixons	0	54	0	76	Scots Pine	50/60	252
Grange	50	125	0	0			
Hazelberry (1)	0	0	Present	110	Deciduous	60/70	269
Hazelberry (2)	0	0	Present	72	Deciduous	60/70	270
Linnhall	0	0	80	120	Spruce/Beech Scots Pine	50/70	253
Linnhall South of	0	0	0	29	Spruce/Scots Pine	50/60	254
Northburn	Some	0	21	21	Beech	60	255
Pearsbyhall	100	140	100	105	Scots Pine/Beech	60	256
Scroggs	0	0	11	0			
Tundergarth Mains	0	0	90	172	Spruce/Beech Scots Pine		257

	1908	1921	1963	1973	Trees	Height Feet	No
Tundergarth Manse	0	0	0	40	Beech		258
Westwood	60	0	0	0			
Whitsonhill	50	130	25	60	Ash/Elm	60/70	259
Wyliehole (East Drive)	0	0	0	11	Ash	60	260
Wyliehole (S.W. of)	50	80	77	52	Coniferous		
					Deciduous	60/70	261
	320	779	489	1087			
Tyron (41)							
McQueston	0	0	130	107	Scots Pine	60	262
Wamphray (42)							
Girthhead	150	150	158	19	Oak/Beech	50/60	263
Milnehouse	300	125	0	0			
Poldean	0	0	0	18	Conifers	60/70	264
Shawwood Fingland	20	49	0	0			
Station	10	0	0	0			
Stenrieshill	0	0	0	142	Scots Pine	40/50	265
Wamphray Church Hall	0	0	125	48	Beech/Scots Pine	50	266
Wamphray Glen	0	0	157	75	Beech Sycamore		
					Scots Pine	40/60	267
	480	324	440	302			
Westerkirk (43)							
Burnfoot	50	0	0	0			
Douglas Burn	Some	0	0	0			
Glendinning	0	8/10	0	0			
Kemra Bank	30	0	0	0			
Wester Hall	Some	0	0	0			
Westerkirk Mains	0	0	0	31	Scots Pine	30/40	268
	80	8/10	0	31			

Year	Rookeries	Nests
1908	122	17,555
1921	116	15,999
1963	200	16,945
1973	270	20,763

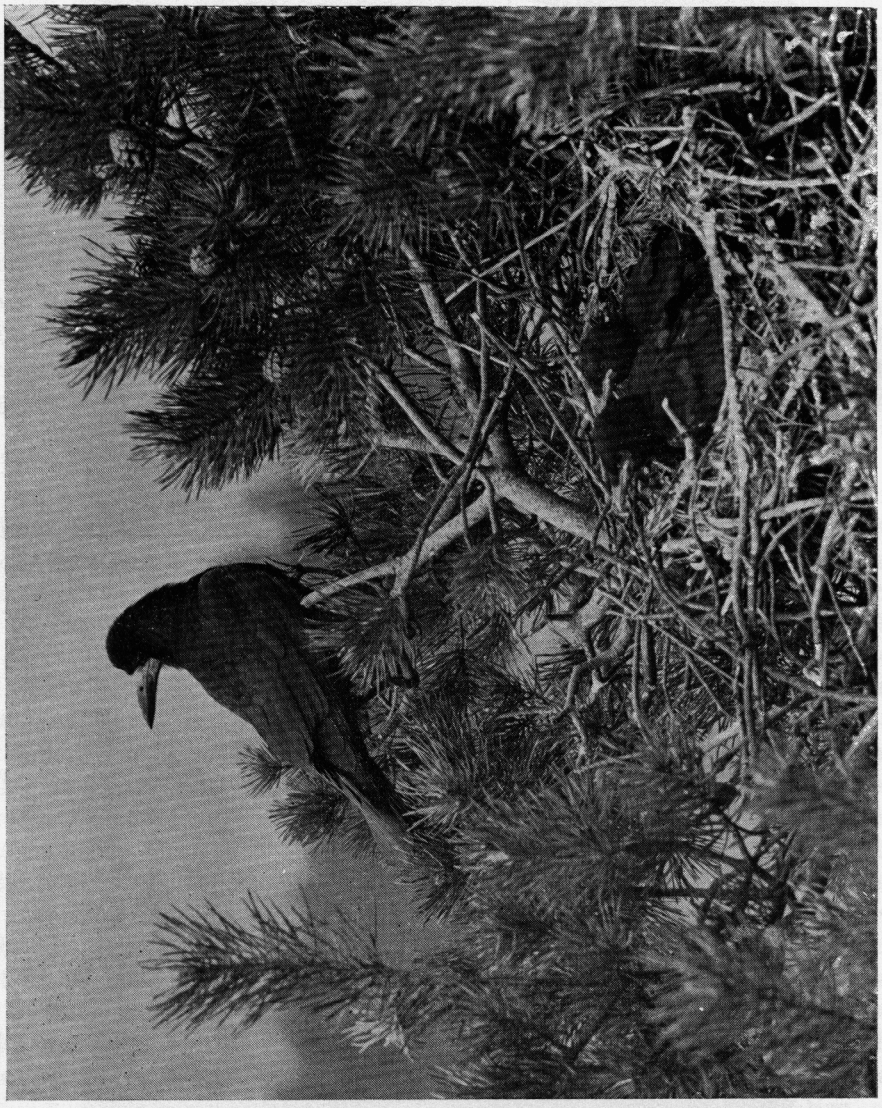

Plate II — Rook at the nest, with young, in Scots Pine near Capenoch, Penpont.
Photograph by Robert T. Smith.

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DUMFRIESSHIRE BIRD REPORT, 1976

Compiled by R. T. Smith & D. Skilling

This report for Dumfriesshire is a successor to those earlier, and more extensive, North Solway Bird Reports (1965-8) which appeared in these Transactions.[1] It was prepared as the annual report of the joint local recorders (Dumfriesshire) to the Scottish Ornithologists' Club: That body has extracted the records of a more unusual nature for inclusion in its annual "Scottish Birds Report".[2] The unabridged list is here published as a status report for the County and year in question — as such it should form a representative "total" record suitable for comparative purposes in subsequent years.

It is to be hoped that these reports will be maintained in the future and to that end we ask for the continuing good support of all our present correspondents, and extend a welcome to new contributors: Accurate records are an essential prerequisite, and every effort should be made to report all pertinent details, especially when uncommon species and exceptional numbers are encountered.

Acknowledgements

The compilers would like to extend their sincere thanks to all their correspondents and to stress that without their unstinting support this report could not have been produced. We must also extend our thanks to Mr James Williams: Without his continuing encouragement and assistance this article would not have been brought to completion.

Correspondents

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Great Crested Grebe	A poor breeding year in the Lochmaben area. Total of four young from six pair. R.T.S., N.E.A.
Fulmar	Seen various times at high water from Waterfoot, Annan. R.T.S, N.E.A.
Canada Goose	A Canada Goose with a yellow ring bearing the letters O U was discovered with the Kinmount flock. It was ringed in Yorkshire and is still present. Steady increase in numbers maintained. N.E.A., R.T.S.
Barnacle Goose	First recorded flock of the winter was of fifty six on 23rd September. Maximum number 7,200 plus 3 leucistic birds, one with four normal goslings. L.T.C. Flocks of Barnacle could be heard flying over towards the Solway during the night of 4th October from Applegarthtown eleven miles inland. R.T.S. Left Solway between 27th April and 3rd May. L.T.C.

1. These Transactions: IIIrd Series; Volume XLIV, p. 6-15; Volume XLV, p. 1-14; Volume XLVII, p. 27-48.
2. Journal of the Scottish Ornithologists' Club.

A hybrid Greylag/Barnacle was with the Greylags on 9th January at Lochmaben, it is of interest because a Barnacle has been with the Greylag flock for several years. N.E.A., R.T.S.

Brent Goose Two juveniles and six adults with the Barnacle between January and April at Caerlaverock. L.T.C.

One with the Canada Geese on 5th February, all were of the pale breasted form, at Kinmount. N.E.A., R.T.S.

Greylag As has been the tendency of the last four years Greylags have been very late in coming, well into December before any number present. N.E.A., R.T.S.

Several breeding records.

Pinkfeet Several flocks flying South on 8th October also some hard weather movements and increased numbers during that time. N.E.A., R.T.S.

Snow Goose One with pinkfeet on 18th January at Caerlaverock, this will be the same bird that frequented Mersehead, Kirkcudbrightshire. L.T.C., R.T.S.

Bean Gose First seen — 1 31st January with twenty Pinkfeet at East Park. L.T.C.
2 18 February with Pinkfeet at Lantonside. N.E.A. R.T.S.
3 8th March with Pinkfeet at East Park. L.T.C.
2 17th April with Pinkfeet at East Park. L.T.C.

Last seen — 2 2nd May with six hundred Pinkfeet at East Park. L.T.C.

Whooper Swan First arrived at East Park a family party of two adults and five cygnets on 8th October. L.T.C.

Twenty five at Roberthill, Lockerbie, 11th November. N.E.A.

Maximum numbers at East Park was thirty six on 29th November. L.T.C.

Left East Park on 20th March. L.T.C.

Bewick Swan First arrived were two at East Park 25th October. L.T.C.

Maximum number of sixteen 28th December. L.T.C.

Last four left 26th March. L.T.C.

Shelduck One pair breeding inland at Canonbie. T.I.

Two adults and one immature on Castle Loch 12th October. N.E.A.

Teal At Eastpark — First count 20 on 30th August, 260 on 22nd September. Maximum 500 on 15th October — 135 on 1st November. L.T.C.

Gadwall At Eastpark — Maximum number was 6 on 14th February. L.T.C.

Wigeon At Eastpark — first count 60 on 8th September — 520 on 22nd September. Maximum 600 on 6th October also 600 on 2nd November. Leucistic bird appeared for 4th winter on 9th November L.T.C.

Late in coming to Lochmaben area — four at Hightae Loch on 3rd October. 88 on 16th October at Castle Loch. N.E.A. R.T.S.

Pintail At Eastpark — first 33 on 26th August, — 113 on 29th August, — 220 on 31st August, — 460 on 8th September, — 207 on 7th November. Last flock 224 on 26th November. L.T.C.

2 at Glencaple on 23rd October — 14 at Nether Locharwoods on 24th October. S.L.

Garganey At Eastpark — 1 on 26th March — 1 on 3rd June. L.T.C.

Shoveler At Eastpark — First 9 on 19th August. Maximum 65 on 30th August. 42 on 26th September — 56 on 27th September L.T.C. — 5 at Powfoot on 21st October. S.L.

Goldeneye	15th November — 54 Goldeneye on Castle Loch — obviously on passage as they were not present the following day. N.E.A. R.T.S.
Common Scoter	f at Castle Loch on 21st September. N.E.A.
Smew	8th and 9th February m at Castle Loch, Lochmaben. R.T.S. N.E.A. 11th, 12th and 13th February f at Castle Loch, Lochmaben. R.B. R.T.S. N.E.A. 10th December — one reported shot on R. Nith at Carnsalloch. K.B.
Goosander	12th November — 25 at Castle Loch. N.E.A. R.T.S.
	One unusual nest site on floor of derelict cottage.
Sparrowhawk	Not as successful as past years. I.N.
Golden Eagle	Immature at Tarras 11th October. T.I.
Hen Harrier	At Eastpark — sightings 9 m and 8 f from 14th January - 26th March/28th September - 30th November. L.T.C. m Singles seen Tarras valley. 1 f seen Wauchope 13th November. T.I.
Marsh Harrier	f at Beef Tub, Moffat on 9th May by D.B., R.J.
Peregrine	At Eastpark seen 16th September — end of year. L.T.C. Some breeding success.
Merlin	At Eastpark seen frequently from 16th August until end of year. L.T.C. M.M. Other wintering records in the county.
Kestrel	Good breeding success.
Red Grouse	Increase in numbers, in Langholm area. T.I.
Black Grouse	Slight increase in numbers in East Dumfriesshire. T.I.
Partridge	Increase in numbers maintained. R.T.S.
Quail	At Bridgemuir, Lockerbie, on 11th July: (R.T.S.). Probably the same bird was calling at Applegarthtown — 22nd July — 4th August. R.T.S. calling at Eastpark 23rd May. L.T.C.
Water Rail	Several sightings. R.T.S. N.E.A.
Corncrake	Heard at Coshogle, Thornhill 21st June. R.M.
Dotterel	Seen at Mosside 20th October. S. Leybourne.
Golden Plover	3000 on 10th January and 24th February, 1000 on 12th March, 1800 on 18th March, 2000 on 2nd October, 3000 on 18th October. L,T.C.
Lesser Golden Plover	(American Race). Seen 2nd January, 3rd January, 10th January, 11th January, 26th February, 27th September, and twice in October. L.T.C. Eastpark.
Grey Plover	Eastpark — 11 on 27th September. L.T.C.
Little Stint	Eastpark — 2 on 18th September. L.T.C.
Dunlin	Eastpark — nest found with egg 20th May on Merse. L.T.C.
Ruff	Eastpark — 1 on 17 August. M.M. Eastpark — 1 on 9th September; 4 on 18th September; 4 on 22nd September; 3 on 26th September; 2 on 16th October. L.T.C. Eastpark — 1 on 11th April. L.T.C. Milnfield — 5 on 26th October. S.L. 2 displaying at a site in Dumfriesshire — no nesting reported. Near Waterfoot — 6 on 9th October. 4 f and 2 m. R.T.S. N.E.A.

Spotted Redshank	Eastpark — 1 on 22nd April; 1 on 5th May; 1 on 29th July; 1 on 19th August; 4 on 3rd September; 6 on 4th September; 1 on 19th September; 2 on 20th September. L.T.C.
Greenshank	3rd April by Nith at Bellholm. M.M. Waterfoot — 3 on 20th November. R.T.S. N.E.A. Eastpark — 1 on 5th July; 1 on 4th September; 5 on 5th September. L.T.C. 1 at Bellholm 8th August. M.M. Waterfoot — 3 on 19th October. N.E.A. R.T.S. Powfoot West — 2 on 20th and 21st October; Cummertrees Mill — 1 on 24th October. S.L.
Green Sandpiper	Eastpark — 1 on 6th July; 2 on 30th July; 2 on 16th August. L.T.C. Eastpark — 1 19th August. M.M. Eastpark — 1 28th August. M.M.
Wood Sandpiper	Eastpark — 1 on 2nd July; 2 on 6th July; 2 on 15th July; 1 on 20th September. L.T.C.
Common Sandpiper	Arrived 26th April. A.R.H.
Black T. Godwit	Eastpark 4 on 25th August. M.M.
Jack Snipe	Townhead bog by Amisfield — 3 on 30th October. M.M.
Little Gull	Castle Loch — 1 on 20th May and 21st May. N.E.A. Mill Loch, Lochmaben — 1 on 8th October. N.E.A.
Iceland Gull	Waterfoot — 1 adult on 9th October. R.T.S. N.E.A.
Common Gull	Quite large flocks throughout winter in fields inland. T.I.
Kittiwake	Waterfoot — 60 on 28th March. R.T.S. N.E.A.
Black Tern	Castle Loch — 1 on 20th September. R.T.S. N.E.A. Mill Loch — 1 on 8th October (for short time only). N.E.A.
Common Tern	Castle Loch — 1 on 20th May (with little gull). N.E.A. Castle Loch — 2 on 21st May (with little gull). N.E.A.
Arctic Tern	Portlandica phase — at Castle Loch 20th September, R.T.S., N.E.A.
Turtle Dove	Lochar Moss — 1 on 24th May. R.T.S.
Cuckoo	First heard Canonbie 20th April. T.I.
Swift	First on 5th May — East Dumfriesshire. T.I. 70 seen over Langholm in August. T.I. 2 swifts seen to leave nest at Lockerbie 13th September. R.T.S. and N.E.A. 2 swifts seen at Castle Loch 21st September also 14th September. N.E.A.
Kingfisher	Castle Loch, Lochmaben — 1 on 22nd September. R.T.S. N.E.A. 7 sightings on N. Esk January to March. T.I. Regular sightings September — December throughout area. See Plate III.
Hoopoe	1 at Forest of Ae 24th April. M.M.
Green Woodpecker	Appears to be increasing. R.T.S. 2 pair bred in Langholm area. T.I.
Sand Martin	4 at Mill Loch, Lochmaben 1st April. R.T.S.
Swallow	First on 2nd April — 1 at Mill Loch, Lochmaben. R.T.S. Latest on 31st October by Bellholm. M.M.
House Martin	First on 4th May — Langholm district. T.I. Last one 6th October in Langholm district. T.I.
Tree Pipit	Arrived 6th May — increase in numbers reported. A.R.H.
Yellow Wagtail	Mill Loch, Lochmaben — 1st May. R.T.S. Started passing through Eastpark 12th July. L.T.C.

	1 at Eastpark 18th August. M.M.
White Wagtail	4 at Eastpark on 24th April. L.T.C.
Chiffchaff	Singing by Heathhall 6th April. M.M.
	First heard 12th April at Langholm. T.I.
	Scarcer — absent from some areas.
Pied Flycatcher	2 pairs at Glencartholm 24th April. T.I.
	15 sites within one mile radius in Scar Glen, including 2 brown m. A.R.H.
Whinchat	First reported 6th May. T.I.
Stonechat	Continues to increase.
Wheatear	First arrival 31st March. T.I.
	1 at Brow Well 27th October. M.M.
Redstart	Seems to be scarcer — first noted 28th April at Tarras. 1 f at Lochmaben, 18th October. N.E.A.
Bluethroat (Red spotted)	m at Caerlaverock 19th May. R.B.
Fieldfares	Late in arriving — first noted 1st November at Lochmaben — widespread by 4th November. N.E.A.
	1000 at Canonbie 3rd April. A.W.B., L.B.B.
Great Grey Shrike	1 at Eskdalemuir 2nd March. M.M.
	1 Tarras Tile Works 28th December. T.I.
	1 Howcreek, Ruthwell 23rd October. M.M.
	1 Riddingwood, by Kirkton 30th October. M.M.
	1 Ae Forest 1st November. M.M.
	3 Ae Forest different places and different birds, 19th November. M.M.
	1 Ae Forest 21st November. M.M.
	In all five Great Grey Shrikes were ringed at Ae.
Waxwing	8 at Dumfries 5th February. J.H., M.M.
Grasshopper Warbler	Earliest record 12th May at Langholm. T.I.
Sedge Warbler	Earliest record 6th May at Eastpark. L.T.C.
	At least 7 singing males on farm. L.T.C.
Garden Warbler	Reported 4th May.
Blackcap	Singing male at Dumfries 21st April. L.T.C.
	Breeding improved. (Some winter records), 18th/20th October. N.E.A. S.L.
	One at Bellholm 27th October. M.M.
Whitethroat	Continues to increase — first record 2nd May.
Willow Warbler	1st arrival 31st March widespread by 11th April.
Ring Ouzel	1st noted 29th March at Langholm. T.I.
	12 feeding on Rowan berries in Dalwhat Glen, Moniaive on 18th October with Redwing, Blackbirds, and Song Thrushes. J.F.Y.
Redwing	Large numbers on 18th October. N.E.A. J.F.Y.
Song Thrush	Many wintering which is unusual. R.T.S. N.E.A.
Corn Bunting	Maximum numbers at Eastpark — 37 6th February. L.T.C.
Snow Bunting	1 at Tarras 18th October. T.I.
Brambling	60 by Moffat 19th February. M.M.
	50 at Mosspeebles 14th March. T.I.
	1st winter record 30th October. L.T.C.
	Large parties roosting in Ae Forest. L.T.C.
Twite	Maximum numbers 86 — 16th January at Eastpark. L.T.C.
	Maximum numbers 67 — 6th February at Eastpark. L.T.C.

Crossbill	Several at Ae Forest during late winter. M.M. R.T.S. N.E.A. 20 with mixed flock of finches, i.e. siskins, chaffinchs, goldfinches, and 3 bullfinches, goldcrests and coaltits. M.M.
Tree Sparrow	58 at Waterfoot 3rd April. N.E.A. R.T.S.
Magpie	Several records. One isolated breeding colony near Lockerbie has at least 4 breeding pair. N.E.A. R.T.S.
Raven	Better breeding success than last year.

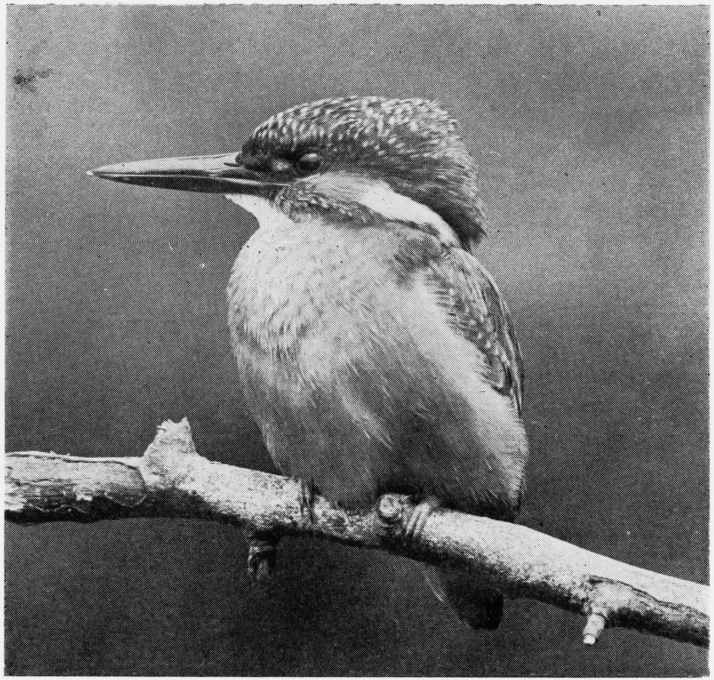

Plate III — Kingfisher, **Alcedo atthis.** Although at one time a severely threatened species the local population increases of the last decade are still being maintained.

Photo Robert T. Smith

THE NATTERJACK TOAD

ITS DISTRIBUTION IN SOUTH WEST SCOTLAND 1976

by

R. H. BRIDSON

Nature Conservancy Council

Introduction

The Natterjack Toad **(Bufo calamita)** is found only in Western Europe between 55°N in Sweden and 35°N in Spain. Throughout most of its range it occupies a variety of soils and extends from the Alps to the coastal plain. In Britain it is restricted to sandy coastal areas and the sandy heaths of East Anglia and southern England.

The range of Natterjack in Britain has been considerably reduced during this century by agricultural and forestry expansions on the East Anglian heaths and urban development on the Surrey heaths. This has fragmented the breeding sites in south-east England and in most southern counties the Natterjack has completely disappeared. The coastal sites have suffered from increasing urbanisation and the expansion of recreational development, especially in the Lancashire area.

The Scottish colonies of the Natterjack Toad have fared rather better than the English colonies. There are no large expanding urban areas near to breeding sites and the toads are restricted to a narrow coastal saltmarsh which has been relatively undisturbed by man. There are also few schools in the area and there does not seem to be any collecting of toad spawn, which is much more difficult to find than frog spawn as it is laid in discrete strings which sink to the bottom of the pools.

Aims

In 1975 the Conservation of Wild Creatures and Wild Plants Act became law and included the Natterjack Toad amongst the 6 specially protected creatures. It was therefore important that a detailed survey of the breeding sites in Scotland be undertaken in order to ensure that management for its survival is effective.

The last survey of the Natterjack Toad in Scotland was 1971 (Boyd) and it was realised in 1975 that Natterjacks were breeding in areas, especially at Caerlaverock, that had not been previously recorded. The purpose of a survey was therefore twofold : To identify and describe every breeding pond within the coastal strip and to assess the expansion or contraction of the colony since 1971.

Methods

All of the acceptable records for the toad in Scotland have been along the coastal strip of the Solway Firth in Dumfriesshire and Kirkcudbrightshire. The coastal strip was divided into 2 areas. Miss J. Martin, Nature Conservancy Council's Assistant Regional Officer for Dumfries and Galloway, was responsible for survey west of the River Nith, and Mr R. H. Bridson, Warden, Caerlaverock National Nature Reserve, for east of the River Nith.

As the Natterjack Toads are specifically protected by law, a licence is re-

quired to handle them and licences were therefore obtained and R. H. Bridson was also licensed to collect toads for photography.

All of the sandy sections of coastline from Sandyhills in the west to Gretna in the east were searched. Most of the terrain was already familiar to both observers and all of the suitable habitat was known. Each pond along the coastal strip within 500 yards of the shore was visited throughout the season and the only areas omitted were sections of cliff and rocky coastline. All ponds were visited at night between sunset and 1 a.m. and the following observations noted :

1. Date
2. Description of pond including size, depth, vegetation type etc.
3. Presence/absence of toads.
4. Number of toads present.
5. Number of females mating.
6. Presence of spawn/tadpoles.

general observations

12th April 1976 was the first night that males were heard croaking at Caerlaverock. The weather was then cold until 20th April when a few males called and then there was no activity because of cold weather until 3rd May.

Locating and identifying Natterjacks at night was considered to be difficult after consulting reports on night observations. In fact, it proved to be extremely simple. It was found that in the early part of the breeding season the males are very active and continue croaking when observed closely. It was therefore a straightforward matter of walking around a pond, using a torch, and counting the toads. Very few dived below the surface — perhaps one in fifty — but remained standing upright on emergent vegetation surrounded by a collar of bubbles created by expelled air when croaking. On one cold night, 5th May, 444 males and 3 females were counted at East Park Farm, Caerlaverock, and it would have been relatively simple to collect every one.

In the early part of the breeding season the males were always on the side of ponds nearest to a sandy bank. They seemed to have left their daytime hiding place and crawled to the nearest water. Most were within 50 centimetres of the edge of the pond but as the season progressed and the vegetation grew in the ponds they moved to the centre and crossed to the other side.

The survey was also intended to have been an estimation of the numbers of toads in Scotland but this is difficult for the following reasons : The only reliable way to count the toads was by searching a pond by torchlight. When the pond had clearly defined edges with little emergent vegetation this was straightforward, but in dense marshy areas dominated by **Juncus** species it was difficult to locate all the toads. Counting by sound is completely unreliable. Its value lies in the fact that croaking proves toads are present in a pond. In one pond where the level of noise gave the impression of large numbers of toads present there were only five and in a totally silent pond there were 31 males. Very few females were present in the ponds as the female only visits the pond to spawn. The number of male toads varied as the season progressed until in early June very few large males were pre-

sent. Only smaller, perhaps three year old, toads were calling. Presumably the older males are more successful in mating than the younger and when they have spawned they move away.

The younger toads left in the ponds in late June were very nervous and any approach to the pond immediately silenced the chorus. It was impossible to photograph the toads croaking as they would not resume croaking while the observer stood close to them. The chorus of croaking started much earlier in the day in late June and choruses at 2 p.m. were recorded with the main chorus starting about one hour before sunset. This contrasts with the early part of the breeding season, when croaking does not begin until after sunset and usually not until it is dark. Single males were often recorded croaking in bright sunlight, but proved extremely difficult to locate. A sudden shower of rain on a June afternoon encouraged a large number of males to call and the chorus continued for about quarter of an hour. The last record of a male calling was on 14th October 1976 at Caerlaverock. A male was calling from long grass on a sandy bank at mid-day.

During the breeding season the toads restrict their movements to the areas around the breeding ponds but after spawning they begin to wander throughout the surrounding district. On 19th June the first post-breeding male was found at the author's house, which is about 600 metres from the nearest breeding pond.

The 1976 breeding season, especially at Caerlaverock, seemed very successful. The very wet spring ensured plenty of water in the spawning ponds and most early spawn was successful. The drought experienced by most of Britain did not affect south-west Scotland until much later in the year and by the time the ponds dried out during mid-August almost all the young toads had emerged. In late September there were many young toads in the Caerlaverock area and after a few days heavy rain young Natterjacks with young frogs and young common toads were found wandering on the road surface.

One observation that has not previously been recorded is that Natterjack Toads do hop or jump as well as crawl. An adult was placed on a flat surface and when alarmed by a hand quickly thrust towards it the toad would hop or jump about 20 centimetres and then continue its normal crawl.

SURVEY OF BREEDING PONDS

Table 1

A summary of the sites visited in sequence from west to east

Name of Site	County	Map Reference	Status
Sandyhills	Kirkcudbright	NX 895553	None found
Mersehead	Kirkcudbright	NX 918555	None found
Gillfoot	Kirkcudbright	NX 978553	Less than 200 adults
Carsethorn	Kirkcudbright	NX 988600	None found
Kirkconnel Merse	Kirkcudbright	NX 984685	None found
Bowhouse	Dumfries	NY 010655	c 100 adults
Flooders	Dumfries	NY 035651	200-800 adults
East Park	Dumfries	NY 060656	400-600 adults
Newmains	Dumfries	NY 055655	800 adults
Midtown	Dumfries	NY 048663	Less than 100 adults
Nether Locharwoods	Dumfries	NY 045660	None found
Powhillon	Dumfries	NY 058668	c 40 adults
Priestside	Dumfries	NY 062699	c 40 adults
Riddindyke	Dumfries	NY 087669	400-600 adults
Powfoot	Dumfries	NY 134652	100 adults
Waterfoot	Dumfries	NY 162655	200 adults
Redkirk	Dumfries	NY 192648	None found
Caerlaverock NNR	Dumfries	NY 316656	None found

Site Descriptions

Sandyhills

A bay about 1 mile wide with sandy soil and a few ponds around it. This is a growing holiday site but so far development has not damaged the natural vegetation. The Natterjack toad has never been recorded from this bay but after receiving reports from local naturalists that Natterjacks had been heard it was included in the survey. All the pools were searched on June 4th and 7th but no toads were heard or seen. No-one could confirm a record of the Natterjack and as the nearest pond is five miles east its presence in the bay must be recorded as doubtful.

Mersehead

Mersehead Farm is situated at the mouth of the Southwick Water on the east bank. Between the farmland and the saltmarsh is a small sand dune system and there is a low sandy sea wall dividing the sand dunes from the fields. On the seaward side of the sea wall nine hundred metres south west of Mersehead Farmhouse is a pond about 200 m x 80 m. It is a shallow pond drying out in summer and is very similar to sites occupied by Natterjacks at Caerlaverock. The pond was searched on three occasions on 8th May, 14th June and in late August but without success. All of the pointers to Natterjack toads, ie. shallow unshaded pond with bare substrate, sandy banks to burrow into and driftwood for day time cover were present. With a breeding pond less than four miles away across flat sandy country it was surprising that no toads were found and it can only be assumed that something renders the site unsuitable.

Gillfoot

This is the only known breeding site west of the River Nith and is situated in the village of Southerness. The breeding pond is about 300 m x 50 m and originally separated the farmland of Gillfoot from the sandy shore but is now bounded on the landward side by a caravan

Corrigendum to Volume 53. This table should be substituted for that on page 49.

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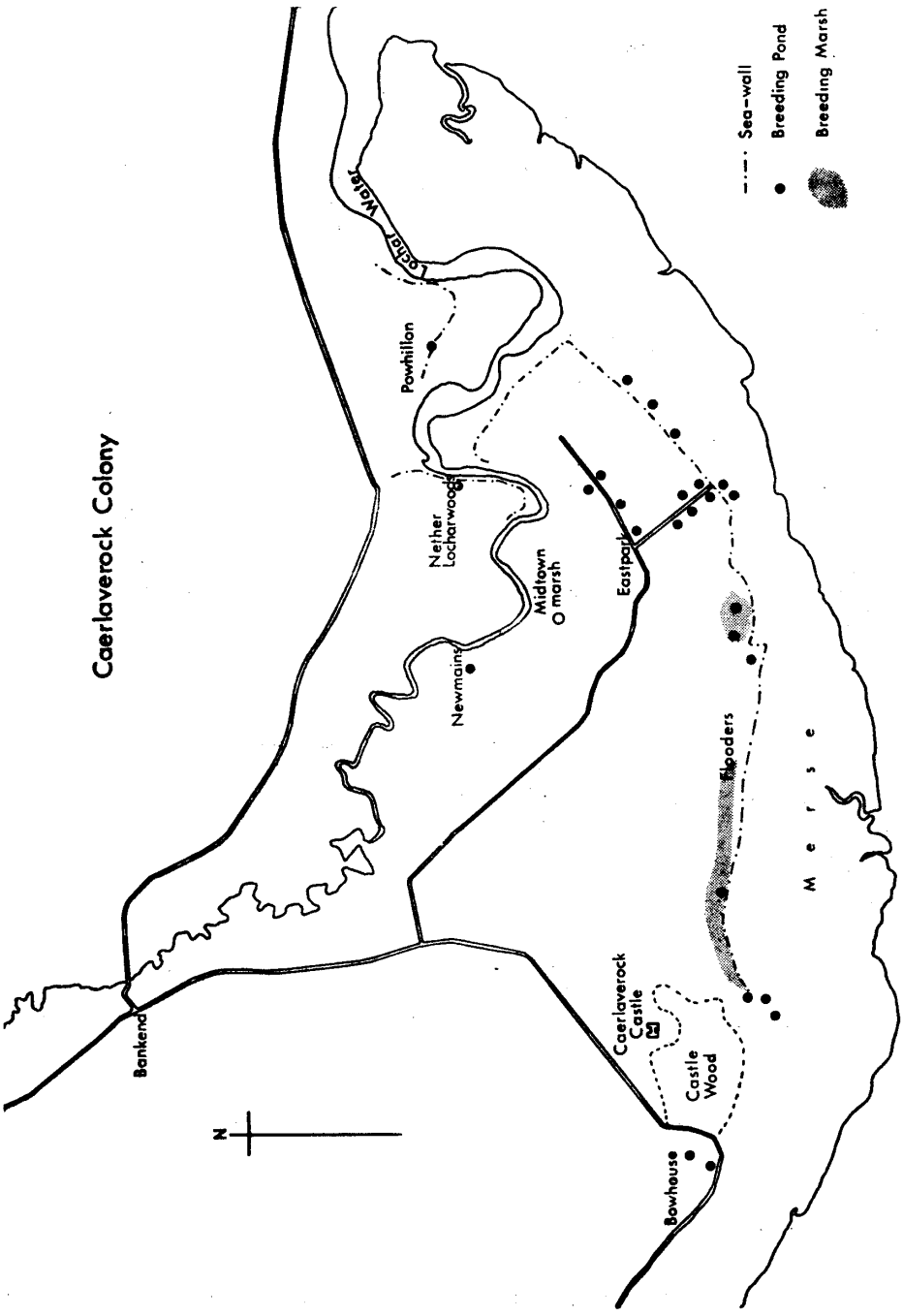

Fig. 1 Map of Breeding Ponds and Marshes of the Natterjack Toad in the Caerlaverock Colony. Scale 1 : 40000 approx.

and holiday chalet complex. There are two separate vegetation zones in the pond with one half being entirely **Scirpus maritimus** and the other a dense reed bed of **Phragmites communis.**

The pond separates the expanding caravan and holiday chalet complex from the sandy beach and receives surface drainage from the holiday site and a small amount of litter and rubbish. There is only one track through the pond and in the **Scirpus maritimus** near the centre is a colony of Black-headed Gulls estimated at 300 pairs. The gull colony is foul with droppings etc and there will be pressure from the holiday complex to have the pond drained to improve the access and remove the 'mess' created by the gulls.

What effect the gulls have on the toads is unknown, but it cannot be beneficial. They will almost certainly feed on young toads and all Natterjacks were found in the dense **Phragmites** sheltered from the gulls.

The pond was visited on 7th May, 8th May, 14th June, and an estimate of 30-40 males calling was made. Spawn was found and on a later visit in August, when there was still standing water, several juvenile toads were found.

Breeding at Scotland's only threatened site was therefore successful in 1976 but as it is 7 miles (across the sea) from the nearest colony (Caerlaverock), its status must be precarious.

Carsethorn

Three small ponds about 300 metres north-west of the village of Carsethorn and within 50 m of high water marks were visited on 7th June but there were no toads. Natterjacks have never been recorded from this area and as the ponds are too small to support a breeding colony then the likelihood of Natterjacks breeding is doubtful.

Kirkconnel Merse

This merse (saltmarsh) across the River Nith from the village of Glencaple is almost 1 km. square. The east side is bounded by the River Nith and the west by arable farmland with some woodland. The western edge of the merse is marshy as it receives surface drainage from the adjoining, higher farmland. There are a series of freshwater pools and ditches but none larger than 2 metres square. This marshy area was searched on June 3rd but no toads were found or heard and no spawn was located. There has never been an acceptable record from this site and therefore it is doubtful if Natterjacks have ever bred on this saltmarsh.

Caerlaverock

The Caerlaverock colony (see Map fig. 1) covers a large area, 5 sq kms., and has been divided into six sections for this report.

(i)

Bowhouse

This section includes the western end of the Caerlaverock National Nature Reserve and the farmland of Bowhouse and Lantonside farms adjacent to the reserve. The fields of the two farms adjacent to the reserve have been increasingly drained over the past ten years and now support less than twenty spawning adults. Spawn has been laid in the remaining 'puddles' in the fields but these small stretches of water quickly dry out and the tadpoles do not survive. The western end of the Nature Reserve has many marshy areas south of the Castle Wood and a few Natterjacks breed in this area but it is not an important site. The merse is eroding rapidly (Bridson 1976) in this area and it seems likely that all the breeding sites in this section will be extinct within thirty years. These breeding sites are on the edge of the main breeding area on the reserve and do not represent a significant loss.

(ii)

Flooders

The flooders is an 80 acre freshwater marsh which has recently been included within an extension to Caerlaverock National Nature Reserve. An east-west drainage ditch divides the marsh and there is a graduation from very wet areas with **Equisetum** sp, **Hippuris vulgaris**, and **Iris pseudacorus** to meadowland with tussocks of **Juncus** sp.

All of the marsh is below the 25 ft. raised beach and receives most of its water from the natural drainage of inland fields. The south side of the marsh is bounded by a sandy sea wall which is breached inseveral places. Depending on the state of the tides, wind and rainfall, the marsh is flooded by the sea on occasions throughout the winter. The total inundations by sea-water in 1975/76 being about 10. The excess water drains very quickly along the west-east ditch.

The toads are associated with the pools along the landward side of the sea wall and in some of the more permanent pools. Throughout the rest of the marsh the toads are spread more thinly and estimates of the population are very difficult owing to the dense vegetation. The best areas for toads in the flooders seem to be the pools with bare organic mud fringed by **Hippuris vulgaris** and **Scirpus maritimus.**

There is an area of the Flooders outwith the NNR which is dominated by **Juncus effusus.** The wetter depressions are floored with **Polygonum amphibium** and **Eleocharis palustris.** This is an important breeding site but extremely difficult to locate the toads in the very dense vegetation.

The Flooders is probably the most important breeding site in Scotland and almost certainly the stronghold of the colony from which the 1970-1976 expansion originated. It is now safeguarded within the boundary of Caerlaverock National Nature Reserve but during this century has been neglected agriculturally and there is little prospect of demands for drainage.

(iii)

Caerlaverock National Nature Reserve (Sanctuary)

A sandy sea wall, average height 3 ft, divides the saltmarsh of Caerlaverock NNR from the arable farmland of East Park Farm.

There is a series of pools 9 metres seaward of the sea-wall in which Natterjacks breed. The pools, about 0.5 metres deep, vary from 5 to 20 metres in length and are all about 5 metres wide. They are filled by occasional very high tides but mostly they are dependent on rain-water. The vegetation in the ponds follows a succession from bare mud through clumps of **Eleocharis palustris** and **Juncus gerardii** to patches of **Glyceria fluitans** and **Alopecorus geniculatus.** Eventually wet meadowland grasses, eg **Agrostis stolonifera** invade and the pools dry out.

The cattle grazing the saltmarsh are speeding up this succession by trampling the edges of the ponds and leaving deep hoof-prints in the muddy bottom. The top of the hoof-prints dry out more quickly and seeds and wind-driven particles are trapped in the uneven surface. This constant trampling means that the shallow ponds are becoming increasingly vegetated and unsuitable as Natterjack breeding ponds.

The cattle were also responsible for the poor breeding results in these ponds in 1976. They are by far the most serious threat to the Natterjack tadpoles on this site during metamorphosis. A trough is provided for the cattle on the saltmarsh, but it is a considerable distance (¼ mile) from the main grazing areas. The breeding ponds are much nearer and therefore cattle are attracted to the water. The cattle like to stand in the shallow water in warm spring weather and this means that the edge of the pool becomes a soggy mass of mud and vegetation. Naterjack tadpoles, which are usually restricted to the edge of the ponds, cannot survive this trampling.

(iv)

Wildfowl Trust Refuge East Park Farm

This man-made site is probably responsible for the dramatic increase in range of the Caerlaverock colony and for the large population of Natterjacks now colonising new sites.

Since 1970, the Wildfowl Trust have created sandy banks about 10 feet high in order to provide undisturbed viewing facilities of wild geese for the public. The adjacent borrow-pits which were graded as shallow pools for wildfowl have perhaps been ideal breeding ponds. The level of water in the ponds, except the southerly ones beyond an east-west drainage

ditch, is artificially maintained by pumping fresh water from the nearby Lochar water.

These sandy banks for hibernating and shallow pools for breeding have been a tremendous boost to the Scottish Natterjack population and on one cold night, 5th May 1976, 444 males and 3 females were counted in the ponds. The ponds on the west side of the farm suport larger numbers of toads than the ponds on the east. The fields on the east are better drained, with more tile drains, than the west but the major difference is in the agricultural useage of the fields. Those on the west are pasturage and are hard grazed by cattle and geese, whilst the eastern fields are used for grain and hay. This has resulted in the eastern ponds being invaded by meadow grassland, eg. **Deschampsia** spp, **Holcus lanatus, Trifolium pratense** and **Odontites verna.** They do not hold water for long in spring and will soon be little more than winter puddles. The cattle also influence the breeding success in the western ponds by trampling the edges as on the NNR.

(v)

Midtown Marsh

250 metres North East of Midtown Farm, Caerlaverock, is a 400 metre square area of meadowland dominated by dense clumps of **Juncus effusus** with a series of freshwater pools. The site lies between Newmains Pond (vi) and East Park Farm (iv) but after many searches throughout the breeding season no toads were found. The marsh is used for breeding by frogs, **Rana temporia** and Common Toads **Bufo bufo** but as no Natterjacks were found it can only be assumed that something within the site renders it unsuitable.

(vi)

Newmains Pond

500 metres North East of Newmains Farm, Caerlaverock, is a circular pond of about 50 m radius. 30-40 males were calling in the spring but spawn was very difficult to find as the pond is densely vegetated with **Juncus conglomeratus, J articulatus** and some **J maritimus.** There is a closed coarse grass sward in which **Eleocharis palustris, Glyceria fluitans, Agrostis stolonifera, and Alopecoris geniculatus** are dominant. This site has only been recently colonised as the farmer who lives only 500 metres away had not heard the toads croaking until the last 2 years. Although this appears to be the furthest site inland in Scotland, it is still subject to occasional inundations of salt-water, as the presence of **Juncus maritimus** shows, from the tidal Lochar water.

Nether Locharwoods

400 metres South East of Nether Locharwoods is a shallow pond landward of a sandy sea-wall. Although shown as a pond on some maps the site is really only the overspill from a flooded ditch which remains throughout winter and early spring. On 8th May the pond was searched and about 20 males were calling but were difficult to locate owing to a thick algal scum over the water.

Powhillon

This site was visited on 26th May and spawn found in the pools landward of the sea-bank. There were also 2 rushy areas between the farm and the saltmarsh but no toads were found in the wetter parts.

Under driftwood 2 large females and 14 one-year-old Natterjacks were found. This relationship between numbers of adults and one year olds was not found at any other site. All other sites had a complete range of sizes and this could indicate that 1975 was the first breeding year for Natterjacks at Powhillon and the only toads present were mature individuals who had wandered to the site and juveniles from last year's successful breeding.

Priestside Merse

This large area of saltmarsh 4½ km. long, varying from 50-400 metres wide, has Natterjack toads scattered throughout its length. The toads, as at Caerlaverock and Powhillon, are associated with the sandy sea-bank which provides easily burrowed soil for hibernation chambers and the adjacent pools and ditches for breeding. The area has probably never

supported a large population as there are no pools larger than 4 metres square, but its value as a breeding site lies in its undisturbed continuous nature.

Every ditch from adjacent farmland will have Natterjacks and as one farm cleans out the ditches, so the toads will move along the coast to the next suitable pool or ditch. It seems unlikely that each farm will clear ditches at the same time, so the site is probably secure.

Moss-Side-Riddindyke

The saltmarsh in this area is dominated by large areas of **Juncus maritimus** and **Scirpus maritimus** with small pools in the rushy vegetation. The numbers of toads in this area is very difficult to assess and the largest pool, near Moss-side farmhouse, had 20 males in it with one very large female in the high tide debris. The toads are probably thinly distributed throughout the marshy areas. There is a caravan ste at Riddindyke adjacent to Natterjack breeding areas but few caravans are occupied in the breeding season and there seems little threat to this linear site.

ICI Factory, Powfoot

This colony is the one estimated by Boyd in 1971 to contain 300 individuals but is now probably a little smaller. The breeding ponds and ditch are within the ICI factory complex and those were not visited by Boyd. For security reasons admission is difficult for amateur naturalists. It is unfortunate that Boyd did not see the ponds in 1971 as they have undergone slight changes since then.

There are 5 ponds, 1 ditch, and a marshy area within the site. Within the marshy area no toads were found and in the ditch which is overgrown with **Phraghites communis, Oenanthe crocato,** and **Epilobium** sp. about 10 males were calling. The largest pond, about 100 metres diameter near the southern boundary fence, has steep sloping masonry banks and receives effluent from the factory. It is totally unsuitable for Natterjacks.

The other 4 ponds are man-made, probably in the 1939-45 period, and are rectangular in shape, 130 metres x 30. The 2 southerly ones have had the water level raised by 12-18 inches and rainbow trout introduced. The ponds are still and clear with a sandy substrate with emergent vegetation, eg **Typha latifolia.**

The 2 northerly ponds have breeding Natterjacks in them. The westerly pond's substrate is compacted stone with less sand than the other pond and covered by decaying organic matter. The bottom is a series of parallel strips running lengthways along the pond with the raised part probably immersed in winter. In late August there was still enough water to support a large colony of Natterjacks. The vegetation is a complex of wetland communities with tall stands of **Typha latifolia** with a **Juncus** sp community and an **Eleocharis palustris** community. Around the edge is a bryophyte community with **Drosera rotundifolia.** The easterly pond is deeper and more heavily vegetated and is not such a good breeding site and only 6 males were recorded.

The ponds are surrounded by coarse sandy banks about 6 metres high, providing easily burrowed areas for hibernating toads.

Waterfoot

This large saltmarsh on the east bank of the River Annan estuary was searched on 21st May and in late August. The driftwood along the landward edge of the saltmarsh was searched and all suitable pools investigated. The area seems suitable with sandy soil and adequate pools, but as no toads were found and no records for the site were received, it is assumed unlikely that there are any Natterjacks on this saltmarsh.

Redkirk Point

There is an area of saltmarsh at this point about 1 km long and 150 metres wide with shallow pools and backed by a sandy sea wall. The site is very similar to Caerlaverock and all Natterjack habitats, ie pools, driftwood, sandy banks were investigated but none were found.

ASSESSMENT OF CHANGE

For the reasons given earlier, any estimate of Natterjack toad populations is fraught with difficulties, but there is no doubt that as close an estimate as possible is valuable for future reference in which to gauge future population trends. The totals given are for breeding males in Spring 1976. Assuming an equal sex ratio, the figures should be doubled.

Gillfoot Colony

This area was not included in the 1970/71 survey and it was encouraging to confirm that the colony was still viable although in need of protection. Estimated population of less than 100 males.

Caerlaverock Colony

This large area can be considered as one colony since it is reasonable to assume an amount of interchange between breeding pools (Mathias 1971). There has certainly been an extension of range and increase in population since 1970 probably due to the construction of pools and banks at East Park Farm. The Natterjacks are now breeding in areas, eg East Park, Newmains in which they have never before been recorded and local farmers etc are seeing Natterjacks in farm buildings during the post-breeding dispersal in far greater numbers. It is very difficult to estimate the population of this colony as it includes the densely vegetated Flooders but there is certainly a minimum of one thousand breeding males.

Priestside Colony

This colony extends along the coastal strip from Nether Locharwoods to Powfoot village. Although Natterjacks were recorded from areas previously not recorded, ie Nether Locharwoods and Powhillon this is not considered significant as they were not fully investigated in 1970/71. This linear site is limited in the number of toads it can support because of the lack of breeding ponds and an estimate of seven hundred breeding males is probably near to its maximum population. Since 1970 there has probably been little change in this colony.

Powfoot

Since 1970 the slight alterations to the ponds have probably reduced the breeding population by 25%-40% giving a minimum of 100 breeding males. This gives, assuming an equal sex ratio, a minimum of 4,000 breeding adults in South West Scotland in 1976 representing 20% of the British population.

Conclusions

All of the Natterjack breeding sites in Scotland are within 600 m of tidal water. Most of the sites are associated with saltmarshes with the toads hibernating in sea-banks and breeding in the pools adjacent to these banks, the only exceptions being the artificial pools and banks in the ICI factory and the Wildfowl Trust refuge.

Apart from Gillfoot Bay, Southerness, the Scottish Natterjack Toad population seems to be thriving. There are, as yet, no threats to its habitat as in England and with its legal protection, any future threats should be easier to counter. The Glaxo factory being built at Annan is not on any breeding pools but if small pools are constructed in the factory, toads from the ICI colony will quickly colonise it.

There are exciting possibilities for research on the North Solway coast. Toads are breeding in a variety of pools of differing soils, vegetation and size. Valuable information could be gathered on the optimum conditions for breeding success,

with obvious benefits for the experiments in England to create Natterjack ponds at Ainsdale Sand dunes and Winterton.

ACKNOWLEDGEMENTS

I am grateful to Miss J. Martin, not only for visiting all the sites west of the River Nith at night, but for visiting all other sites and providing the botanical information contained in the report. Any distribution survey depends on the co-operation of landowners, farmers etc. and I would particularly wish to thank Mr Brookfield and Mr Gate of ICI, all of the farmers along the coastal strip, and Mr Campbell and Mr Colley of the Wildfowl Trust. Mr E. T. Idle, Mr A. J. Kerr and Mr C. Placido provided helpful comments on an earlier draft of this report.

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BURNSWARK HILL, DUMFRIESSHIRE

by
GEORGE JOBEY

INTRODUCTION

The tabular eminence known as Burnswark Hill commands the lower reaches of Annandale and lies some 5 kilometres to the north-east of the Roman fort at Birrens, one of the outlying stations of the Hadrianic frontier in the west (NY 185785). As a notable landmark, which rises to a height of **c.** 300 metres and affords extensive vistas, it has been the subject of such frequent topographical description as to render another lengthy account unnecessary. At this stage it will be sufficient to draw attention to the map of the immediate area, based upon the most recent Ordnance Survey revision (Fig. 1).

The fort which surmounts the hill-top encloses an area of almost 7 hectares. Although it is the largest hill-fort in Dumfriesshire and Galloway it ranks only sixth in enclosed area amongst the welter of similar fortifications between the corridors of the Tyne-Solway and Firth of Forth-Clyde. Its defences are not prominent on the ground and their early recognition owed much to the presence of the more upstanding Roman camps situated on the north and south flanks of the hill. It was the latter that evoked most comment from the early antiquaries and eventually gave rise to the well known siege-theory.

The tactical disposition of these Roman works, the unusual rounded **tituli** of the south camp which could have served as platforms for spring-guns, and the Roman missiles recovered from Barbour's excavations in 1888/9[1], were just some of the factors which seemed to support the idea of a bitter confrontation between Roman and native. This investment of the hill-fort, at first attributed to Agricola, was later related to the Brigantian troubles of 155-8 A.D. — a rising which had also brought about the destruction of the nearby Roman fort at Birrens[2]. Such an occasion not only found some support in the interpretation of literary and epigraphic sources but was also in keeping with the situation observable at the north-east corner of the Roman south camp, where its defences appeared to post-date a Roman fortlet presumptively of early Antonine date.

In the development of this siege-theory, however, some aspects of Barbour's excavations received little or no consideration. In particular there were the paved roads recorded in both Roman camps and vestiges of a stone-founded building near to the centre of the south camp. If these were indeed primary features, and not the result of secondary occupation, then they could well have been taken to suggest a confrontation of prolonged duration, such as the location and the comparative sizes of the hill-fort and combined investing works would have made most unlikely. Although Burnswark Hill is impressive from a distance, topographically it is no Masada. Moreover, a so-called work of circumvallation, sup-

1. Christison, D., Barbour, J., Anderson, J., Account of the excavations of the camps and earthworks at Birrenswark Hill, *P.S.A.S.*, IX (1898), 195-249.
2. Birley, E., Dumfriesshire in Roman times, *T.G.D.N.H.A.S.*, XXV (1946-7), 148-9.

posedly linking the north and south Roman camps, has never been proven as such on the ground[3], although it was long defended on paper "with a fine combination of obtuseness and dogmatism."[4]

Since the present excavations were carried out the formerly accepted location of the troubles of c. 155 A.D. has been questioned, but not in a manner which would exclude the involvement of Burnswark.[5] More recently, however, a case has been advanced for regarding the Roman complex as no more than a practice artillery-range.[6] This alternative suggestion of a field-exercise area, perhaps in some measure similar to that at Woden Law,[7] Roxburghshire, has always been possible, even though it would have meant the denial of a stirring historical episode on Burnswark Hill in the mid-second century A.D.

THE EXCAVATIONS

The most recent investigations took place over a number of short seasons from 1965, but in all involved no more than eleven weeks of field-work on limited resources. Gratitude must be expressed to extra-mural and internal students of the University of Newcastle upon Tyne for their unstinted co-operation, often in adverse conditions; to the same University for financial aid; and to the Mouswald Trust for defraying the costs of the radiocarbon assays. Sir Rupert Buchanan Jardine of Castle Milk kindly agreed to limited excavations being made, as also did the then Ministry of Public Building and Works.

From the outset enquiries were directed primarily towards the nature and context of the defensive works of the hill-fort. At a time when early radiocarbon dates were just becoming available for some of the smaller palisaded sites and hill-forts of North Britain it seemed desirable to determine how early and in what form some of the larger centres in the area had come into being. Although mindful of the later history already envisaged for the Burnswark complex, it appeared unlikely that in small-scale excavations it would be easy to distinquish conclusively between actual warfare and Roman exercises conducted with the intensity of "bloodless battles".[8] It was also apparent that Barbour had already made large clearances in areas which could be critical in the resolution of such a problem, not least at all the known gateways into the hill-fort.

Those parts of the recent excavations which were directed towards the clarification of the nature and context of Barbour's so-called western fortlet, a small work which lies within the defences of the hill-fort at the west end of the hill (Fig. 1), have already been recorded elsewhere.[9] They call for no further comment at this stage, other than to state that this feature is undoubtedly a late military redoubt, probably of the period of the Civil War, and that it was also the site of a survey station in use during the later stages of the principal triangulation of Great Britain in 1847.[10]

3. Steer, K. A., John Horsley and the Antonine Wall, *Arch. Ael.*,4 XVII (1964), 24
4. Richmond, I. A., *Proc. British Academy*, XLI (1955).
5. Gillam, J. P. & Mann, J. C. The northern British frontier from Antoninus Pius to Caracalla, *Arch. Ael.*,4 XLVIII, (1970) 11 ff.
6. Davies, R. W., The Romans at Burnswark, *Historia* XXI (1972), 99-113.
7. *R.C.A.M. Scotland*, Roxburgh I, 169 ff.
8. Josephus, *Bellum Judiacum*, III, 75.
9. Jobey, G., A Military Redoubt on Burnswark Hill, T.D.G.N.H.A.S., L (1973), 72-81.
10. Jobey, G., The archaeology of a geographic labourer: Andrew Bay. *Survey Review*, XXII (1974), 241-44.

THE HILL-FORT AND NATIVE ENCLOSURES

1. Surface Remains (Fig. 1 and Plate IV)

The hill itself is capped by Burnswark Lavas overlying rocks of the Upper Old Red Sandstone series. It now supports only rough grazing and some modern plantations.

A single rampart on the north and generally steeper approach is barely if at all visible to the east of the north gateway into the hill-fort which was excavated by Barbour in 1898. On the less steep southern flank, twin ramparts now show only as slight terraces which follow the contours faithfully and appear to come together in three natural re-entrants. Barbour uncovered gateways in the western and central re-entrants but seems not to have investigated the eastern re-entrant, presumably because the inner rampart appears to be continuous at this point. Both ramparts are somewhat better preserved in this eastern sector, but at the time of the recent investigations they lay beneath a plantation where excavation was not possible. The western gateway is approached by a partly engineered track which runs along the flank of the hill from the direction of the Roman road skirting the western end of the hill. Although this could have been an original track-way it has been much re-used in more recent times.

A number of the larger hill-forts in North Britain undoubtedly expanded in enclosed area at certain stages in their history, as is evident, for example, at Eildon Hill North[11] or Traprain Law.[12] The only possibility of there having been a smaller and earlier earthwork at Burnswark lies in the presence of a very insignificant bank which surmounts a small scarp on the west side of a saddle running between the north and west gateways into the hill-fort. However, this feature fades away before the main defences are reached on the north and south, and a second transverse bank cutting off the east end of the hill was not convincing as an early perimeter. Nevertheless, these two transverse banks, coupled with the poor state of preservation of the main defences elsewhere, were sufficient to mislead some earlier surveyors into delineating two separate hill-forts, one at the east end of the hill and the other at the west.

Although the ground cover at Burnswark does not lend itself to the surface detection of interior timber-built houses, there are a few suggestive scoops within the defences on the north slope and some circular, reed-filled patches on the hill-top itself. A circular "post", depicted on General Roy's plan[13] near to the middle of the hill-fort, is undoubtedly the robbed burial cairn found to have contained a cist in the 1898 excavations.

It has been suggested recently[14] that the supposed work of circumvallation on the lower slopes was perhaps part of a native outer defensive line, thus yielding a total enclosed area comparable in size to the second stage of the extensive earthworks at Stanwick St. John, Yorkshire. All that can be said of this interesting speculation is that the full circuit of this feature has never been demonstrated.

11. *R.C.A.M.*, Roxburgh II, 306 ff.
12. Jobey, G., Traprain Law: a Summary, *Hillforts* (ed. Harding, D.W.), 191-204.
13. Roy, W., *Military Antiquities of the Romans in Britain* (1793), plate XVI.
14. Feachem, R. W., *The North Britons*, 158.

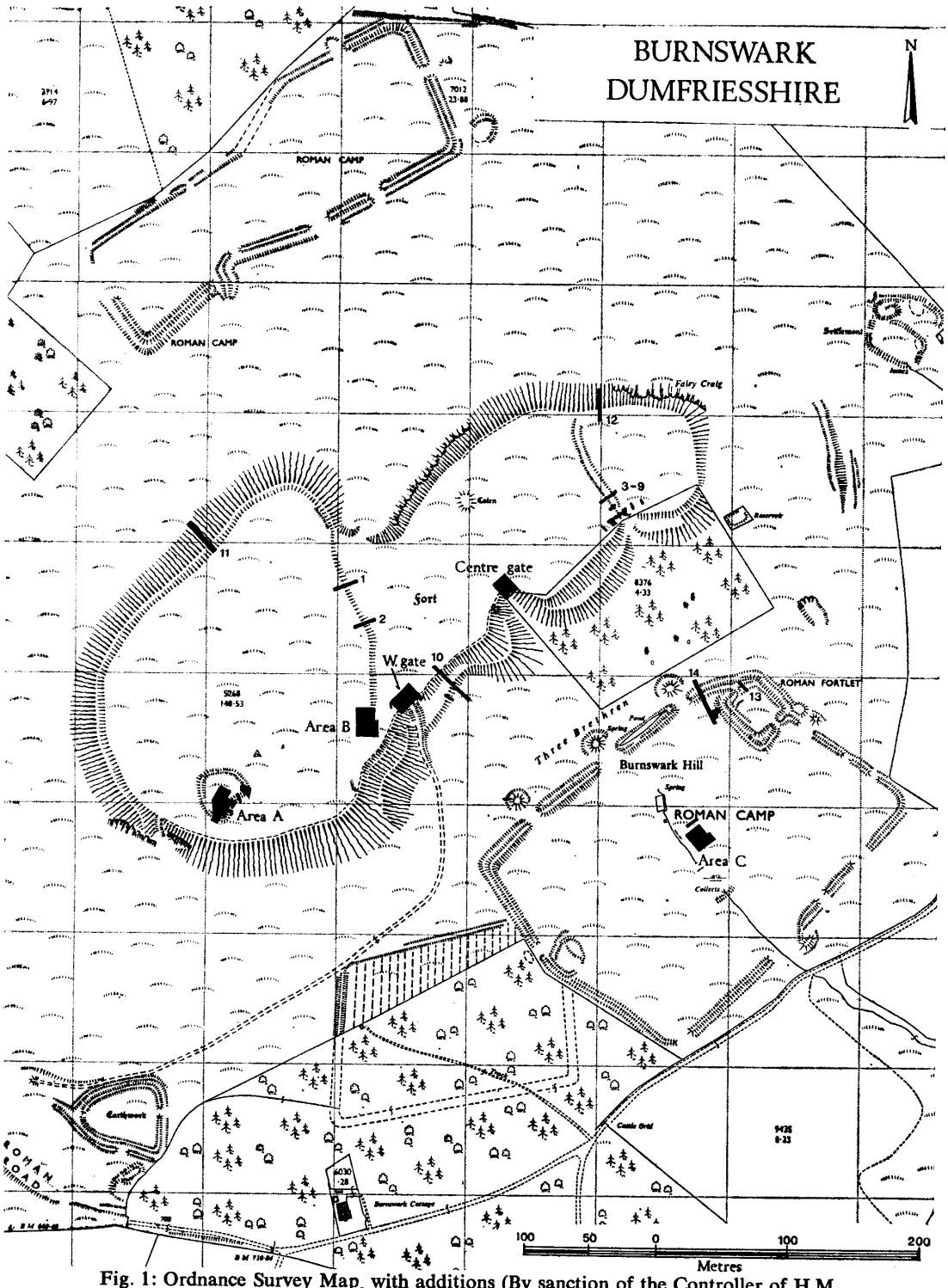


Fig. 1: Ordnance Survey Map, with additions (By sanction of the Controller of H.M. Stationery Office, Crown copyright).

It is visible in places at the east end of the hill, and, if indeed the same earthwork, once ran for a short distance beyond the west gateway of the Roman south camp before that area was planted with trees some twenty years ago. On the other hand, it appears to continue in a westerly direction into a plantation beyond the north-east corner of the Roman north camp. As to its context, a **terminus post quem** of the first or second century A.D. may be implied from a fragment of a glass bangle found by Barbour, reputedly from the base of its bank, whilst a **terminus ante quem** can be no more specific than that provided by its appearance in part on Gordon's schematic plan of 1727 A.D.[15] A ruined rectangular steading, one of a number formerly located on the flanks of the hill, is attached to the earthwork below the east end of the hill, whilst the arable fields shown on Roy's map of Annandale in the mid-eighteenth century seem to lie immediately beyond.[16] All told, it could be no more than an agricultural boundary of no great antiquity. In like manner, a "paved road" reported by Barbour below the east end of the hill now shows only intermittently as a green track emanating in two directions from a small quarry of uncertain but not necessarily early date.

Although they formed no part of the recent investigations there are additional earthworks in the vicinity which could be early in context and native in origin. These are Barbour's "east enclosure" and "west fort", both of which possess some of the attributes of local Iron Age or Romano-British settlements. His "eastern enclosure", situated beyond and below the eastern extremity of the hill-top, produced no datable finds in the excavations of 1898 but seems to have consisted of a forecourt and a slightly higher paved area to the rear, a plan not unfamiliar in early native contexts.[17] His "west fort", which lies close to the line of the Roman road skirting the western flank of the hill, is slightly scooped in the interior and in 1898 produced part of a quern and an opaque glass bangle, both persistent finds from Romano-British settlements. A similar enclosure, not hitherto recorded, also shows as a crop-mark on the nearby hillslope close to Haregills farm (NY 188788).[18]. The small circular earthwork situated just within the west gateway of the Roman south camp has a slightly scooped interior, but although the defences of the camp change direction slightly at this point, as if to avoid, the precise sequence is difficult to determine from field-observation alone.

2. The Western Transverse Banks (Figs. 1 and 2)

This feature which cuts off the west end of the hill-fort was investigated in 1898 with little recorded result, other than the confirmation of its slight stature. Two widely separated cuttings were made during the recent excavations (Fig. 1, Cuttings 1 and 2). These revealed the remains of a turf-built bank, now less than 0.3m high and originally perhaps no more than 1.8m wide at the base (Fig. 2). No provision for a timber revetment was found in an excavated width of 4m in Cutting 1. Some tumble extended in a thin spread for a distance down the short slope to the east, but this was not sufficient in itself to suggest that the structure

15. Reproduced in Barbour, *op. cit.*
16. Roy, *op. cit.*
17. Jobey, G., Early settlements in eastern Dumfriesshire, *T.D.G.N.H.A.S.*, XLVIII (1971), 94 ff.
18. Air photograph, Dr N. McCord, University of Newcastle upon Tyne.

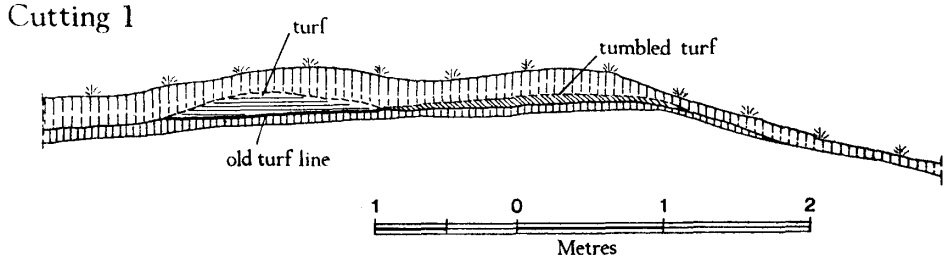


Fig. 2: Western transverse bank, hill-fort.

had ever been of any substantial height. A triple barbed Roman arrowhead and a fragment of Samian ware were sealed by this tumble. As the bank was not present in Cutting 11, which was subsequently made over the north rampart of the hill-fort, it seems most unlikely that it was part of an enclosure earlier than the hill-fort: otherwise, its function and precise context remain unresolved. Any attribution to the events which led to the erection of the Civil War redoubt on the west end of the hill, whilst possible, seems equally unlikely. It may have been in existence at the time of Roy's survey in the mid-eighteenth century but, if so, it is incorrectly placed in his plan on the east rather than the west side of the saddle.

3. The Eastern Transverse Bank and Palisade Line (Fig. 3)

In the report of the 1898 excavations the only recorded feature bearing any resemblance to the line of a pre-hill-fort palisade was a rock-cut trench, described by Barbour as a "stane drain", running at times alongside but at others beneath the turf-covered bank which cuts off the east end of the hill-fort. As this appeared to be a somewhat unusual location for more recent attempts at land-improvement it seemed advisable to check upon the nature of the feature before investigating the main defences of the hill-fort. In the event, Barbour's interpretation proved to be correct, with the exception that in places there were three "stane drains" running north and south across the area and presumably draining out on to the respective slopes of the hill (Fig. 3, Cuttings 3-4). All were partly rock-cut and contained overlapping stones in the manner prescribed for this form of agricultural drain. The eastern transverse bank itself was no more than the turf-covered upcast from these successive operations and again not related to any early defence on the hill-top.

Subsequently, however, a genuine construction trench was found in Cutting 5, running at right angles to the drains and more or less parallel to the line of the main rampart. Where best preserved it was 0.4m wide and 0.5m deep, with packing stones marking the post-slots of a series of closely set vertical uprights of c. 0.2m diameter. At the points of intersection it was demonstrably earlier than the drains. Its progress was traced further to the west in Cutting 6 and to the east in Cutting 8, but it had been reduced to the barest traces before fading out in Cuttings 7 and 9, probably as a result of later surface-quarrying in order to obtain material for the inner rampart of the hill-fort. Whilst this trench may be accepted as the line of

a pre-hill-fort palisaded enclosure, its full extent must remain unknown for the present, as it was not encountered in any of the cuttings made elsewhere over the hill-fort defences.

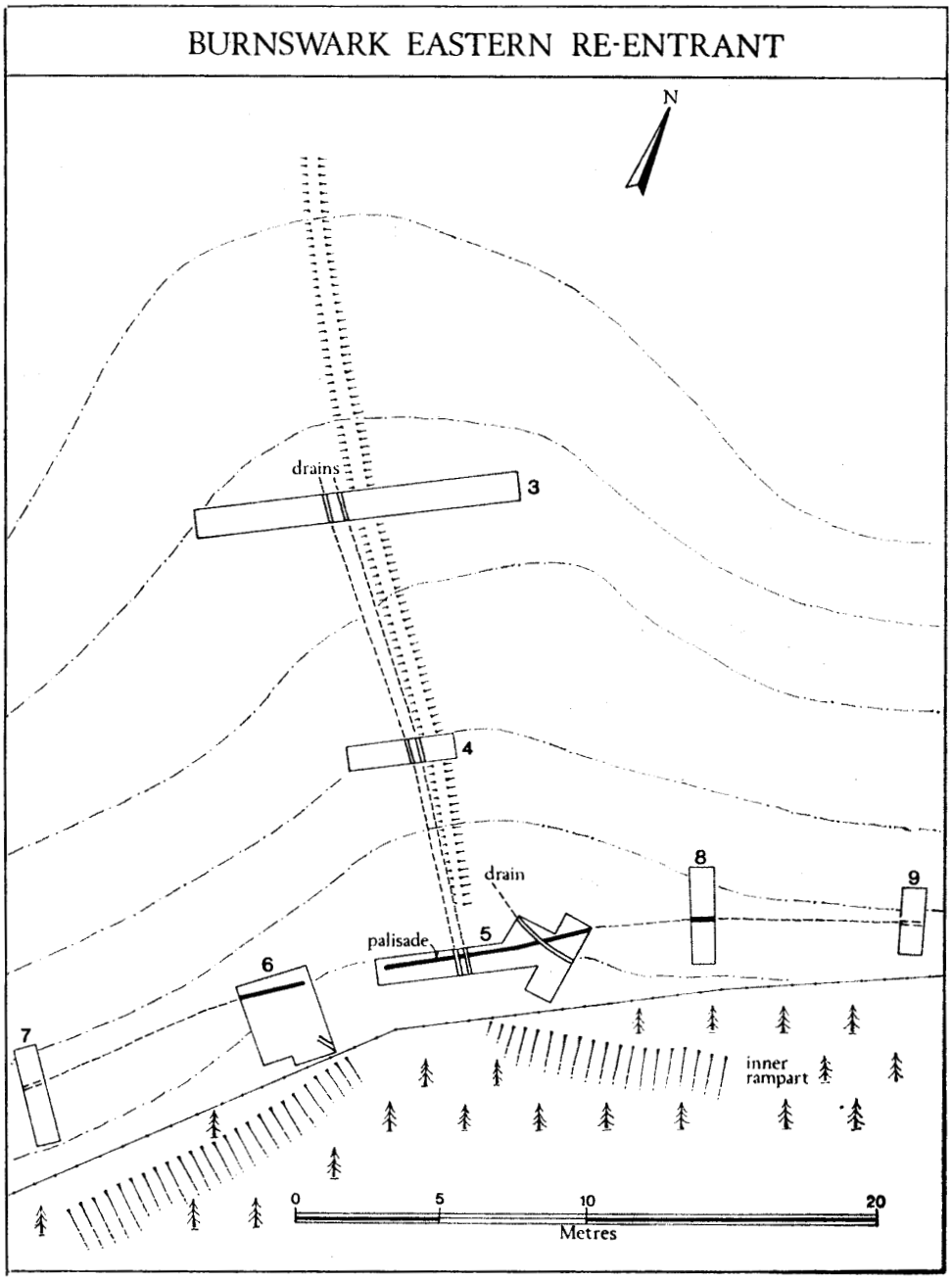


Fig. 3: Palisade line.

4. The Hill-fort Ramparts

The result of Barbour's earlier cuttings were not very informative except to confirm the absence of ditches. He described the main rampart or the inner rampart on the south side as being no more than three feet high at any point and consisting simply of earth capped with stones or earth and stones intermixed. Apart from a single reference to "built stones" at the front face of one drawn section of the outer rampart on the south slope[19] no stone-built faces were recorded.

During the course of the more recent excavations a long stretch of the inner rampart was taken down to rock-bottom on the east side of the west gateway (Fig. 1). In addition, four 2m wide cuttings were made, one extending over the inner and outer ramparts on the south slope (Fig. 1, Cutting 10), a second over the outer rampart alone, and two over the single north rampart (Fig. 1, Cuttings 11 and 12).

a. The Main Rampart (Figs. 4 and 5)

Unfortunately, Barbour's estimate of the extremely low stature of the remains was substantially correct and in Cutting 12 over the north rampart only the barest vestiges remained on the edge of the steep scarp. Whereas two structural phases have been envisaged in the present interpretation their chronological distinction remains a matter for discussion.

The nature of the phase 1 timber structure associated with this rampart is best illustrated in plan by reference to the area exposed to the east of west gateway (Fig. 5). Two parallel lines of post-holes for timber uprights lay 3.05m apart from centre to centre. The front row had been sunk into the rock and overlying brash to a depth of **c.** 0.5m and the undisturbed packing stones had secured timbers with diameters of 0.15 to 0.2m. Blocks of stone closed the gaps of **c.** 0.5m between some of the post-sockets but only a single course survived over a short distance. No stone work was found **in situ** on this line in other cuttings where the post-holes were sometimes more closely spaced (**v.** Plate V). The rear post-holes were smaller and less deeply set into the underlying soil and rocky brash but occurred twice as frequently. They had supported vertical posts of little more than 0.1m in diameter, in this instance packed around with no more than earth and brash. Even so, the edges of the holes and the post-sockets themselves were clearly defined by concentric rings of iron-pan.

In all cuttings the original surface had not been removed before the construction of the rampart and a thin turf-line was still visible beneath the basal layer of rampart material. The latter everywhere consisted of reddish brown earth and fragmentary rocky brash such as could have been scraped up from the surface of the hill. In places it also contained flecks of carbon and bone, but whether or not this comminuted material can be associated with an earlier occupation, such as that represented by the palisade at the east end of the hill, is open to question. Whereas in the better preserved section to the east of the west gateway this basal layer could be seen to have terminated on the line of the front timbers, no such edge was found at the rear line of timbers, and it extended in unchanged form

19. Barbour, *op. cit.*, Fig. 16 plate VII.

Plate IV—Burnswark Hill; Roman South Camp and Hillfort. Photo and copyright Aerofilms Ltd. Reproduced by permission.

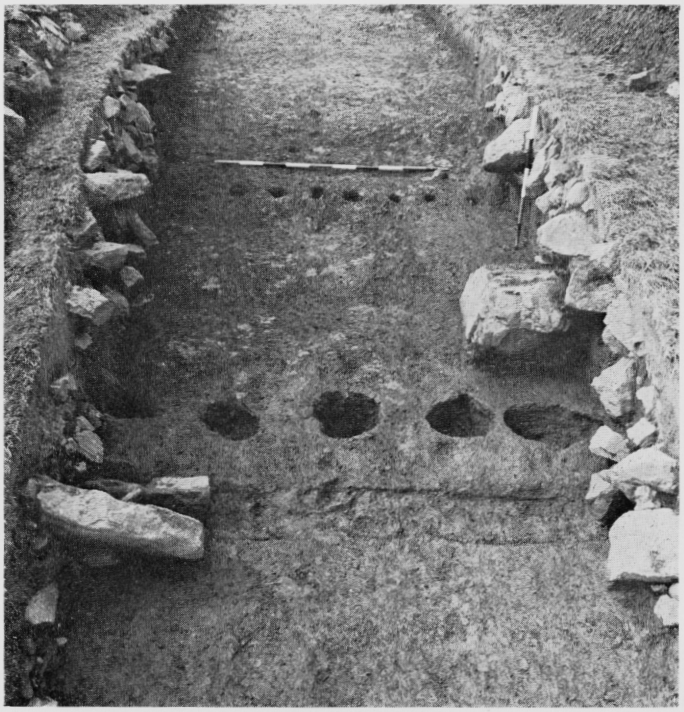
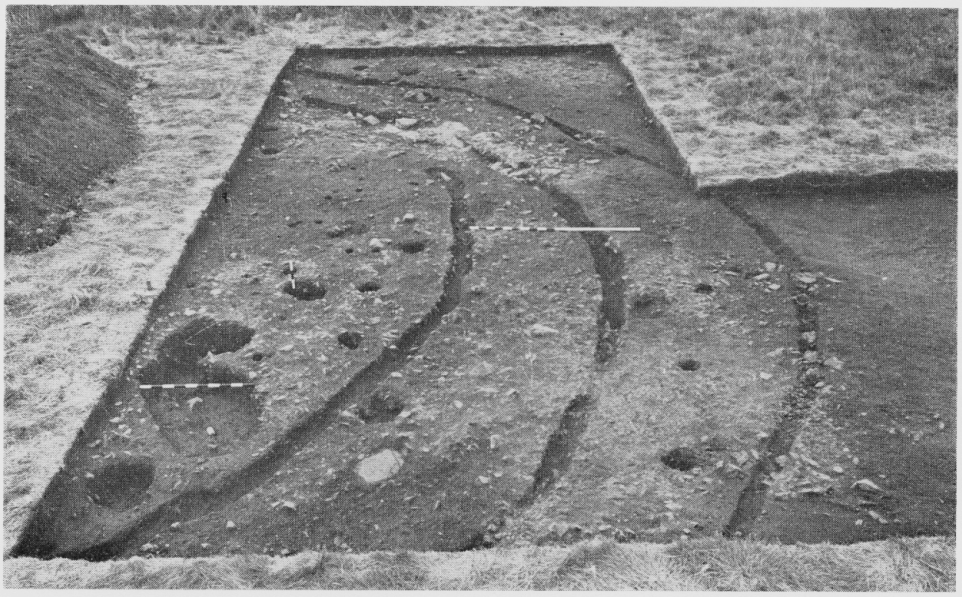
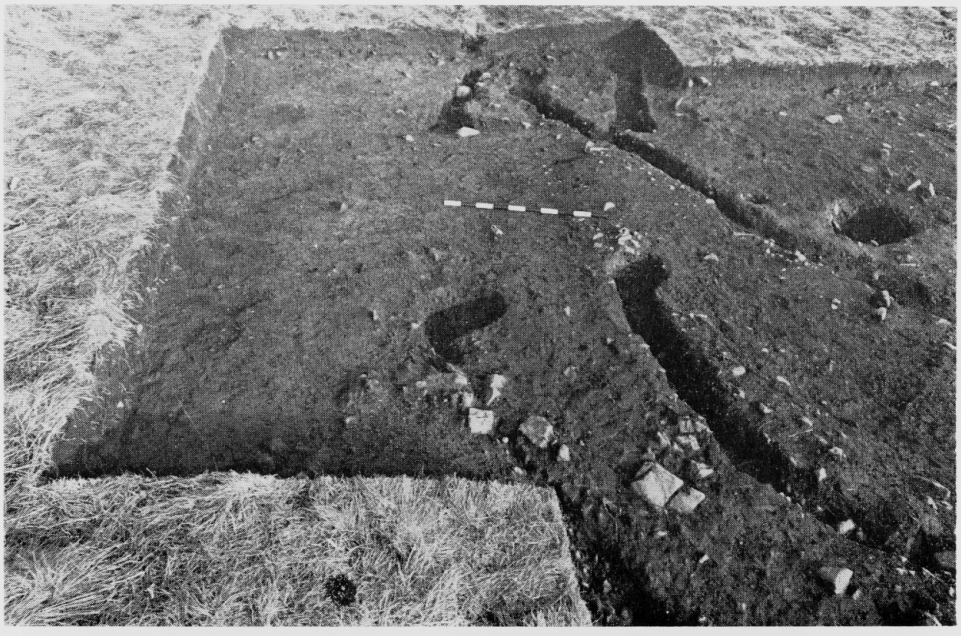


Plate V—Burnswark Hillfort; rampart, cutting 11.

Plate VI—Burnswark Hillfort; post-holes W. side W. gateway.





Plates VII (top) & VIII—Burnswark Hillfort; area B, wall-trenches of houses and doorways.

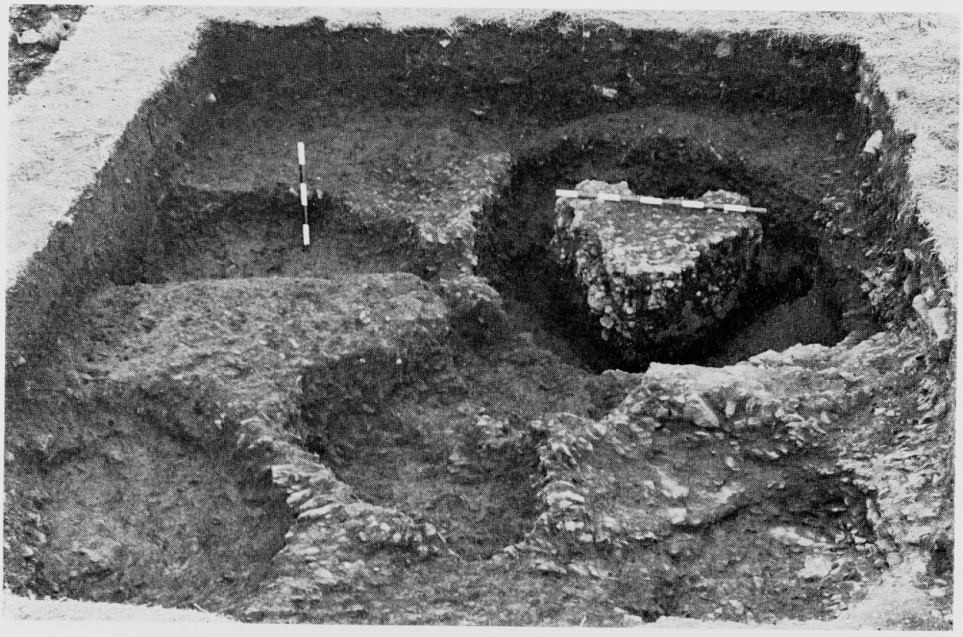


Plate IX — Area A, early pits and 1847 survey station.

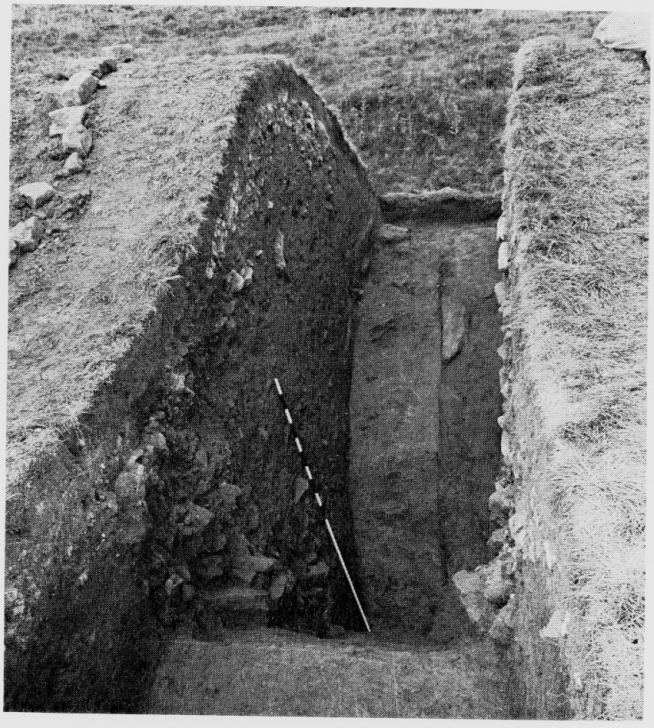


Plate X — Burnswark South Camp; Antonine fortlet ditch, cutting 13.

for a distance of at least 2.25m, generally to the crest of the natural slopes (Fig. 4). As the rear line of post-sockets could be seen to rise for a short distance into the

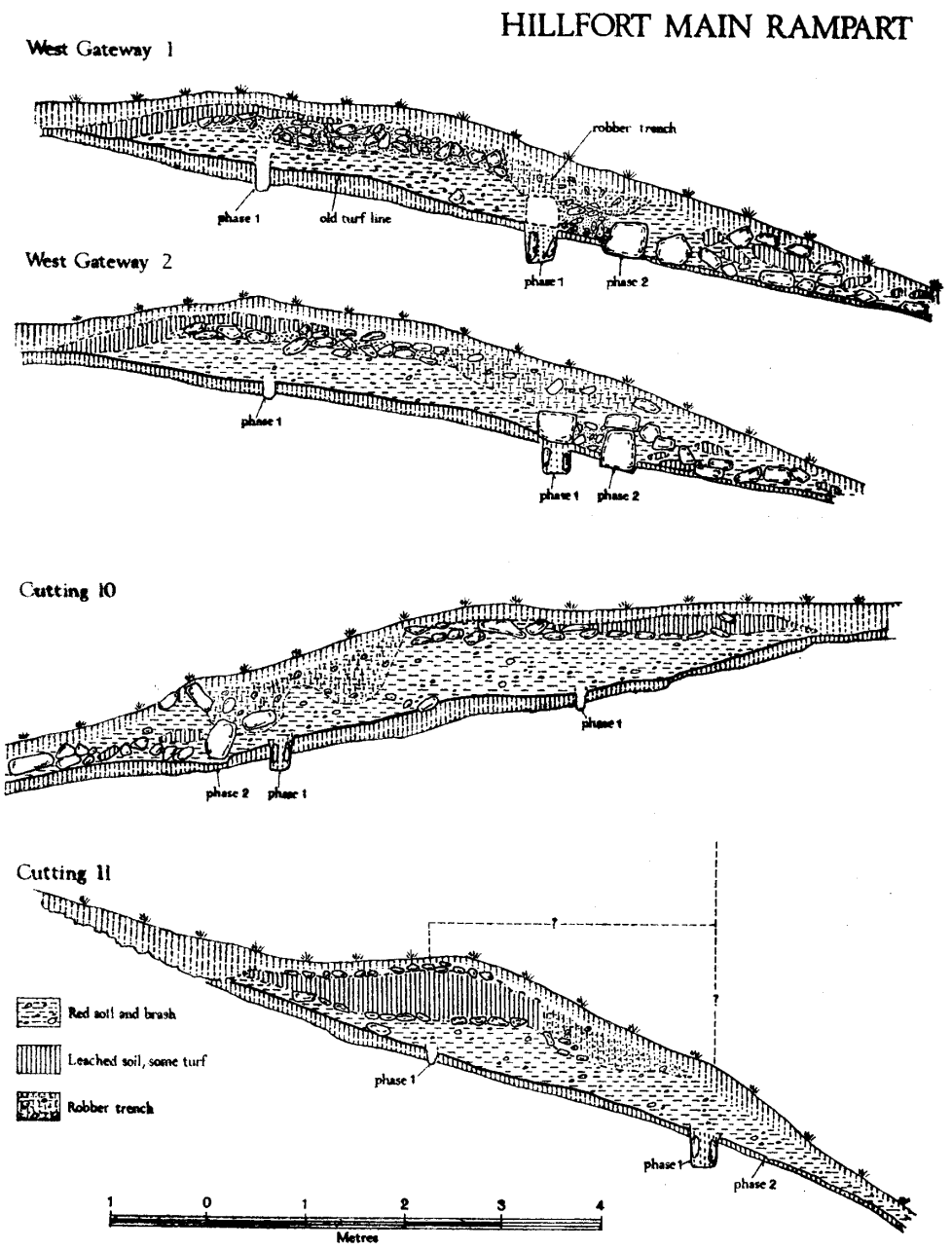


Fig. 4: Sections, main rampart.

tail of this rampart material it must be inferred that these timbers had been incorporated into the body of the rampart from the outset.

In all cuttings, other than that over the minimal remains in Cutting 12, the initial layer was overlaid by a band of stone rubble of varying thickness, perhaps acting as a bonding course. This was continuous except for a slight if irregular break above the rear line of post-holes, the only visible confirmation that the rear timbers had risen to at least this height. The stone band was in turn overlaid by a thick layer of leached earth with no apparent intermission between the two. This layer now survived only towards the rear of the rampart except in Cutting 11, where sufficient remained to demonstrate that it too had originally extended as far as the front face of the phase 1 rampart and had been capped by a second layer of rubble (Fig. 4). Large gobbets of similar material were also present amongst the forward tumble in all cuttings. No additional rampart material survived above this level at any point on the perimeter and its original height must remain conjectural.

At some stage, here referred to as phase 2, a continuous stone-built face had been added to the front of the phase 1 structure. Because of the denuded state of the rampart, conclusive evidence for this lay mainly in that area uncovered to the east of the west gateway (Figs. 4 and 5). Even here only one course of undisturbed facing blocks survived, bedded in a shallow retaining slot which had been cut into the natural brash c. 0.5m beyond the front line of post-holes. Elsewhere only the bedding trench or displaced stones remained as confirmation of the former presence of this feature around the whole perimeter. To the east of the west gateway the original fill between the two faces consisted of a compact mixture of stone rubble and earth, quite different in character from the layers of rampart material already described (Fig. 4). Although this stone face was undoubtedly part of a secondary structural feature it proved impossible to determine the interval of time that might have elapsed between the two phases. All that can be inferred is that the phase 2 stone face had probably been constructed whilst the first revetment was still intact, in that no slip appeared to have occurred between the two structural phases to the east of the west gateway. At the gateways, as will shortly become evident, this secondary stone face or its bedding trench did not continue into the areas between the junctions of the inner and outer ramparts.

The only remaining feature present in all sections was a robber-trench which had been inserted near to the front of the remains of the rampart. This activity had undoubtedly taken place after the face of the rampart had collapsed or had been deliberately felled, although no precise context could be established.

In view of the poor state of preservation of the remains, and the absence of such evidence as might have been obtained from ditch sections, any reconstruction of this rampart must remain tentative (Fig. 4). It might be argued that this was more or less the full height of the structure, perhaps terraced out from the crests of the slopes as a simple fighting platform, and presenting a face about 2m high surmounted by a breastwork. On the other hand, the close spacing of the rear line of post-sockets, even though they could not be traced upwards for any great

distance, almost certainly demands a rear revetment or step above the approach ramp. The natural gradients are such that a step of no great magnitude need be envisaged to provide a fighting platform of sufficient elevation, with additional protection afforded by a timber-clad breastwork attached to the front timbers. In this event, the tail of the rampart as it now exists could still have served as an approach ramp in addition to providing support for the rear timbers. It would also seem reasonable to anticipate that the front and rear timbers had been tied together at intervals by transverse timbers. Despite a careful search no transverse beam-holes were found in the rampart fill, although they could well have been obliterated during the process of compaction or have lain just above the level of the surviving remains. The vertical timbers of the phase 1 front revetment, being placed only 0.5m or less apart, are more in keeping with a completely timber-clad face than a composite stone and timber structure in which intervening stonework rose to the full height of the rampart-walk. It seems likely that the single line of stone blocks found between the post-holes to the east of the west gateway were no more than a local feature, perhaps serving as a base for horizontal retaining timbers above. For what it may be worth, the amount of stone remaining amongst the forward tumble from the rampart was not sufficient to support the hypothesis of there having been more than one stone-built face.

The extent to which refurbishing of the secondary stone-built face may have been necessary is quite unknown. On the other hand it is difficult to escape the conclusion that the front of the rampart had been deliberately felled at some stage. Whilst the natural gradients are considerable, the downward and forward thrust would hardly have been sufficient in itself to dislodge the large blocks of stone forming the bottom course of this face: nor can such destruction be attributed to a later attempt to form a glacis-style rampart, the potential of which would have been minimal in the absence of any ditches.

Only one sherd of hand-built pottery was recovered from the phase I rampart filling and is possibly of Late Bronze Age or Early Iron Age context (**v.** small finds, below). A radiocarbon assay from charcoal incorporated into the basal layer of rampart material yielded a date of 500 ± 100 b.c. (Gak 2203b; 2450 ± 100 b.p.). This date provides no more than a general **terminus post quem** for the construction but may be compared with that of 525 ± 90 b.c. from a burnt timber in an early phase of the centre gateway (below). Although little can be said about the subsequent history of this rampart from these cuttings, it is of importance to the interpretation of later events that a number of Roman sling-bullets and arrowheads were recovered from directly on top of the surface of the rampart or its forward tumble as it now exists. None were found within or beneath the forward tumble, such as might have been the case had the ramparts been upstanding when the missiles were being projected. It may be inferred, therefore, that at least some parts of the defences were already denuded before the missiles were fired. A sword and a denarius of Domitian found on the surface of the tail of the rampart in Cutting 11 are clearly not capable of being used in support of this inference, but they in no way contradict it (Fig. 4 and small finds).

b. The Outer Rampart

In the two cuttings made across this feature the remains were at best vestigial. It was evident, however, that there had been no post-holes for a timber structure such as had been present in the phase 1 structure of the inner rampart. Although no facing stones remained **in situ** the shallow bedding trench was present, similar to that of the secondary structural phase of the inner rampart. This evidence, together with Barbour's reference to "built stone" in his drawn section of the outer rampart, is probably sufficient to confirm the former existence of a stone-built face to an earth and brash rampart perhaps some 4m wide at the base. No dateable material was found in either cutting, but similarity of construction would suggest a link between the building of this rampart and the addition of the stone face to the inner rampart. The absence of any timber work in the outer rampart might also enhance the possibility that the phase 1 face of the inner rampart had existed for some time in its own right before the stone-built face was added.

5. The Hill-fort Gateways (Figs. 5 & 6)

Barbour excavated all three known gateways into the hill-fort. His fourth gate, now marked by a low break over the slight remains of the main rampart at the extreme west end of the hill, can be discounted as an original feature, being no more than a later pathway associated with the occupation of the Civil War redoubt. He appears to have regarded the gateways as stone-built structures of a single phase and noted the presence of pavements in all three.

Despite the disadvantages inherent in the re-excavation of areas previously subjected to wholesale clearance, two gateways were re-examined. These were Barbour's south gateways A and B, hereafter referred to respectively as the west and centre gateways.

a. The West Gateway (Fig. 5)

This paved entrance was described in 1898 as having a "threshold with a scuntion on one side and broken walling on the other." A thumb-nail sketch in Barbour's report depicts a plan not unlike a Roman milecastle gateway set into the inner rampart. He considered it to have been flanked by the inturns of the outer rampart but also wrote of a "double tapering mound" being carried alongside it on the east. As the inturns of the outer rampart are hardly if at all visible, he undoubtedly failed to understand the nature of the surface remains. A later hollow-way approaches the area from the south-west and the line of the present track, and continues through the remains of the inner rampart just to the east of the true gateway. Slight associated clearance mounds on either side of this feature constitute Barbour's double tapering mound. Therefore, even before the present excavation commenced, it was evident that the long, narrow passage-way which has been attributed to this entrance in the past[20] could not be substantiated.

During the course of re-examination the extent of Barbour's earlier clearance was clearly defined. The fragmentary paving, lying immediately beneath his back-

20. *e.g.* Hawkes, C., Hillforts, *Antiquity*, V, 73, Fig. 7, 11 (after Barbour).

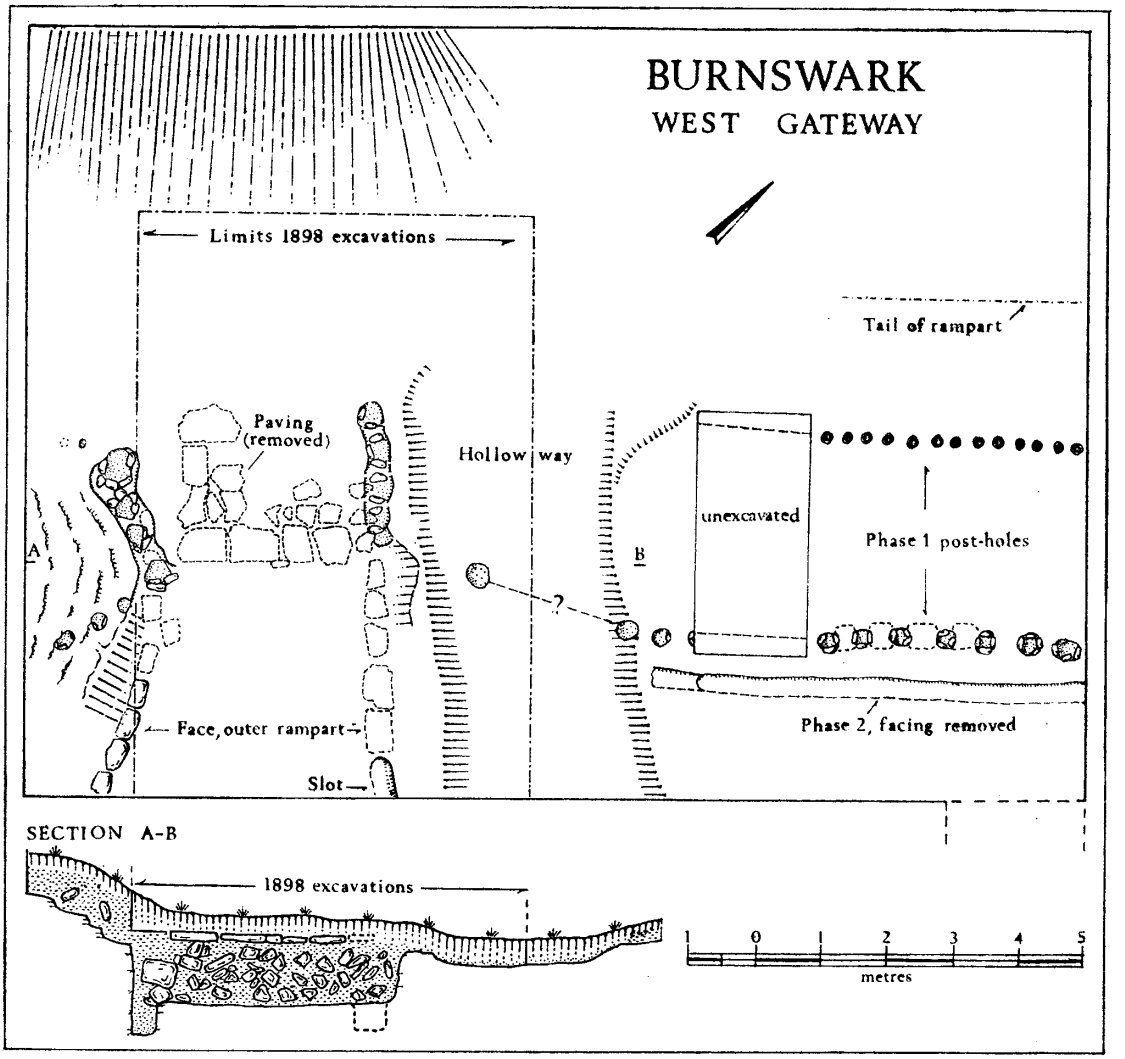


Fig. 5.

filling, was much as he had depicted it in plan except that his "western scuntion" could not be accepted as such, since it was based upon no other evidence than the seemingly fortuitous placing of four paving slabs some ten to twenty millimetres above the level of the remainder of the paving. A similar criticism may also be levelled against his "threshold" which consisted of no more than a single small stone on end, as shown in his original plan. Although its location was appropriate for a central doorstop it was only slightly inset into the underlying material and did not rise above the top of the paving itself. No post-holes could be found in association with this paving, nor was there any evidence for a stone-faced passage-way through the rampart at this level, either in the form of stone blocks still **in situ**

or as displaced stones amongst his backfilling. On the other hand, there could be no doubt about the secondary nature of the paving. Immediately in front of its leading edge Barbour's excavation had penetrated a little more deeply and at least sufficient to reveal that the paving slabs had been bedded upon a jumble of stones, intermixed with material tumbled from the core of the main rampart.

Removal of the pavement and the underlying material disclosed the original entrance at a depth of over one metre below the leading edge of the paving (Fig. 5, section). The passageway had been partly rock-cut and was flanked at road level by two rock-cut support-trenches for timber uprights. These trenches were placed some 3.25m apart and were on a slightly different alignment from the overlying paving. Irregularities in the sides and the bottoms indicated that there could have been at least three and possibly four replacements of timbers, so that what were now continuous trenches had probably started as two lines of individual post-holes. In the final phase both trenches had supported four closely positioned posts **c.** 0.3m in diameter, set 0.6m deep into the rock at road level and packed around with stones. There had been some wear on the rock-surface which formed the roadway and irregularities or developing pot-holes had been made good with rammed brash.

Immediately to the east of this entrance the later hollow-way had erased all except the stub-ends of two post-holes related to the front revetment of the phase 1 rampart, but it may be inferred that these had continued up to the edge of the rock-cut entrance, as did those on the west side. By way of contrast, the bedding trench which had accommodated the outer stone face of the inner rampart further to the east terminated abruptly before the edge of the hollow-way was reached, presumably at the point of junction between the outer and inner ramparts. The significance of this interruption has been already discussed.

The remains of the inturn of the outer rampart on the west side of the entrance were vestigial, but on the east side a number of the basal course of facing stones were still **in situ** and the bedding trench could be followed for most of the way at road level towards the post-holes on the east side of the gateway. Even so, apart from the doubtful significance of some large blocks of stone amongst the jumble beneath the paving, there was no evidence that the gateway timbers themselves had ever been faced up with stone.

The flanking support-trenches in the rock-cut gateway clearly had no direct association with the pavement uncovered by Barbour. Not only did they lie on a different alignment but were also sealed by overlying material from the ramparts and by some of the paving slabs themselves. Whatever the precise function of the secondary paving may have been it could only have been inserted after the ramparts of the hill-fort were in some disarray. Lacking both associated post-holes in the underlying material and any clear evidence for a stone-built superstructure, such as Barbour envisaged, it could hardly be accepted as part of a remodelled gateway between upstanding ramparts.

Only two small finds were recovered from the original road-surface between the flanking post-holes, the first a formless piece of iron and the second a small

fragment of fused glass. Neither are capable of providing close contexts, though the glass might suggest a **terminus post quem** for the filling in the later pre-Roman Iron Age. Unfortunately little is known about the precise provenances of Barbour's finds in this area except that some of his sling-bullets were found "at the entrance." Many of the Roman lead **glandes** recovered during the course of the recent excavations were from amongst the spoil thrown back into Barbour's clearance. Only one bullet was in any way stratified in relationship to the pavement and lay partly beneath the leading edge of one of the front paving slabs (Fig. 5). Mindful of the penetrative qualities of such missiles, or that it could have been forced into this position by the more enthusiastic delving of the earlier excavators at this point, it is not admissible evidence that the missiles were being fired before the pavement was laid down. Moreover, no further bullets were found when the pavement itself was lifted. All told, from the total number of Roman missiles found in the area, it may be inferred that the area of pavement was probably the target even if the original ramparts were no longer upstanding. Such a conclusion was not easy to accept without some misgivings and it was for this reason that the centre gateway was also re-examined.

b. The Centre Gateway (Fig. 6)

This entrance lies near to the head of a pronounced natural gully. According to Barbour, the gully was covered with large, unevenly disposed stones for a distance of twenty yards beyond some paving. The present operations were restricted by the presence of the modern plantation[21] and the full length of Barbour's clearance could not be investigated in the time available.

It was again evident, as in the case of the west gateway, that Barbour had not had to remove much if indeed any rampart spill, such as would have accumulated over the pavement from the collapse of upstanding ramparts. The stretch of paving was better preserved and longer than at the west gateway but of approximately the same width. Although divided by a narrow break, superficially resembling a drop-trench for a gate, no associated post-holes were found at this point or elsewhere at this level. The surfaces of the paving slabs showed little wear from traffic and at least one large block of stone protruded rather awkwardly above the general level. There was no trace of flanking stonework and little depth of rampart material survived on either side of the pavement or the edges of Barbour's clearance. Not unexpectedly, the pavement was again bedded down on top of a jumble of stone and material from the ramparts. In this instance there was less earth intermixed, but much of this could have been washed further down the gully over time, as was amply demonstrated in periods of torrential rain during the excavations.

As at the west gateway the original entrance was partly rock-cut, the rock surface of the roadway being at a depth of **c.** 1m below the leading edge of the pavement (Fig. 6, section X-Y). It was again flanked by two rock-cut trenches which seemed to have developed from a series of post-hole replacements. In this

21. Since the excavations were completed the edge of this plantation has been withdrawn from the hillfort ramparts.

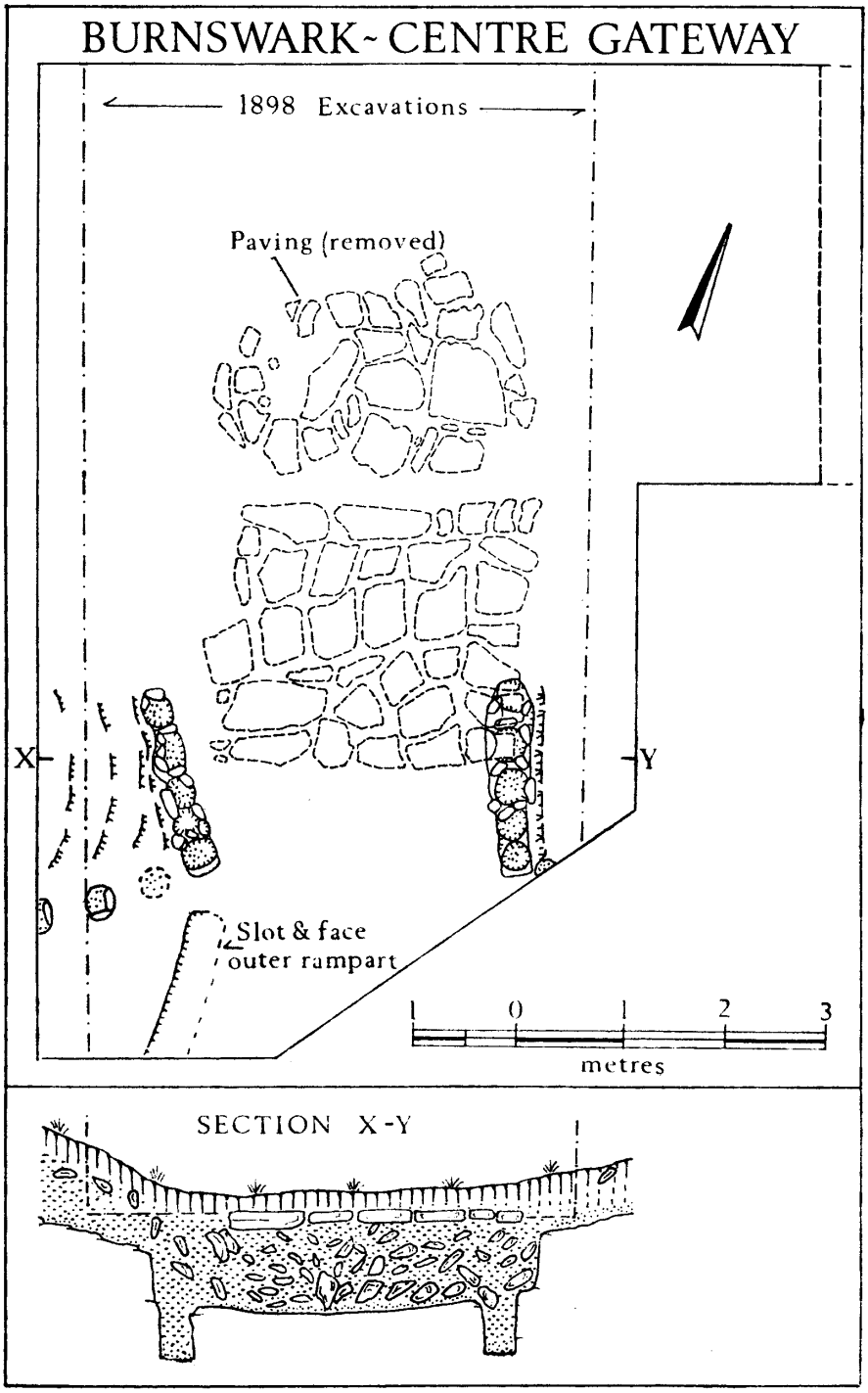

BURNSWARK - CENTRE GATEWAY
1898 Excavations
Paving (removed)
X
Y
Slot & face
outer rampart
1 0 1 2 3
metres
SECTION X-Y

Fig. 6.

instance they had supported at least five timber uprights in the final phase. The estimated line of the post-holes for the front timbers of the phase 1 revetment could not be reached on the east side of the gateway, because of the limitations imposed by the plantation-fence, and on the west side there was only sufficient time available to reveal three of these post-holes. There had been no secondary stone face at this point and the normal bedding trench was missing. At road level the bedding trench of the inturn of the outer rampart and some facing blocks extended as far as the flanking post-holes on the west side of the gateway but no further. Beyond the southern edge of the overlying paving the rock surface of the original roadway was covered by a mass of jumbled stones, some of them undoubtedly from the facing of the inturns of the outer rampart. Once again Barbour's excavation had removed any evidence that might have existed for an overlying track leading up to the secondary pavement.

All told, the situation was a duplicate of that found at the west gateway: the flanking support-trenches were again on a different alignment from the secondary pavement and were not only sealed by the overlying material from the tumbled ramparts but also by a number of slabs in the pavement itself. The only finds consisted of a number of lead bullets from Barbour's back-filling and two from the top of the denuded remains of the rampart. Some carbonized wood was retrieved from the remains of a burnt post in the eastern support-trench, partly overlaid by the packing stones of one of the latest post-sockets. Although certainly not part of the last replacement phase its place in the sequence could not be determined with certainty. This material yielded a radiocarbon date of 525 ± 90 b.c. (I-5314 : 2475 ± 90 b.p.) which is not significantly different from that obtained from the charcoal within the inner rampart in Cutting 10.

In reconstruction, the flanking timbers at both the west and centre gateways must be seen as having risen above the tops of the rock-cut passageways to act as revetments for the inner rampart. Additional cross-bracing would have been necessary to maintain rigidity if not also to support a timber walk above the gateway. Apart from the fact that the innermost pair of post-holes of the final replacement phases in both gateways were cut some 0.1m deeper than the remainder, there was no further indication of how or where the gates themselves had been hung.

6. The Hill-fort Interior

Barbour had undoubtedly explored the interior of the hill-fort at the east and west ends of the hill although only the most general references to this appear in his report. Two rather restricted areas were uncovered during the present excavations.

a. Area A (Fig. 7 and Plate IX).

This area lay within the Civil War redoubt at the west end of the hill. An account of the nature and context of this earthwork has already been published, together with the relevant sections and plans, so that only that part of the interior appropriate to the early occupation of the site is illustrated here.

A spread of material from recent celebratory bonfires and the charred posts

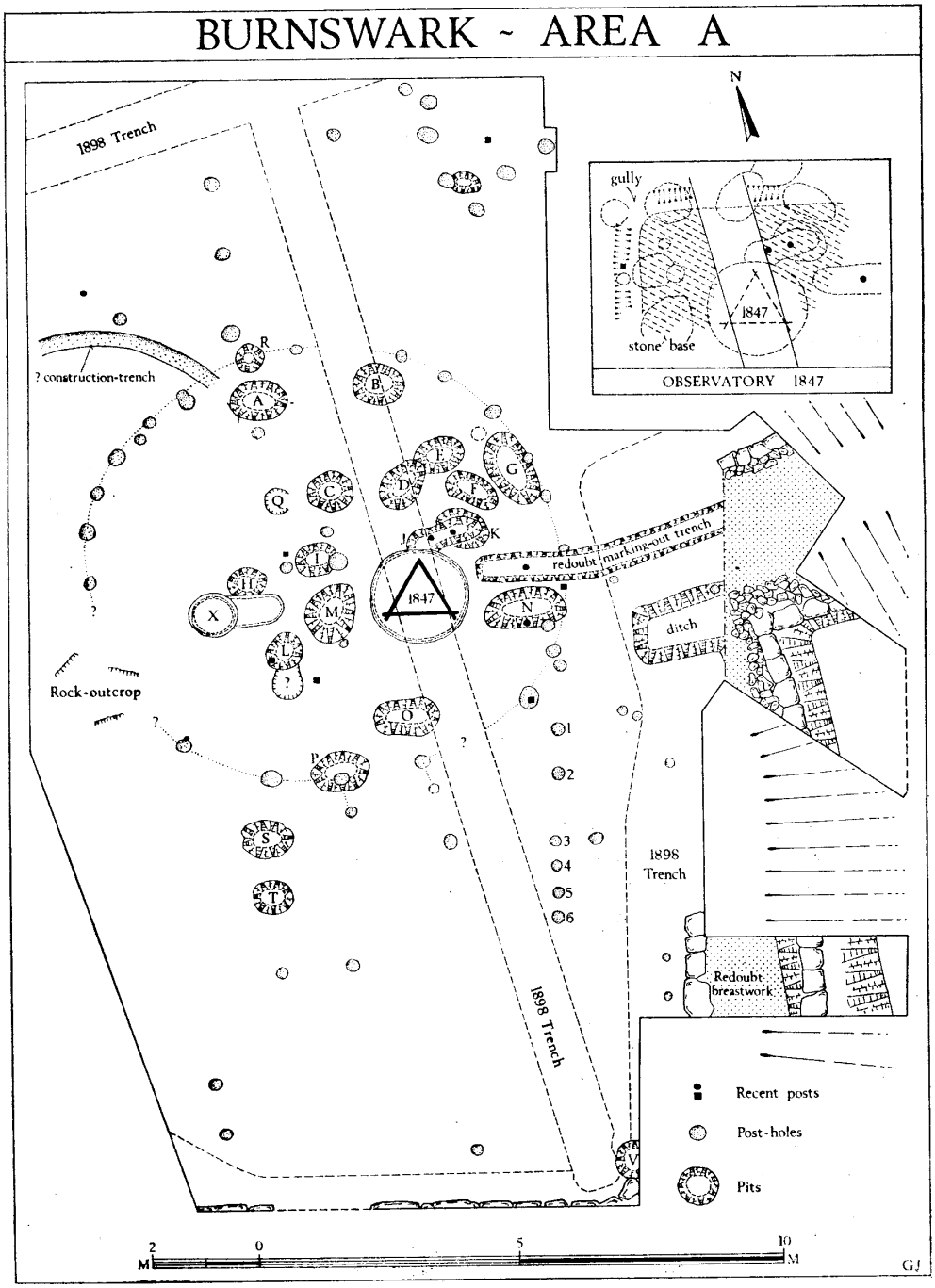

BURNSWARK - AREA A
1898 Trench
? construction-trench
Rock-outcrop
redoubt
marking-out trench
ditch
1847
1898 Trench
Redoubt breastwork
1898 Trench
N
gully
1847
stone base
OBSERVATORY 1847
Recent posts
Post-holes
Pits
2 0 5 10
M M
GJ

Fig. 7.

of an observation post of the Second World War lay immediately beneath the turf-line within the interior of the redoubt. Refuse from these activities sealed some of Barbour's earlier trenches, cut below the subsoil, and also an earlier survey post of 1847. The latter has also been described in detail elsewhere, but, in brief, consisted of a rock-cut pit for the timber framework which would have provided a rigid and stable base for the theodolite. This was set within an area of rammed cobbles, demarcated in places by an outer drip-trench or gully, both of which were presumably associated with the sectional timber observatories in use by 1847 (Fig. 7, inset). This stone platform was stratigraphically later than the stub-end of a marking-out trench for one of the demi-bastions of the redoubt. Much of the early occupation material had been removed from this area during the course of the construction of the seventeenth century redoubt, as was well testified by fragments of metalwork and glass of the Roman period found in the body of its breastwork. Even so, some patches of early occupation-earth had escaped and a complex of pits and post-holes still survived in the natural earthy brash and rock (Fig. 8).

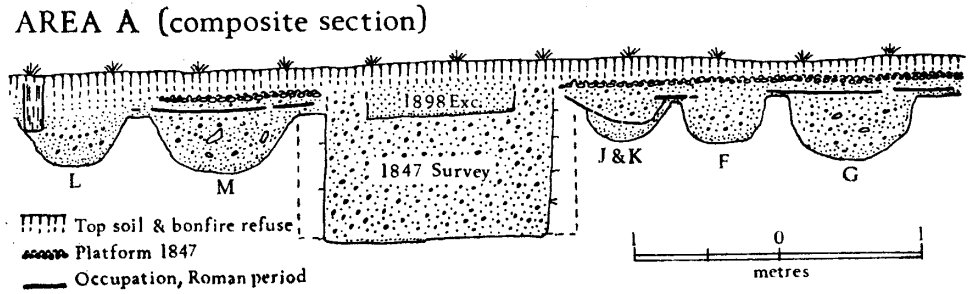


Fig. 8

Apart from pit **X**, which was exceptionally well cut and contained a sherd of 19/20th century pottery in its loose fill, the remainder of the pits were clearly early in context if not the earliest features on the site. All were roughly cut with sloping sides and rounded bottoms, varying in depth from 180 to 430 mm as found. Pits **G. I, N** and **P** were stratigraphically earlier than some post-holes, whilst **C, G, K, M, N,** and **Q** were overlaid by patches of occupation-earth containing material of the 1st/2nd century A.D. On the other hand, not all were contemporary, as can be seen in the cases of pits **D** and **E,** and **J** and **K.** The contents of the pits consisted generally of backfilled earth and brash which was flecked with occasional minute fragments of bone and charcoal, as if from domestic refuse. Pits **C, E** and **F** all contained some small wall-sherds of coarse hand-built pottery which were not significant as to context, except perhaps within the general span of the Late Bronze Age or pre-Roman Iron Age.

The post-holes varied in depth from 300mm down to mere peck-marked depressions on the rock surface in those areas where the overlying material had been largely removed for the construction of the Civil War redoubt. Numbers 1-6 were of uniform depth at 250mm and in places appeared to have been sunk

through the patchy occupation-earth containing material of the Roman period. Their alignment with the breastwork of the redoubt suggests that they were probably connected with the occupation or construction of this work. A number of the remainder were later than some of the pits, as already indicated, and some were undoubtedly earlier than the thin band of occupation earth containing Roman material.

The only complete structural pattern to emerge was that of a round house, some 9m in diameter, with a wall of individual post-hole construction and a south facing doorway and porch. This structure can probably be related to the pre-Roman occupation of the hill-fort, since some of its post-holes were undoubtedly earlier than surviving patches of occupation-earth containing Roman material. This occupation-earth was no more than a few millimetres thick and at best the individual patches did not exceed two metres square. The associated finds were suggestive of native occupation rather than Roman military activity and none of them need be dated later than the mid-second century A.D. Although in this instance it proved impossible to relate the occupation to any structure, the former presence of at least one ring-trench house is suggested by the shallow arc of a construction-trench which had escaped the clearance connected with the building of the redoubt. No structural evidence came to light that could be related to a Roman observation or signalling post on the vantage point afforded by this part of the western summit.

b. Area B (Fig. 9 and Plates VII & VIII)

The possibility that there had been native occupation on the hill-top during the Roman period was sufficiently compelling in itself to promote further enquiry. Area B was located on a small plateau situated above and to the west of the west gateway, where prior levelling would not have been required for the construction of dwellings. Unfortunately, the soil-cover was once again generally thin and in the southern portion hard rock lay immediately beneath the turf. Consequently, vertical stratigraphy was very restricted and the pattern of the post-holes and construction-trenches for the timber buildings was incomplete.

A number of superimposed, timber-built, round houses occupied the greater part of the area. Most probably the earliest of these was represented by a half circle of spaced post-holes, at most only 250mm deep as found and designed to carry the wall-supports of a house **c.** 12m in diameter (Fig. 9, 1). The priority of this house could only be demonstrated in relation to the later construction-trench of house 3b which cut one of the post-holes in the series. Even so, there is evidence from elsewhere in the northern counties that houses of individual post-hole construction may precede those with solid timber-built walls set into continuous construction-trenches[22]. A second house of similar construction and **c.** 6.5m in diameter lay slightly to the north, divorced from the main structural sequence.

The earliest of the ring-trench houses was that represented by trench 2. Its diameter was 11m and the closely set wall-timbers had been packed around with

22. *e.g.* Jobey, G., An Iron Age homestead at West Brandon, Durham, *Arch. Ael.*4, XL (1962), 1-34.

earth and rocky fragments rather than the more normal packing stones. This trench was earlier than trench 3a at the intersection between the two and was

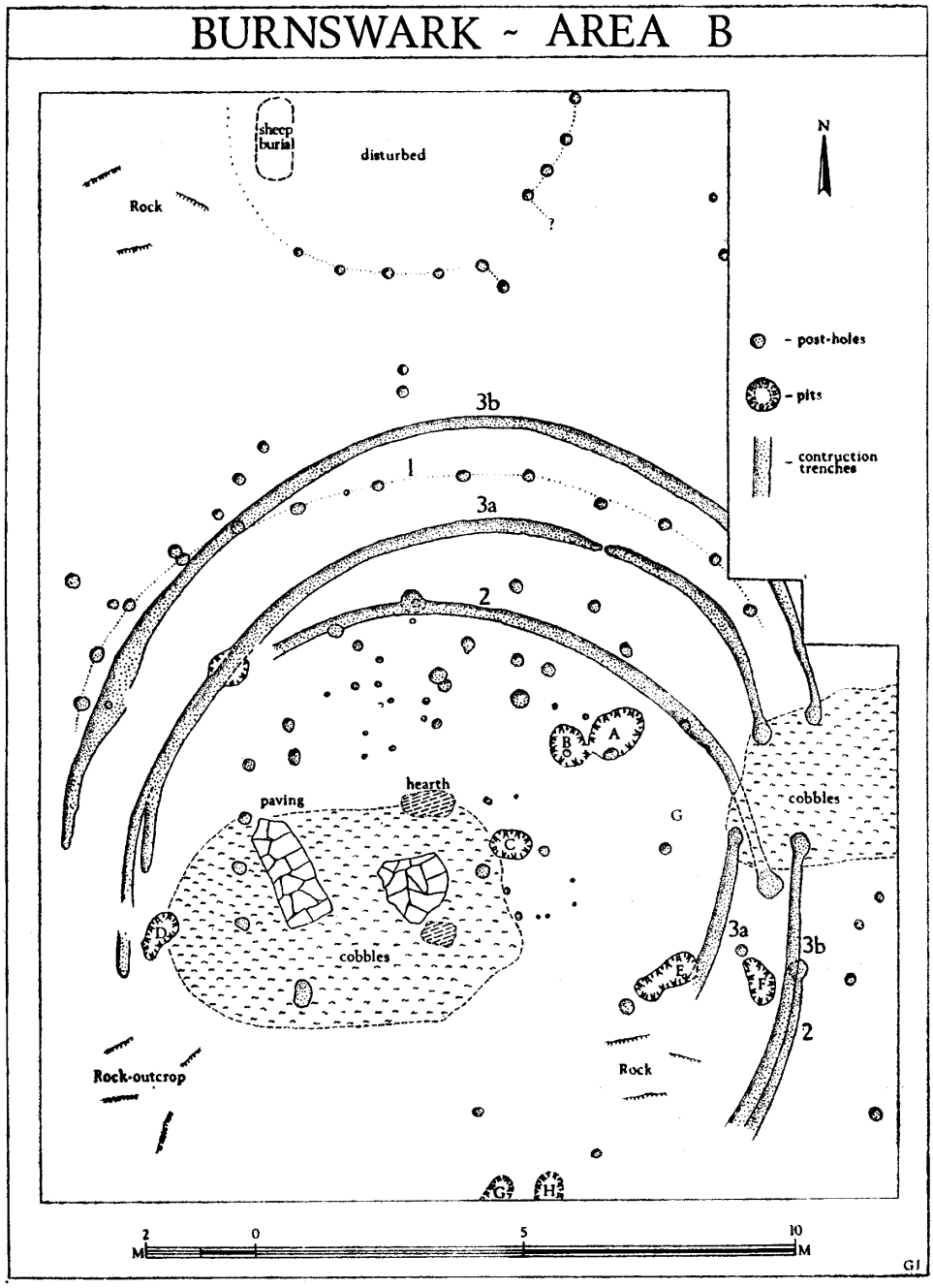


Fig. 9.

also overlaid by a pathway of small cobbles associated with the doorways through trenches 3a and 3b. Ring-trenches 3a and 3b were both 200mm deep as found and enclosed areas of **c.** 11.5 and 13.5m in diameter respectively. They present a minor problem as to whether two separate houses are represented or only one of double ring-trench construction, a form which has also been recognised in the northern area. The remains of the cobbled pathway appeared to be associated with the aligned entrances through both, but a lack of concentricity in the circumferences of the trenches suggests that perhaps in this instance they were not contemporary and formed two separate houses.

A large number of post-holes with depths varying between 100 and 300mm fell within the interior of the complex of houses but, as in the case of the trenches, the pattern was obviously not complete, particularly in the areas where the rock was close to the surface. No doubt many of these had been intended for internal roof-supports, though it would be hazardous in the circumstances to attribute them to specific houses or to impose an arbitrary pattern of other, less substantial structures. A number of smaller stake-holes may also have served to carry internal partitions within the established houses. Part of the floor area common to all houses was covered by tightly packed cobbles, similar to those at the doorways of 3a and 3b. In two places these were directly overlaid by small, irregular patches of paving, one of them reddened as if it had served as a hearth. Only two very limited spreads of occupation earth remained on the surface of the cobbled areas; both contained flecks of bone and charcoal but these were thoroughly penetrated by grass-roots from above. No earlier occupation levels could be discerned over the whole area. A number of small pits, varying in depth from 160mm to 480mm, were also scattered about the complex. In two instances these were earlier than post-holes and a house-trench (**A** & **E**), but small samples of charcoal from the pits were so contaminated with grass-roots as to make them unreliable samples for radiocarbon dating. A pre-hillfort context for some of these pits cannot be discounted entirely as some worked flints and a re-used stone axe-head of Neolithic type were recovered from the area.

All told it is possible to envisage two houses of individual post-hole construction, one of them overlaid by at least two if not three superimposed houses of ring-trench construction. Whether the complex represented continuous occupation with direct structural replacements or re-occupation of the same area at intervals could not be determined. The only datable finds of significance from the area consisted of some sherds of Roman pottery of the first half of the 2nd century A.D., found amongst the patches of occupation-earth on the cobbled surface within the house-complex. Although there was no direct stratigraphical relationship between the cobbles and the houses it may be inferred that at least the latest of the round timber-built houses was occupied at this time. To a lesser extent native occupation is also implied by some fragments from bun-shaped querns and an opaque white glass bangle from the brash surface immediately outside of the house-complex. On the other hand, a single lead sling-bullet found loose within the complex is hardly sufficiently strong evidence that such a house

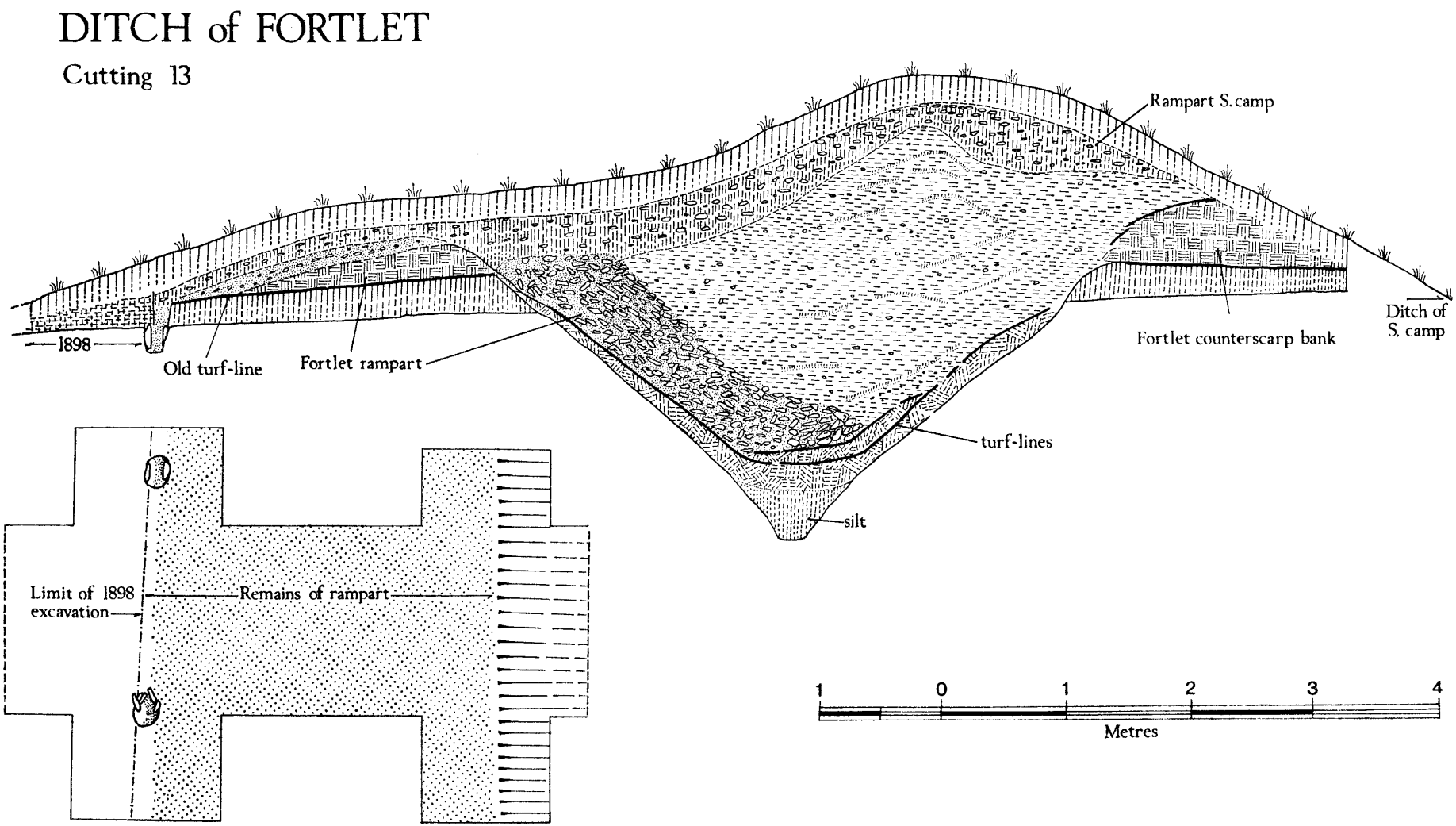


Fig. 10: Antonine Fortlet, ditch beneath rampart of south camp.

had been a target for assault; other considerations apart, the whole area was sufficiently close to the ramparts and west gateway of the hill-fort to have fallen within the over-zealous or misdirected range of such missiles.

THE ROMAN SOUTH CAMP AND FORTLET

1. The Antonine Fortlet (Figs. 1 & 10 and Plate X)

From surface observation this earthwork measures c. 55 by 49m overall and consists of an inner bank, ditch, and counterscarp bank. Barbour cleared the whole of the interior in 1898 in addition to making cuts across the perimeter, but did nothing to confirm its apparent precedence over the south camp. He found a small number of post-holes in the interior, not very convincingly displayed as two tentative hut-circles, the remains of pavement, and some drains similar to those found on the hill-top. A stone-faced "entrance", 4' 8" wide and 24' long, was also uncovered in the north-west rampart. This remains something of an enigma, as his cutting was almost certainly made at a point where a single rampart serves both the south camp and the fortlet. Moreover, the length of this "entrance", as we shall see, was much greater than the probable width of the rampart of the Antonine fortlet. He was also of the opinion that a second gateway existed through the south-east rampart of the fortlet where a gap still shows in the defences.

An embanked enclosure, some 30' square, was also noted by Barbour within the interior of the fortlet[23]. This was almost certainly a secondary feature, oriented east to west, with an entrance on its east side. Although it formed no part of the present investigations it is worthy of passing attention at this stage. The enclosure undoubtedly predated the early eighteenth century, appearing both on Gordon's schematic plan of 1721 and Roy's plan of the mid-eighteenth century. A tentative explanation as to its nature might be found in the presence of six elongated pits shown on Barbour's plan, though a strict association cannot be demonstrated. Five of the pits, all oriented east to west, are grouped in two ranks near to the centre of the enclosure, whilst a sixth with only a slight deviation in orientation lies just beyond the west side. All were recorded as being about 3' 6" deep and with the exception of one, which contained some "quarried stones", were merely filled with soft, sandy earth. Although no skeletal material was recorded, the form and the remaining dimensions of these pits are not inconsistent with those of inhumation graves, the five within the enclosure possibly representing a family group of two adults and three children. An enclosed early Christian burial ground is not impossible, even though there is no evidence for a strict context and the association of pits and enclosure may be no more than fortuitous.

The recent investigations of the Roman fortlet were confined to one 2m wide cutting across the north-west perimeter at a point where the ditch of the fortlet could be assumed to underly the north rampart of the south camp. The V-shaped ditch of the fortlet lay beneath the rampart of the south camp, as anticipated, and was 4.4m wide and c. 2.13m deep from the original ground level to the bottom

23. Barbour, *op. cit.*, 229 Fig. 8.

of a somewhat square-cut working trench (Fig. 10). For much of its depth it had been cut through soft sandstone rock. Quick silt filled the bottom 0.5m, and eventually both this and the sides of the original ditch had been covered in a thin but unmistakable band of turf which appeared to be natural growth and not slip from turf-built revetments. Subsequently, a second minor silting or slip had occurred, mainly from the direction of the counterscarp-bank, which was in turn overgrown before the north rampart of the south camp had been thrown up over the ditch of the fortlet. In the process of constructing the rampart of the south camp the remains of the fortlet's rampart seemed to have been deliberately pulled forward into the south side of the ditch, followed by successive tips of material from the excavation of the ditch of the south camp. On the other hand, the turf-grown remains of the fortlet's counterscarp-bank were merely incorporated into the later rampart and had not been pulled back into the ditch. Beyond the inner lip of the ditch the original brash and earth rampart of the fortlet survived to a height of only 0.3 - 0.4m. There were no indications of a built revetment but the rocky material from the ditch, if built up with a batter, could have provided a reasonably secure face beyond a minimal berm. Two partly rock-cut post-holes were found 1.8m apart on what may be taken as the rear line of the fortlet's rampart and were possibly connected with some form of inner timber revetment. This being the case, the rampart can have been no more than 3m wide at the base, comparable with the estimated maximum width of the rampart at Barburgh Mill fortlet in Nithsdale[24].

Regrettably there was a total absence of small finds from this cutting, so that the length of time during which the ditch of the fortlet may have lain open or abandoned before the erection of the rampart of the south camp cannot be estimated with any precision, other than to assume that the ditch had become grass-grown before the latter event took place. Although an early Antonine context has generally been adopted for the fortlet, largely based upon analogy, there is some evidence towards confirmation in the form of a few sherds from Barbour's excavation at present housed in the National Museum of Antiquities, Edinburgh. These are assuredly Antonine in context, and from his record would seem to have come from the interior of the fortlet itself, together with the bottom of a Roman bronze patella. On the other hand some caution is necessary in this attribution since the fortlet is entirely enclosed by the south camp.

2. The Roman South Camp (Figs. 1 & 11)

The only additional earthwork to have come to light since 1898 is the embanked enclosure in the form of a parallelogram on the west side of the south camp. This was first noted from the air before the major part of the area was afforested. The earthwork is barely visible on the ground to the north of the present plantation and, as its course cannot be traced on the surface beyond the west ditch of the south camp, the relationship between the two remains uncertain. Although it has some of the attributes of a Roman temporary camp it lacks others, such as visible gateways. Dr St. Joseph's trial cuttings failed to reveal any ditch

24. Breeze, D., The Roman fortlet at Barburgh Mill, Dumfriesshire, *Britannia*, V (1974), 135.

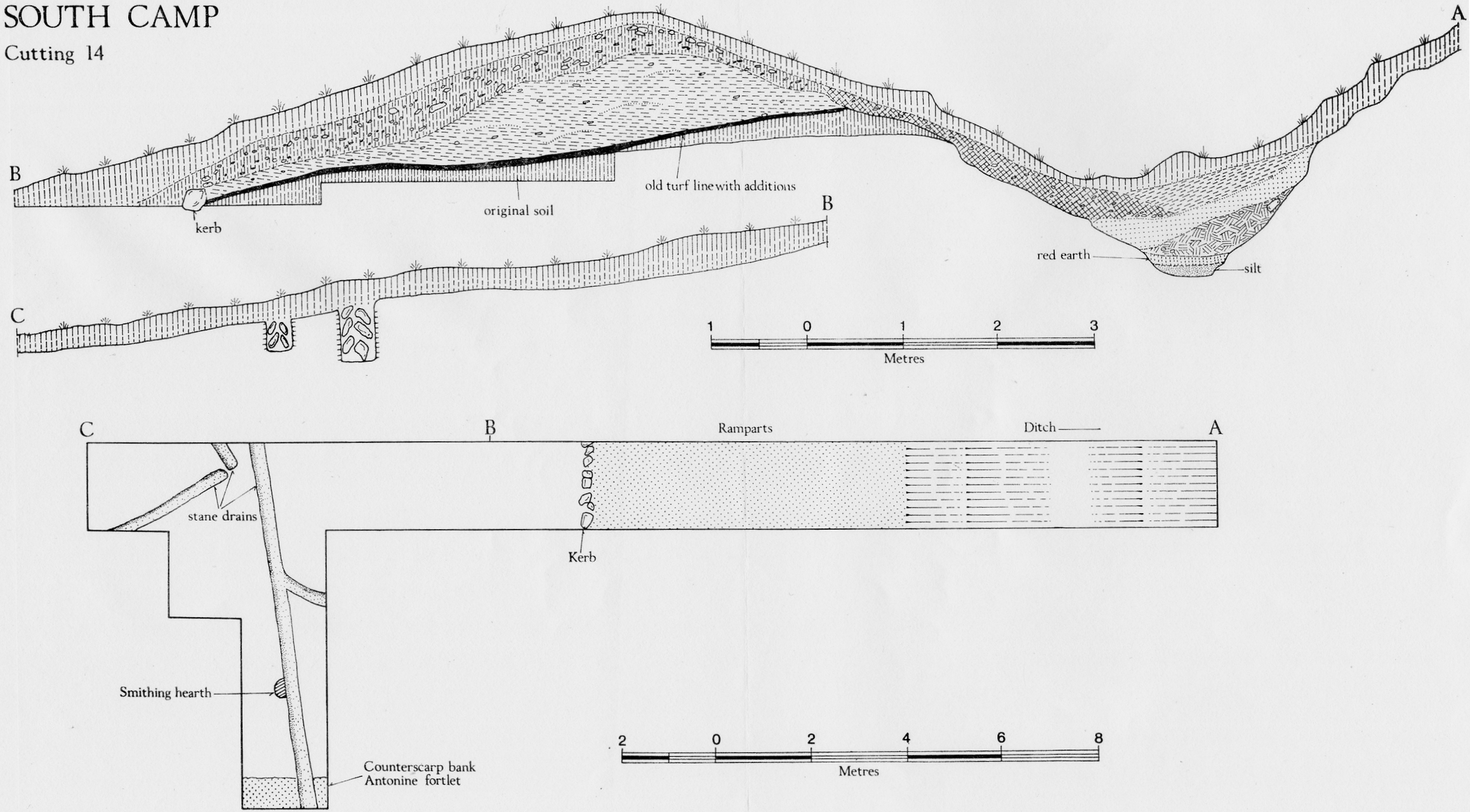


Fig. 11: Roman South camp.

or to establish its true purpose and context[25]. At some stage it served to demarcate an area of ploughed land, the rigs of which show clearly on the air-photograph and are still faintly discernible on the ground.

Recent excavations in the south camp were limited to one long cutting over the defences and to a small area excavation over the reputed remains of a long rectangular building recorded by Barbour near to the small water-course in the centre of the camp (Fig. 1).

a. Cutting 14.

The ditch of the south camp, c. 5.5m wide and 1.8m deep, was cut through the soft bedrock for at least 1.2m (Fig. 11). As found, the rampart at its highest point was 1.5m above original ground level and 2.8m above the bottom of the ditch. It rested upon a very thick band of turf, presumably consisting of the original turf-line and additional turf removed from the cutting of the ditch. No front revetment was found, either **in situ** or as tumble in the ditch filling, but a number of larger stones had probably acted as a low kerb along the original tail, denoting a width at the base of some 6.5m. Various tip-lines in the rampart marked the simple dumping process and the upper levels were composed of fragmented rock from the lower reaches of the ditch, presumably the "stone capping" mentioned by Barbour. On the other hand, there were no indications in this cutting of the faint traces of brushwood bonding, such as he mentioned, nor of his interior paving beyond the tail of the rampart.

There were only two finds from this initial cutting. The first was a lead sling-bullet from beneath the turf and topsoil immediately beyond the tail of the rampart, which adds to the total of a dozen or more found by Barbour in the south camp (v. small finds). The second was a stone ballista-ball from on top of the quick silt and an overlying band of red soil in the ditch filling, some 150mm above the bottom. It will be evident that the latter is by no means unequivocal evidence that such missiles were still being fired after silt had collected in the ditches of the south camp. The natural slope rises steeply beyond the ditch and much of the fill had been carried down from this direction, so that the stone ball could have entered the ditch some time after its initial projection.

An extension of the original cutting into the interior of the south camp disclosed little more than a system of later drains similar to those found in the hill-fort and possibly linking up with those noted by Barbour in the Antonine fortlet. At one point, however, one of these had cut through an earlier bowl-furnace or smithing hearth, originally perhaps 0.5m in diameter and at most 0.4m deep. The slaggy contents had been thoroughly disturbed by the drain but have been identified by Dr Tylecote as arising from smithing rather than smelting. Whilst this activity cannot be unequivocally associated with the occupation of the Roman south camp it is worth recalling the iron-slag and "shapeless pieces of iron" previously recovered by Barbour.

25. *v.* Miller, S. N. (ed.), *The Roman occupation of South Western Scotland*, 97-8.

b. Area C.

The significance of Barbour's record of "large and important buildings" in the south camp with respect to the credibility of the siege-theory has been already mentioned. A small area excavation, measuring 13 by 13m, and two additional cuttings were made across the assumed position of the building shown on his plan[26]. It was soon apparent that he had trenched eastwards from the top of the bank bordering the small water-course until an area of paving was reached, whereupon he had followed this feature in a broad north to south sweep. Although it was undoubtedly an area of good quality paving about 6m broad, presumably running for at least 55m (180') as recorded by Barbour, there was not a vestige of his so-called flanking walls found in the 26m length examined in the present excavation; nor was there any indication that these had ever existed. An abraded base-sherd and wall-sherd from a Roman vessel, probably of second century date, were found in the interstices between undisturbed paving stones so that the paving itself can probably be attributed to the occupation of the south camp at some stage. Its appearance was that of a great length of hard-standing or roadway, but it was beyond the available resources and the current mandate to determine its relationship to the roadways noted by Barbour at the entrances to the south camp. Some thick fragments of reddened and partly vitrified clay, as if from a furnace or kiln, were also recovered from the backfilling of one of the 1898 cuttings.

Despite the fact that Barbour's stone building in the south camp must probably be discounted, the rock-cut ditch, the interior paving, and the possibility of associated metalworking, give a collective impression of more than a fleeting use of the earthwork in the Roman period.

SMALL FINDS

Native Pottery

Some 170 small sherds of undecorated hand-built pottery were found. From the evidence of the 5 small rim-sherds and various fabrics it is possible that not more than 12 different vessels are represented. The sherds are so small and so seldom conjoining that the forms attributed to these vessels can be no more than tentative and the precise angles of the rim-sherds are likewise doubtful. All would seem to have been locally produced.

1. Fig. 12, 1. Internally bevelled rim and 4 wall-sherds from a coil-built vessel with buff coloured surfaces, dark grey core, and large grits up to 10mm across. Found in the basal layer of material of the inner rampart of the hill-fort, Cutting 10, together with charcoal dated 500 ± 90 b.c. Possibly Late Bronze Age/Early Iron Age variety of so-called Flat-rimmed Ware.
2. Fig. 12, 2. Small rim-sherd with internal bevel, buff surfaces, dark grey core and containing some grits. Late Bronze Age/Early Iron Age. From fill of pit C, Area A, hill-fort.
3. Fig. 12, 3. Small sherd from a coil-built vessel with incurving rim bearing two finger-nail impressions. Brown surfaces, grey core, and many grits. Unstratified in 1898 cutting, Area A, hill-fort. Such simple rim-forms, generally from barrel-shaped vessels have a long currency.
4. Fig. 12, 4. Abraded rim-sherd similar to no. 3 above but in a coarser fabric. From

26. Barbour, *op. cit.*, plate III

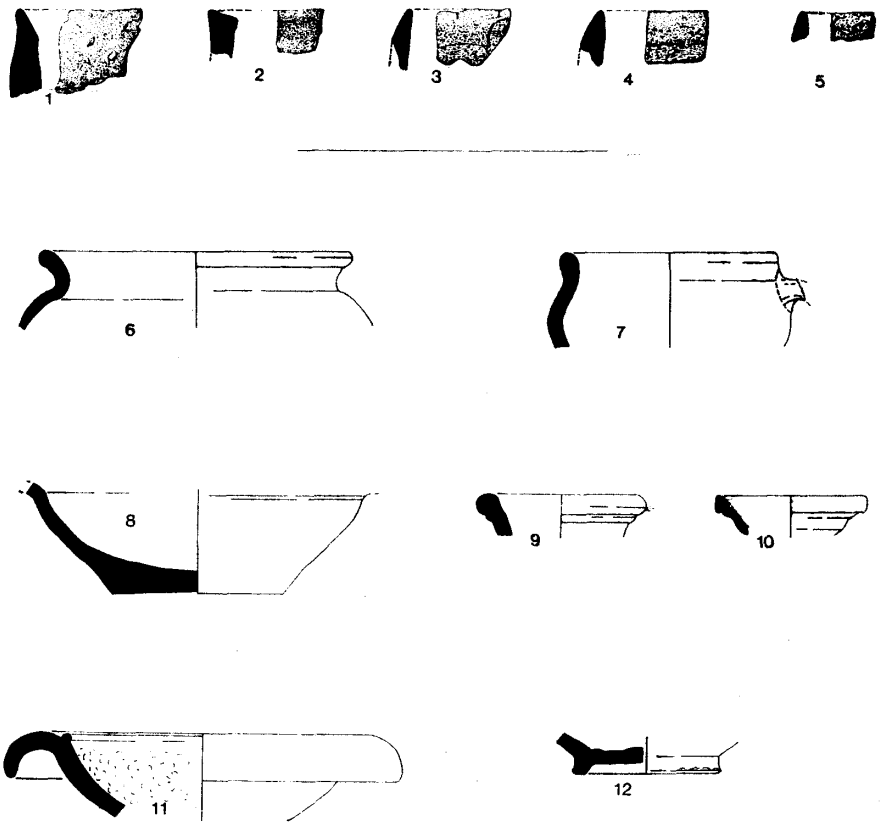


Fig. 12: 1-5 Hand-built pottery (¼); 6-12, Roman coarse ware (¼).

the fill of pit F, Area A, hill-fort, overlaid by Romano-British occupation earth. 7 small wall-sherds up to 15mm thick were recovered from the same pit but do not conjoin.

5. Fig. 12, 5. 2 small fragments of simple, rather pointed rim, together with 23 small wall-sherds in same buff coloured fabric, containing large grits and slightly soapy to touch. The vessel has been coil-built with walls up to 20mm thick. From the fill of pit E, Area A, hill-fort.

6. Additional small wall-sherds of hand-built pottery were found as follows:— 17 from the core of the breastwork of the Civil War redoubt and a further 20 minute fragments from material which had slipped into the ditch; 9 sherds from the small patches of occupation earth remaining in Area A, hill-fort; 27 small fragments from a barrel-shaped vessel, possibly rising to an incurving rim, recovered from the cobbled areas within the house-complex, Area B, hill-fort.

Roman Pottery

A few sherds of Roman coarse pottery and one sherd of Samian Ware from the 1898 excavations are housed in the National Museum of Antiquities, Edinburgh (N.M.A.). It would seem from Barbour's report that these are all from the clearance of the Antonine fortlet, although this is not altogether certain, and it is necessary to point out that the fortlet is enclosed within the Roman south camp.

Dr Kevin Greene, University of Newcastle upon Tyne, kindly reports on the pottery as follows:—

The 1898 finds are consistent with a single Antonine date, but whether I or II cannot be said.

The Samian fragments from the present excavations are all abraded and softened and few retain much of their surfaces. However, examination by binocular microscope indicates that all are probably Central Gaulish and, therefore, second century in date. Apart from the single sherd from the Antonine fortlet there is only one fragment from the hill-fort of which the form can be certainly identified. This form, **Dr.27**, is limited to the first half of the 2nd century in Central Gaulish Ware.

Apart from the 1898 group from the fortlet, all the coarse ware from the hill-fort is in exceedingly poor condition and consists of very small fragments. The only guide to their date is provided by three vessels represented by rims. Of these, two belong to within the first half of the 2nd century. None of the other sherds are inconsistent with this, but otherwise would not be datable. Thus it is not possible to say either that the sherds represent a spread of occupation up to the mid-second century or that they are all of similar date within that period.

1898 Excavations: Antonine Fortlet(?)

1. Samian sherd, **Dr.37**. Severely abraded, trace of figure type ? animal on exterior. Central Gaulish, 2nd century. (**N.M.A. GP 99 A**).
2. Fig. 12, 6. Black-burnished I cooking-pot which seems closest to Gillam type 125, A.D. 125-180. (**N.M.A. GP 99 B**).
3. Fig. 12, 7. Handled beaker in Black-burnished I. It is very thick with a simple rim and would seem to be a coarse version of Gillam type 64,, A.D. 130-190. (**N.M.A. GP 99 E**).
4. Fig. 12, 8. 7 sherds from one bowl. The fabric is very fine despite the thickness of the base. The bowl evidently possessed a curving flange but the rim does not survive. Form and date uncertain (**N.M.A. GP 99 C**).
5. Thin sherd of hard, sandy ware. Fabric is dark grey; the outer part is cream, with faint traces of a pink surface. Shape and fabric would be appropriate to a flagon. (**N.M.A. GP 99 D**).

Recent Excavations

Samian Ware

Sixteen small wall-sherds were recovered, all from excavations within the hill-fort.

1. A single sherd of **Dr.27**. Central Gaulish, first half of 2nd century. From occupation earth, Area A, hill-fort.
2. 4 very small sherds, all of which would seem to be Central Gaulish. Provenance as no. 1.
3. Tiny sherd, apparently Central Gaulish. From occupation earth, Area A, hill-fort, overlying pit G.
4. Part of base and two abraded sherds, Central Gaulish. From within the core of the breastwork of the Civil War redoubt and presumably scraped up from earlier occupation (1-3 above).
5. One tiny sherd, probably Central Gaulish. From brash surface beneath tumble from western transverse bank, Cutting 1, hill-fort.
6. 5 small sherds, Central Gaulish. One slightly larger sherd may be from the wall of a

plate such as Dr.18/31. Not stratified within line of minimal remains of north rampart of hill-fort, Cutting 12.

Coarse Pottery

1. Fig. 12, 9. Flagon-rim in grey fabric with pale grey surface. Cf. Gillam type 5, A.D. 120-150. From occupation earth overlying pit K, Area A, hill-fort.

2. Fig. 12, 10. Small rim-sherd and 2 wall-sherds with dark grey surfaces and paler core, very fine. Resembles Gallo-Belgic terra nigra fabric, but is more likely to be a flagon-rim as its form is not appropriate to any Gallo-Belgic cup. From top fill of pit M, immediately below overlying band of occupation earth, Area A, hill-fort.

3. 2 small body-sherds of dark grey coarse fabric, black exterior surfaces. Probably Roman. Not stratified, on brash surface, Area A, hill-fort.

4. 1 sherd from the lower wall of a jar, grey fabric with darker surfaces. Roman but otherwise undatable. From band of occupation earth, Area A, hill-fort.

5. 3 small sherds from same vessel. Blue-grey core with thin surface of yellow-buff. Roman, otherwise undatable. From band of occupation earth, Area A, hill-fort.

6. Fig. 12, 11. 12 sherds from one mortarium. Parts of flange have pinkish grey-buff surface and pale grey core; internal grits do not survive but have left impressions. Closest to Gillam type 244, A.D. 110-150. From cobbled area near hearth, within house complex, Area B, hill-fort.

7. Foot-ring in hard, coarse, grey fabric, possibly from a flagon. Provenance as no. 6 above.

8. Small sherd of grey-white, micaceous, fine pottery, possibly from a white flagon. From on top of natural brash within house complex, Area B, hill-fort.

9. Fig. 12, 12. Severely abraded base of vessel with foot-ring in hard grey fabric with large grits. Roman, but whereas the shape suggests a flagon the colour of the fabric does not. If it is a form of flagon it is unlikely to date later than c. 200 A.D. From the interstices of the paving, Area C, south camp.

Coins

Four coins were found at Burnswark in c. 1727[27], namely one of Nero, one of Vespasian and two of Trajan. Only one coin was recovered from the present excavations.

Denarius of Domitian (A.D. 81-96)

Professor Anne Robertson, Hunterian Museum, University of Glasgow reports as follows:—

AR Wt. 2.265 g. (light in weight because of corrosion and loss of one piece from side)
Size 0.8in Axis

Obv. IMP CAES DOMIT AVG GERM P M TR P VII(I)
Head of Domitian, laureate, bearded, r.

Rev. I P (X. . . .) COS XIII(I) CENS P P P
Minerva, helmeted, draped, standing l., (holding thunderbolt and spear. Behind her, round shield).

Date of coin: A.D. 87-89. Not much worn.

Note: Silver denarii, especially those of the Flavian emperors, Vespasian to Domitian, remained in circulation for a very long time, often in good condition. This coin need not have been lost in the late-first century A.D. It may still have been in circulation in the second century A.D.

Provenance: Recovered from on top of the tail of the north rampart of the hill-fort, Cutting 11, near to the sword (below).

27. *P.S.A.S.*, LII (1917-18), 216-17.

Roman Weapons and Missiles

At least two spear-heads have been found at Burnswark in the past, one of them, probably Roman, is illustrated by Barbour.

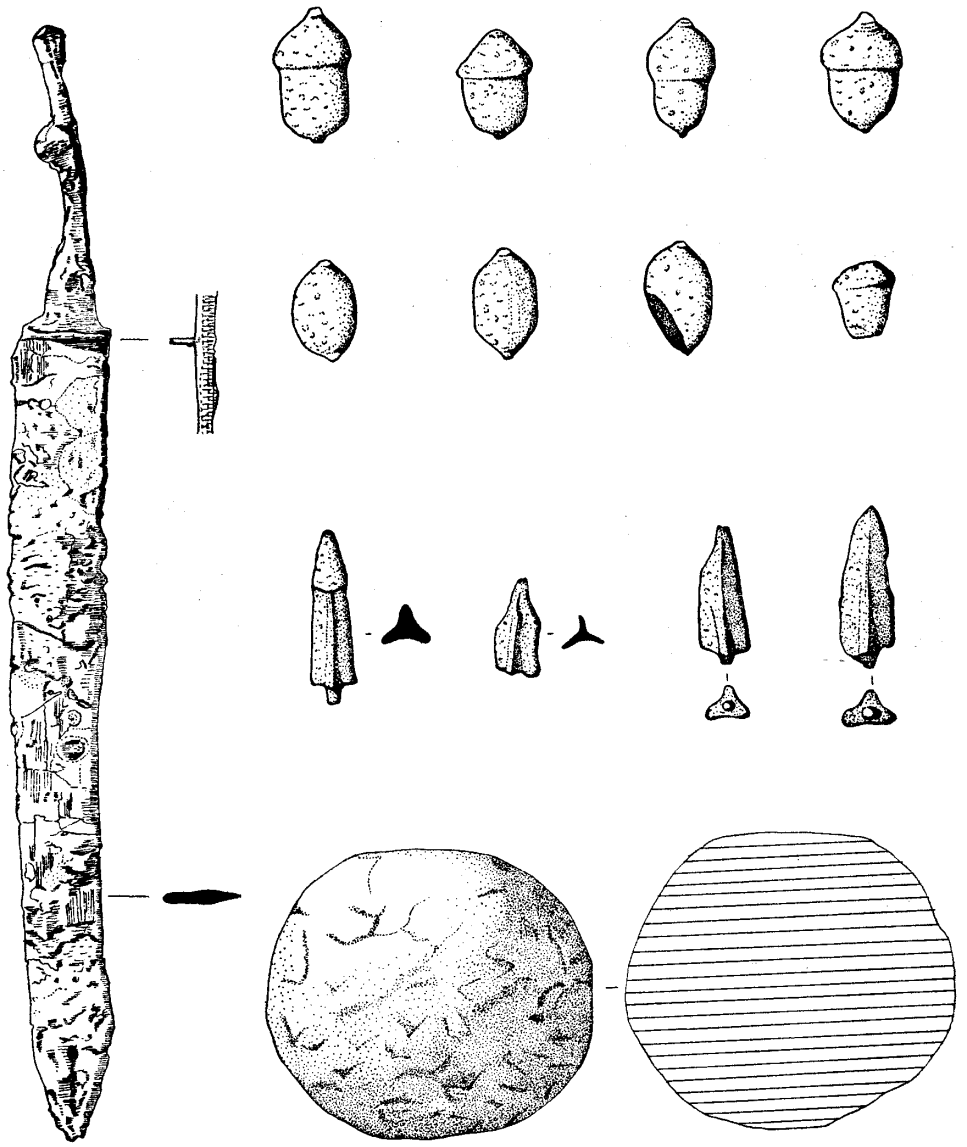


Fig. 13: Sword (¼); sling bullets, arrowheads, ballista ball (½).

Sword.

Fig. 13, 1. The corroded blade of this sword is 440mm long and 33mm broad. The remains of the flat hilt-guard and a small spherical pommel-button are both of bone. It

was found, together with the silver denarius of Domitian, beneath the top soil on the tail of the north rampart of the hill-fort, Cutting 11.

Problems concerning the nature of native and Roman swords in northern Britain have been discussed recently by L. A. Scott, in connection with the soldier's burial at Camelon[28]. The difficulties of distinguishing between Roman and native swords, including that from Burnswark, are emphasised. The balance of evidence in this instance would probably point to the sword being Roman. Mr Scott has pointed out (**in lit.**) that although the general run of Roman hilts were in three pieces, **i.e.** pommel, grip, and guard, it is just possible, though by no means certain, that the Burnswark sword-hilt could have been made up from more elements, as in the case of the example from Dorchester, Dorset, now in the County Museum.

Lead Sling-bullets

54 lead bullets were recovered from the present excavations, 67 were found in 1898, and there were 12 casual finds in the intervening years[29], yielding a total of 133. In this respect the Burnswark complex is unique in this country and, for that matter, probably throughout the western provinces after the mid-first century A.D.

The Burnswark **glandes** are of two types (Fig. 13), those resembling an acorn in form and those shaped like a lemon. Apart from 2 ill-formed specimens, the weights of the recent finds range from 50g (1¾ oz) to 71g (2½ oz) and in this respect are comparable with those found in 1898. There is no correlation between weights and shapes and even missiles of similar form would seem to have been cast from more than one mould. Likewise, there is no apparent relationship between the two forms and their provenances. All bullets are corroded and no casting pipes are immediately visible, but these could well have been hammered flat as in the case of examples from Corbridge[30]. A number bear two marks of impact as if from re-use or ricochet.

There would seem to be no overwhelming reason to regard these bullets as having been used in the form of bagged shrapnel, as recently suggested by Dr R. W. Davies[31]. Moreover, his suggestion that a multi-perforated stone from the 1898 excavations could have served as a gauge for checking the size of individual bullets will not bear too close a scrutiny, as this stone was found "four feet below the crest of the rampart" of the south camp and would not fit into his contextual requirements for the missiles.

The hill-fort defences and gateways would certainly lie within the range of practised slingers stationed as far away as the north rampart of the Roman south camp, even after due allowance has been made for the gradients. Present-day trained slingers in the island of Ibiza can hit a target of one square metre at a distance of 200m[32], an accuracy and range which is in accord with what ancient sources have to tell us[33].

The provenances of the 1898 finds can be established only in the most general terms. 20 bullets were found at one of the south gateways of the hill-fort and 12 at the other. Several came from the Antonine fortlet, but clearly these could equally as well have been associated with the occupation of the south camp, where a number were also found, ten in one group and the others singly. It could be of significance that none were recorded as having been found in the Roman north camp, though Barbour's excavations here were less extensive, and none were specifically mentioned as being found at the north gateway to the hill-fort. Amongst the casual finds of more recent years 2 bullets were found as far distant as 70m to the SW of the SW corner of the Roman south camp, but the majority came to light between the two southern ramparts of the hill-fort or in the area between these and the south camp when the modern plantation was established.

28. The Weapons, in Breeze D. J. *et al.* Soldiers' Burials at Camelon, Britannia VII (1976).
29. *T.D.G.N.H.A.S.*, XXXVI (1957-8), 185; XXXVI (1959-60), 189.
30. Tylecote, R. W., *Metallurgy in Archaeology*, 100.
31. Davies, *op. cit.*, 109.
32. Hubrecht, A., *Bulletin van den vereeniging tot bevordering der kennis van de antieke beschaving te's-gravenhage*, XXXIX, 92f.
33. For use and tactics of slinging *v.* Korfmann, M., *Schleuder und Bogen in Sudwestasien* (Bonn, 1972).

Unfortunately, many of the bullets found in the recent excavations came from the spoil thrown back into Barbour's excavations at the two southern gateways to the hill-fort, so that their association with the secondary paving in these areas can only be inferred. The remaining provenances were as follows:—

1. 7 from directly on top of or just in the surface of the remains of the inner rampart of the hill-fort as it now exists in a denuded form, well removed from more recent disturbance to the east of the west gateway.
2. 4 from the top of the spill from the inner rampart of the hill-fort as above and in Cutting 10.
3. 2 from on top of the forward spill from the inner rampart of the hill-fort, well removed from later disturbance on the west side of the east gateway.
4. 1 from partly beneath the leading edge of the secondary pavement in the west gateway of the hill-fort. This is not acceptable evidence for the priority of the missile for reasons given in the main body of the text.
5. 1 from the cobbled area within the house complex, Area B, hill-fort.
6. 3 from beneath the present turf and top soil within the Roman south camp, Area C and Cutting 14.

On the available evidence it is impossible to envisage these bullets as having been fired against upstanding hill-fort defences, and no missiles have ever been recorded as coming from beneath the tumble from the ramparts, such as might have been anticipated had they been upstanding when the missiles were fired.

If the bullets are to be associated with the construction and occupation of the Roman south camp, as seems most probable, then their presence in leaden form, rather than clay or stone, poses a problem. The significance of this did not altogether escape Haverfield and Christison who suggested that the currency of lead **glandes** ceased during the 1st century A.D. and that their use at Burnswark might therefore be attributed to an Agricolan campaign[34]. They were, of course, not fully aware of the situation with respect to the hill-fort defences, or of the context of the Roman south camp. Even so, their attribution of the missiles to campaigns of c. 80 A.D. did not solve the difficulty created by the lack of contemporary continental examples, though it may have shortened a chronological hiatus.

The comparative disappearance of lead sling-bullets on the Continent at an early date has led one modern authority to suggest that the reason is perhaps to be found in the de-specialisation of slinging as a function of special units in the Roman army[35]. Be this as it may, there are no comparable finds from the Upper German and Raetian **limes**[36]. The latest recorded examples from the Continent would seem to be from legionary fortresses, such as Vindonissa[37], where Legio XIII was stationed between A.D. 16 and 46, or from sites thought to be legionary, such as Oberhausen[38], where most of the finds are of late Augustan or early Tiberian date, or Haltern[39] which was probably abandoned in 9 A.D. Where there is reference to similar activity in literature of later date, including the **adlocutio** of Hadrian, stone or clay missiles would seem to be the norm. The only exception is the "ball of lead" which at one stage was believed to have killed Severus at the battle of Tinurtium in 197 A.D.[40] Despite the presence of British troops at this engagement, the reference, to say the least, is of doubtful value.

When Haverfield commented on the Burnswark bullets he knew of only one other recorded lead **glans** from the frontier area in Britain, this an unstratified example from Birdoswald. The situation has changed somewhat since them, but with the exception of an

34. Barbour, *op. cit.*
35. Watson, G. R., *The Roman Soldier*, 61.
36. I am indebted to Dr Baatz, Saalburgmuseum and Dr Kellner, Prahistorische Staatsamlung, Munchen, for information.
37. *e.g.* Simoneth, C., Fuhrer durch das Vindonissa Museum (1947), 18 Abb5.
38. Hubener, W., Die romischen Metallfunde von Augsburg-Oberhausen, Materialhefte zur Bayerischen Vorgeschichte 28, Tafel 22, 30.
39. Ritterling, E., Mitteilungen der Altertumskommission fur Westfalen 2 (1901), 131; Dragendorff, H., *ibid.* 3 (1903), 73.
40. *S.H.A.*: Severus XI (Loeb ed. 1, 396).

odd imported lead bullet[41] they would still seem to be totally absent from southern Britain and confined to the northern frontier zone. The most easterly provenance to date is at Corbridge, where 9 lead bullets were found in 1909-10, notably when Haverfield himself was responsible for the small finds[42]. Unfortunately, these were lying loose on sites XIS, XIV, and XVIN, although at that stage in the excavations it can perhaps be assumed that they were not from early levels on the site. As compared with the Burnswark examples they are generally larger, ranging from 71g to 142g. A number of lead bullets have been found in recent years at Chesterholm[43], also on the Stanegate. Most of these were found in what is possibly a 3rd century context. A recent, unpublished find of a single lead bullet from Housesteads[44] on the Wall is also from a tentative 3rd century context. The single example from Birdoswald[45] has no precise provenance, other than it was found in trenching to the east of the fort. Over the years a total of perhaps 13 bullets has been found at Ambleside fort[46], 9 from or near to the east gateway and 4 from the **vicus**; unfortunately none are in a closely datable context. Finally, the most recently published examples, 3 in number and all acorn-shaped, come from an established Antonine I context in the Roman fort at Birrens[47]. With the exception of one doubtful example from Bar Hill[48], however, none have been recorded on the Antonine frontier itself, although bullets of stone and clay have been noted on more than one occasion.

Although it cannot be known if all these missiles were intended simply for warfare or manoeuvres rather than hunting, other than at Burnswark, or how they arrived at their known provenances, it would seem that lead shot still had a currency on the northern frontier much later than elsewhere. It would be difficult, however, to find a common factor which could point to the presence of some specialised unit. Likewise, a special issue of archaic but more efficient missiles, whilst possible, seems unlikely. Perhaps a temporary explanation might be sought in the well-known local sources of **galena**, as at Alston or the Leaden Hills, which promoted the use of a material long abandoned elsewhere.

Iron Arrow-heads

No arrow-heads were recorded from the 1898 excavations. A total of 9 were recovered from the present excavations, all of them with tangs and triple barbs or wings (Fig. 13).

1. 6 from the backfilling of Barbour's excavation at the west gateway of the hill-fort.
2. 2 from on top of the denuded front of the rampart of the hill-fort, clear of later disturbance at the west gateway.
3. One fragment from beneath the spill from the western transverse bank, Cutting 1, hill-fort.

In early Imperial times archers were members of specialised corps but later it seems that archery was also practised by other formations. Arrow-heads were principally of two types, the first either tanged or socketed with three or four barbs, the second generally leaf-shaped and flat. Both types have long pre-Roman antecedents[49]. In Roman continental contexts good examples of the iron, tanged and triple barbed type are illustrated **e.g.** from Carnuntum and Saalburg[50]. In Britain the triple and less frequently the quadruple barbed types range widely in geographical and chronological context[51]. In the northern frontier zone they have been recovered from Ebchester bath-house[52]; Watercrook, where one of 9

41. Wright, R. P., *J.R.S.*, LIV (1964), 185. I am indebted to Mr Wright for information.
42. *Arch. Ael.*3, VII (1911), 191.
43. Information in advance of publication from Mr R. Birley; also *Arch. Ael.*4, XLVIII (1970), 141.
44. Information from Mr C. M. Daniels.
45. Cowper, H. S., *T.C.W.A.* & *A.S.*, n.s. II (1902), 35-6.
46. Haverfield, F. & Collingwood, R. G., *T.C.W.A.* & *A.S.*. XIV (1914), 462; Birkett, M. E., *ibid.*, LXV (1965), 91, and information *in lit.*
47. Robertson, A. S., *Birrens* (*Blatobulgium*), 130 & Fig. 44.
48. McDonald, G. & Park, A., *Roman Forts on the Bar Hill* (1906).
49. *e.g.* Mercer, J. R., *P.P.S.*, XXXXVI (1970), 171 ff.
50. *Carnuntum, Der Romische Limes Oesterreich*, 2 (1899). Taf. 22, & *Das Romerkastell Saalburg*, Taf. XXXIX, 31.
51. e.g. Hod Hill, London, Godmanchester, Segontium, Wall, Wilderspool, York.
52. Reed, A., *Arch. Ael.*4, XLII (1964), 185.

was stratified in a deposit dating to the first half of the 2nd century[53]; Newstead, where there were 5 from pit 1 in the **principia**[54]; Turret 25b on Hadrian's Wall, from a period 1A level[55]; and from Bewcastle in the cellar amongst material fallen from the **sacellum** after 237 A.D.[56] At Corbridge 3 arrow-heads with triple barbs were found in 1908 but those from amongst the mass of material in the 3rd century workshop all seem to have had four barbs and sockets[57]. The large and presumably comparatively late deposit of 800 arrow-heads from Housesteads were all of the flat type, although there was one with four and another with three barbs from "elsewhere on the fort"[58]. The most interesting of the northern finds remains that of 7 tanged and triple barbed heads from the bottom of the well at Bar Hill[59] on the Antonine Wall. These were found together with a piece of a horn nock from a composite bow similar to others from Corbridge and Caerleon. It has been suggested that the fort at Bar Hill probably housed **Coh. I Hamiorum sagittariorum** from 142-155 A.D., a unit also stationed at Carvoran under Hadrian and Marcus Aurelius[60]. Here at least, and if need be, is a specialised corps of archers which could have taken part in some military activity on Burnswark Hill during the Antonine period or later.

The modern range of such composite bows as the bone nocks suggest is said to be 250 yards (228m), with an effective killing range of 150 yards (137m).[61] This would again place the gateways and main rampart of the hill-fort within effective firing range from the defences of the Roman camps.

Stone Ballista Balls

Eleven balls of local red sandstone and a further 9 fragments were found in 1898. The only provenances which can be established are as follows: 2 from the Antonine fortlet, 1 of these from the east ditch which is also the ditch of the south camp; a number from the interior of the south camp; 1 from the north camp; and one or two from the hill-fort itself. They were said to be roughly of four sizes, weighing c. 2½ lbs (1.1kg), 1½ lbs (0.7kg), 12 oz (340g) and 6 oz (170g). It may be doubted if the lighter specimens were ever intended for spring-guns. The larger balls, however, generally had one slightly flattened surface "as if for placing on a flat space without rolling". Only 3 balls were found in the recent excavations, all of local sandstone (Fig. 13).

1. A well shaped ball with dressed surfaces and diametrically opposed, flat surfaces; weight 0.6kg. Found on top of quick silt and red earth, 150mm above the bottom of the ditch of the south camp, Cutting 14.
2. A ball with surfaces dressed overall and one, small, flat surface; weight 0.6kg. Found beneath the turf and top soil within the south camp, Cutting 14.
3. A ball only roughly cut to shape with no fine dressing; weight 0.5kg. Found in Barbour's backfilling in the west gateway of the hill-fort.

These are all comparatively small balls such as might have been fired from smaller spring-guns or **carroballistae** and, indeed, if it were not for the small flattened areas and the care taken in the making could have been intended simply for hand-throwing.

Small balls of this order are found frequently on northern forts, including South Shields, Wallsend, Corbridge, Newstead, and from the well of the H.Q. building at Bar Hill, together with the arrow-heads already mentioned. A store of them was also recorded from the fort at Balmuildy[62] on the Antonine Wall. Few of these would merit the employment of the

53. Potter, T. W., *T.C.W.A. & A.S.*, LXXVI (1976), 32.
54. Curle, J., *A Roman Frontier Post and its People*, 189.
55. Woodfield, C., *Arch. Ael.*4, XLIII (1965), 117.
56. Richmond, I. A. et al., *T.C.W.A. & A.S.*, XXXVIII (1938), Fig. 13.
57. Richmond, I. A., & Birley, E., *Arch. Ael.*4, XVII (1940), 112.
58. Bosanquet, R. C., *Arch. Ael.*2, XXV ( ), 193 ff. & Fig. 48.
59. Macdonald, G., & Park, A., *The Roman Forts on Bar Hill* (1906), 116 & 121.
60. Steer, K. A., *Arch. Ael.*4, XLII (1964), 26.
61. Collingwood & Richmond, *Archaeology of Roman Britain* (1969), 306.
62. Miler, S. N., *The Roman Fort at Balmuildy*, 98.

large ballistae capable of projecting stones weighing 50kg, such as are attested at Halton Chesters on Hadrian's Wall in the 2nd century or the outpost forts at Risingham and High Rochester in the 3rd century. The provenances of the finds suggests that not only legionaries but also auxiliary troops had to be versed in the use of artillery.

The so-called Three Brethren or **tituli** at Burnswark are admirably located to allow artillery to play upon the ramparts and gateways of the hill-fort, with some variety of range and trajectory according to a selected target. Although other gun-platforms are known, either in field-works such as the Cawthorn complex, Yorkshire,[63] and the practice works at Woden Law, Roxburghshire, or in permanent forts as at High Rochester, Northumberland, there is little direct evidence for their use in assaults against native hill-forts in North Britain. Apart from Burnswark, the only example of a ballista ball at present known to have come from even close proximity to a hill-fort is that found on the slope beneath Shan Castle, Dumfriesshire, (Dumfries Museum).

Metalwork

Bronze

1. Fig. 14, 1. Fragment of a knobbed terret-ring, originally with three evenly spaced knobs. No enamel remains in the grooved decoration on the knob. This is a well established type in the frontier zone and is possibly Hadrianic or later[64]. From the Roman period occupation earth overlying pit G, Area A, hill-fort.
2. Fig. 14, 2. Probably a fragment from a terret-ring with a simple collar and thickened ring, 1st/2nd century A.D. From the core of the breast-work of the Civil War redoubt, Area A, hill-fort.
3. Part of a curving stem and misshappen knob, possibly part of a terret-ring. Provenance as 1 above.
4. Fig. 14, 3. Cruciform mount of four radiating petals centred on a boss. Very similar in shape and size to an example from Traprain Law,[65] possibly late 1st/2nd century A.D. From the core of the breastwork of the Civil War redoubt, Area A, hill-fort.
5. Fig. 14, 4. Looped stud formed from double petals with bosses. Similar examples have been found **e.g.** at Corbridge and Traprain Law,[66] later 1st/2nd century A.D. From tumbled material from the core of the breastwork of the Civil War redoubt.
6. Fig. 14, 5. Broken button and loop fastener with boss and petal head, Wild's class III. The main distribution of the type is in the Pennine and Lowland Scots Province, later 1st/early 2nd century A.D.[67] From occupation earth, Area A, hill-fort.
7. Bronze ring, possibly a fitting for a small wooden or bone handle of rectangular shape. From occupation earth of Roman period, Area A, hill-fort.
8. Small fragment of the plain head of a trumpet brooch with part of the coil spring **in situ**; Flavian to first half of 2nd century A.D.? From Barbour's backfilling in west gateway of hill-fort.
9. Broken boss, possibly from a simple boss fastener or stud. From on top of tumble from inner hill-fort rampart, east of hollow way, west gateway, hill-fort.
10. Small runnel of bronze beneath the breastwork of the Civil War redoubt.

Lead

1. Fig. 14, 6. Lead weight or plumb-bob which originally has had an attachment fixed in the centre and secured by additional lead run into the centre socket; probably Roman military. From Barbour's backfilling in the west gateway of the hill-fort.
2. Oval shaped disc of lead, flat on one side and convex on the other, measuring 47 by 38mm and 8mm at thickest point. Possibly a small ingot for re-use in a copper alloy. From the surface of the cobbled area within house complex, Area B. hill-fort.

63. Richmond, I. A., *Arch. J.*, LXXXIX, 17-78.
64. *e.g.* Macgregor, M., *Early Celtic Art in North Britain* (1976), I, 46 ff.
65. *Ibid.*, II, no. 27.
66. *Ibid.*, I, p. 136 no. 4.
67. *Ibid.*, I, p. 130 ff.

3. Small scraps of lead including one runnel from occupation spread of Roman period, Area A, hill-fort.

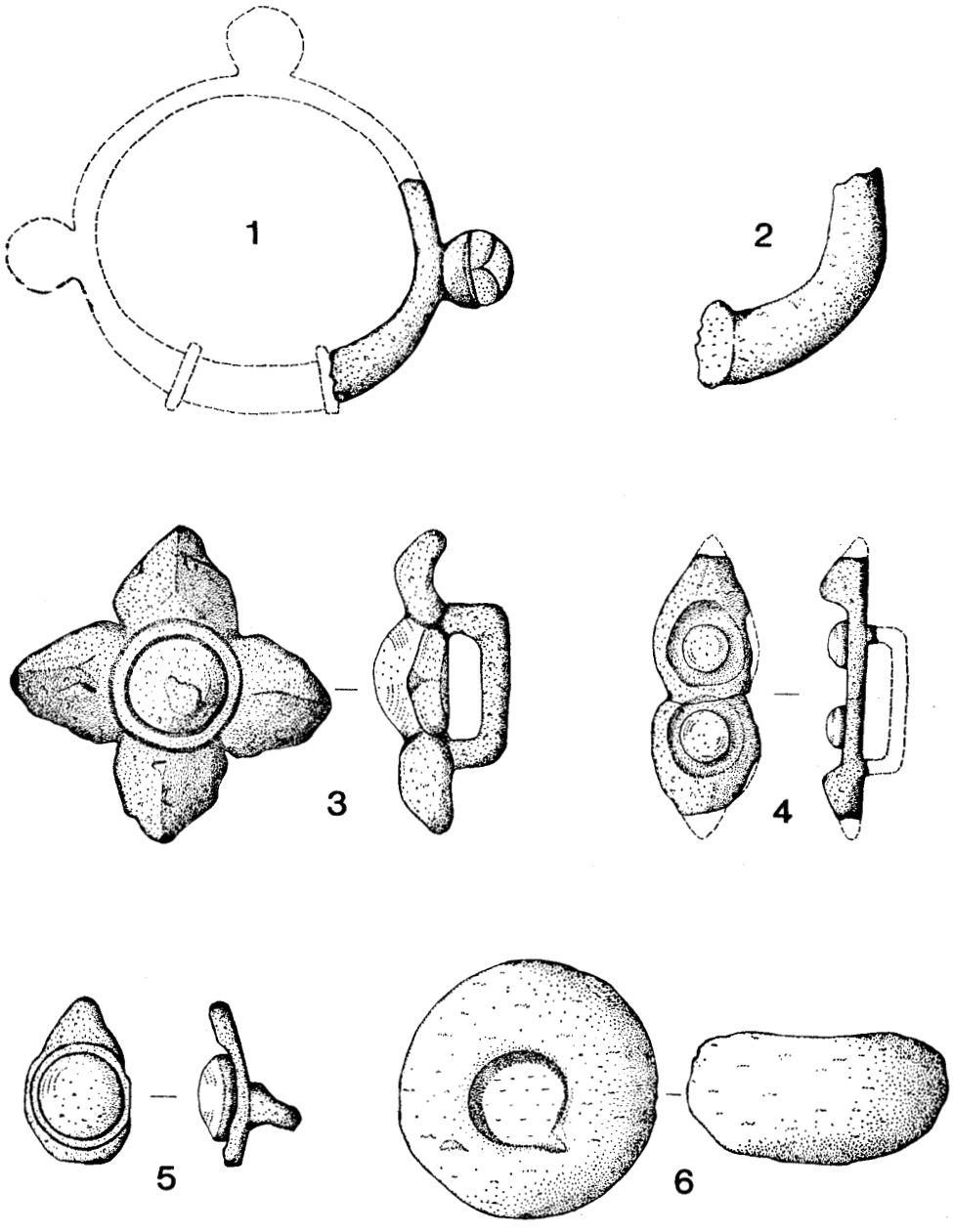


Fig. 14: Bronze Objects (1 : 1).

Slag

An amount of 'slag' was found in the small bowl-shaped hearth in the Roman south

camp, Cutting 14. The material is mainly vitrified fuel ash but some heavier specimens are iron-slag probably from smithing rather than smelting. The prills likewise would seem to be the result of smithing. A flat stone, inset on the west side of the hearth, may have served as a rest for the bellows. Primitive bowl-hearths and furnaces are not closely datable within themselves, so that the association with the south camp in this instance can be no more than a tentative assumption. Barbour also mentions the presence of slag in the south camp.

Glass

Glass Bangles or Rings

So-called glass bangles are one of the most persistent finds on native sites in North Britain although they also occur on military sites. Six fragments of various orders were recorded by Barbour, 1 from the western enclosure or settlement, 1 possible fragment from beneath the bank of his circumvallation, 1 from the breastwork of the Civil War redoubt, 1 from the hill-fort, and probably 2 fragments from the Roman south camp. Five fragments came from the recent excavations.

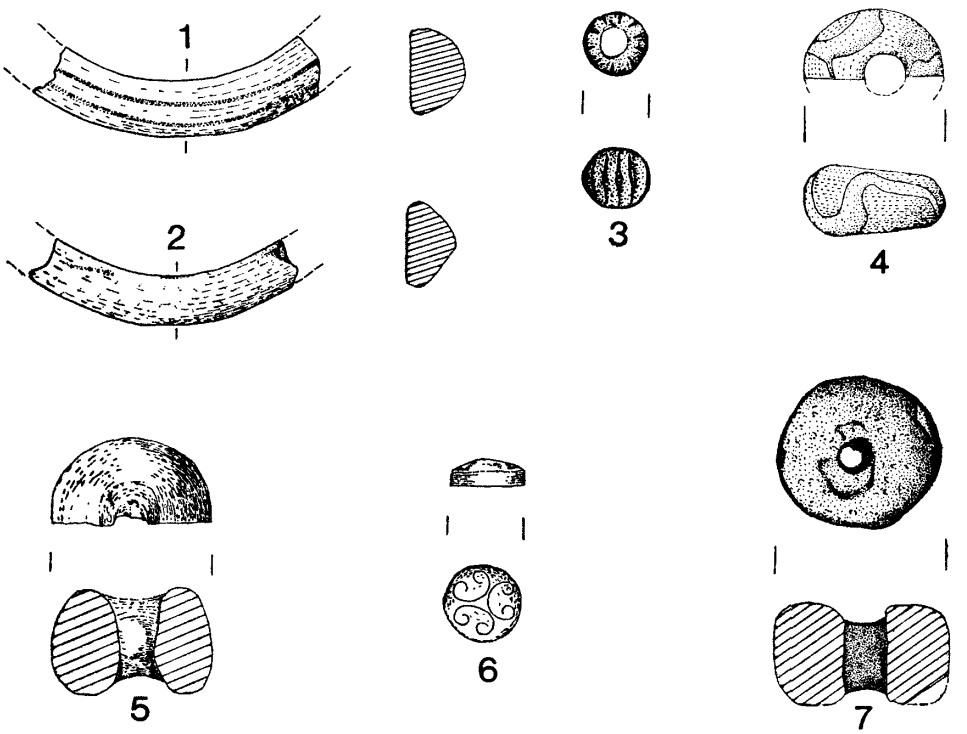


Fig. 15: 1-6 Glass objects (1 : 1); 7, Clay (1 : 1).

1. Fig. 15, 1. Fragment of opaque white glass with slight streaks of green in the matrix. Kilbride-Jones type 3A, 1st/2nd century A.D.[68] From occupation spread overlying pit M, Area A, hill-fort.

2. Fig. 15, 2. Fragment of opaque white glass; date as above. From the cobbled area within the house complex, Area B, hill-fort.

68. Kilbride Jones, H. E., *P.S.A.S.*, LXXII (1937-8), 266 ff.

3. Three fragments from similar but not identical bangles were found as follows: beneath the breastwork of the Civil War redoubt; in the occupation earth, Area A; within the area of the 1898 excavations at the west gateway of the hill-fort.

Glass Beads

1. Fig. 15, 4. Half a bead of opaque, light blue glass with a white trail inlay. Probably Roman in this instance, v. Milking Gap, Northumberland,[69] but they occur in various forms from the 1st century B.C. to the Saxon period. From the material forming the core of the Civil War redoubt.
2. Fig. 15, 3. Small melon-bead in blue vitreous paste, such as is ubiquitous in Roman contexts. From the rammed make-up between the paving stones of the west port of the Civil War redoubt (**v. Trans. D. & G. N. H. Soc.,** L (1973), 78, for plan). Barbour also found two melon-beads, one in the Civil War redoubt and the other possibly in the Roman south camp.
3. Fig. 15, 5. Fragment from a fused bead of opaque sky-blue glass. From the occupation earth, Area A, hill-fort.
4. Fragments of a minute, annular, yellow bead of a type which seems to range widely in provenance and context. The yellow colouring is probably due to lead antimonate.[70] From Barbour's excavation trench, west of paving in Area C, south camp.
5. Small fused fragment of light blue glass from the rock surface in the original west gateway to the hill-fort.

Stud

Fig. 16, 6. A small roundel of translucent green glass with engraved design and remains of gilt inlay. Probably from a metal sheathed button of comparatively modern date. From brash surface outside Civil War redoubt.

Clay

1. Fig. 15, 7. Small bead of fired clay with smooth undecorated surfaces. From brash surface beneath top soil, north of house complex, Area B, hill-fort.
2. 20 small fragments of fired clay, red throughout and containing some grits Some are partly vitrified and have a slight curvature as if from a kiln or furnace. Found amongst Barbour's backfilling, Area C, south camp.
3. A small number of pipe-stems were found, all of them in Barbour's old cuttings. Only one bears a maker's stamp i.e. (?) WILDIE, within a decorative oblong panel, and on the other side GLASGOW. The only bowl recovered is of some interest in that it commemorates the Glasgow exhibition of 10 years earlier. On one side there is a panoramic view of George Square, Glasgow, in relief, and on the other GLASGOW EXHIBITION 1888.

Stone and Flint

1. Fig. 16, 1. A fragment of a neolithic polished stone axehead, probably of Langdale stone. The cutting edge bears a secondary facet from re-use of the stone as a pestle or the like. From brash surface below top soil outside of house complex, Area B, hill-fort.
2. Fig. 16, 2. Part of a saddle quern of sandstone with a slightly dished surface. Not stratified, Area A, hill-fort.
3. Fig. 16, 3. Fragment of the top stone of a rotary quern of coarse grained sandstone. From the core of the breastworw of the Civil War redoubt, but probably Roman in date.
4. Part of the lower stone of a rotary quern of sandstone, originally c. 280 mm in diameter, and a small fragment from an upper stone. Both were found within the house complex, Area B, hill-fort.

69. Kilbride Jones, H. E., *Arch. Ael.*4, XV (1938), Fig. 7,7.
70. *e.g. Arch. Ael.*4, XXXVII (1959), 268; *P.S.A.S.*, LXXXVII (1952-3), 100 and appendix.

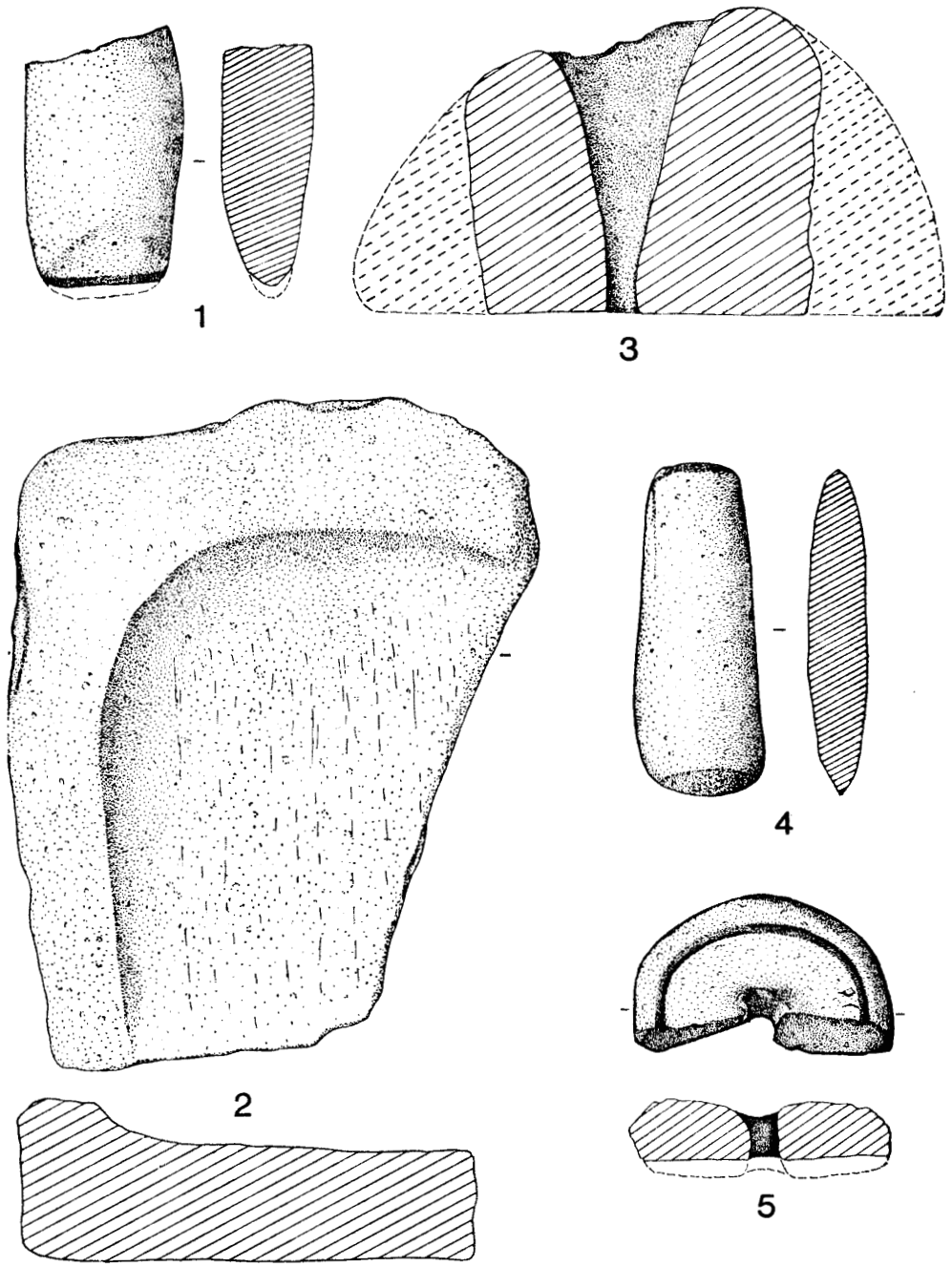


Fig. 16: 1, Axehead (½); 2-3, Querns (¼); 4, Pestle (¼); Whorl (1 : 1).

5. Fig. 16, 4. A flat stone with smooth surfaces but two worn facets at one end and one on the other, as if used for grinding or polishing. Provenance as no. 4.

6. 3 rectangular shaped hones of local stone. From the cobbled area within the house complex, Area B, hill-fort.
7. Fig. 16, 5. Part of a spindle-whorl bearing a groove on one surface. Provenance as nos. 5 and 6.
8. Seven smoothly rounded or slightly oval-shaped pebbles of stone and quartz, suitable for use as sling-bullets, were found within the Roman south camp in Cutting 14 and Area C.
9. In addition to the one gun or pistol-flint already recorded from the excavation of the Civil War redoubt, ten pieces of flint were recovered from the present excavations. Most of these are no more than flakes but the collection also includes one core, one plano-convex knife with grinding of the dorsal ridge (Fig. 17, 1), one fragment probably from a scraper of horseshoe type (Fig. 17, 2) and one fragment possibly from a knife (Fig. 17, 3). All came from beneath the spread of Roman period occupation earth, Area A, hill-fort.

The collection is compatible with a broadly neolithic or bronze age date.[71]

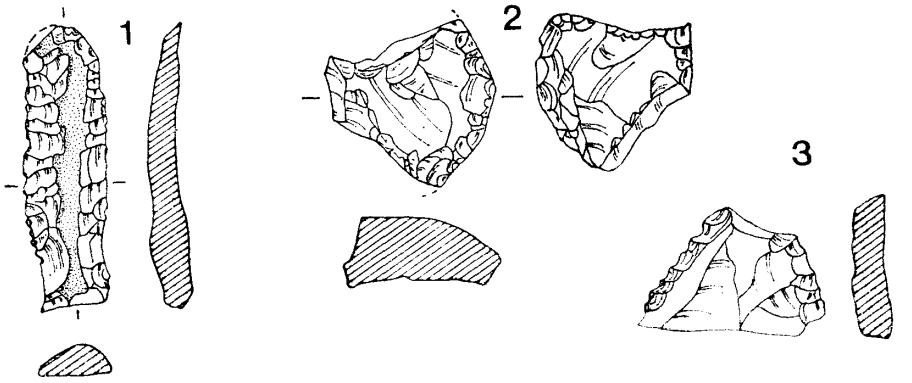


Fig. 17: Flints (1 : 1).

SUMMARY AND CONCLUSIONS

Despite the significant change in the environment during the neolithic period, reflected in the pollen analysis of the core from the moss on the north side of Burnswark Hill (appendix), there is at present nothing in the way of finds to suggest any permanent neolithic occupation on the site itself. A single polished stone axehead, re-used for other purposes, compares unfavourably with the sixteen or so axeheads and numerous leaf-shaped arrowheads recovered from the site of the hill-fort on Traprain Law, East Lothian.[72] However, a much larger area was excavated at the latter site, and there is at least a small quota of known or suspected neolithic monuments in eastern Dumfriesshire which may indicate the possibility of settlement in the vicinity of Burnswark. The funerary attraction of the eminence, probably in the earlier part of the Bronze Age, is attested by the remains of a cairn already robbed before 1898.

The earliest structural evidence for permanent settlement lies in a single line of palisade-trench found towards the east end of the hill. By analogy this would

71. I am indebted to Dr J. Weyman for examination and drawings.
72. Jobey, G., Traprain Law: A Summary, *Hillforts* (ed. Harding, D. W.), 192.

have preceded the defensive ramparts of the hill-fort and might qualify for a context as early as the Late Bronze Age, albeit on the slender basis of a couple of sherds of so-called Flat Rimmed Ware and a radio-carbon date of 500 ± 100 b.c. (800 B.C. - 430 B.C.)[73] from occupation material incorporated into the later hill-fort rampart.

The main rampart of the hill-fort enclosed the whole of the hill-top, an area of about 7 ha. On the evidence available it was not preceded by any earlier defensive line of this nature, so that the progressive increase in size of the defended area observable on some of the larger hill-forts in the Border counties did not occur in this instance. Whilst the two radiocarbon dates of 500 and 525 ± 90 b.c. (800 B.C. - 450 B.C.) provide no more than a general indication of a possible context for the construction of the defences, they are comparable with a number of radiocarbon dates now known for palisaded sites, smaller hill-forts, and vitrified forts in North Britain.

Two structural stages or phases were present in this earthen and stonebanded rampart. The first consisted of a timber-revetted forward face and probably a timber-supported rear step approached from a sloping ramp. A line of stone blocks found at one point between the fairly closely spaced forward uprights near to the west gateway was most probably a local phenomen, and, even here, no more than a basal feature, rather than the remains of a drystone revetment between timber uprights as found recently at Moel y Gaer, Flintshire.[74] Although transverse ties between the front and rear timbers have been assumed in reconstruction there were no traces of these found in the low, compacted remains. It is perhaps worthy of note that the timber-work in this primary stage, with its fairly closely set uprights such as sometimes occur on hill-forts further to the south, is also not far removed in nature from the northern series of free-standing twin palisaded enclosures. At some time, and if not as part of the original conception at least while the front timber revetment was still intact, a stone face was built a short distance in front of the timber-work. The amount of stone in the forward tumble would suggest that this stone face had risen to the full height of the fighting platform, whilst its closeness to the timber revetment precludes the idea that it was merely a low retaining kerb or step for a protective bank, as envisaged for the ramparts at Rainsborough, Northants.,[75] or Castercliff, Lancs.[76] At the latter, for example, the stone retaining kerb lay well in advance of the timber-work and the absence of a sheer face would find compensation in the additional protection afforded by the presence of a ditch. The closest parallels to the closely spaced forward faces of the final form of the main rampart at Burnswark might be sought in the entirely stone-built ramparts of some northern hill-forts which possess two forward stone-built faces at no great distance apart, presumably serving to counteract downhill thrust as well as to maintain the integrity of the inner face if need arose.[77] The outer rampart on the southern slope was stone-faced, had no internal timber structure, and had been constructed no later than the addition of the stone

73. Calibrated following Clark, *Antiquity*, XLIX (1972), 251 ff., with single deviation.
74. Guilbert, G., *Antiquity*, XLIX (1975), 109-117.
75. Avery, M., et al., *P.P.S.*, XXXIII (1967), 255.
76. I am indebted to Dr D. Coombs for information in advance of publication.
77. *e.g.* Jobey, G., Excavations at Brough Law, *Arch. Ael.*4, XLIX (1971), 82-84.

face of the inner rampart. Apart from the need to replace the timbers at the rock-cut gateways, possibly on three or four occasions, the subsequent history of the ramparts is unknown, other than that they were in some disarray by the second century A.D. if not earlier.

By comparison with the number of visible house-platforms in some other northern hill-forts the habitable area at Burnswark would have accommodated at least one hundred and fifty houses. It is not surprising, therefore, that the woodland destruction in the vicinity, as seen in the pollen analysis, may have reached its zenith around 500 b.c. In one of the two areas excavated in the interior of the hill-fort there were perhaps four superimposed timber-built houses. This hardly provides sufficient evidence for both long and continuous occupation, but it would be a mistake to draw firm conclusions from a somewhat restricted investigation. Both areas produced evidence which smacks of native rather than Roman military occupation in the late first to second century A.D. On the assumption that the Roman pottery was not obtained from abandoned Roman military sites there is nothing that need indicate occupation later than the first half of the second century A.D., though this cannot be exclusive and the yield was small. It seems unlikely, however, that native occupation of such a site would have been allowed once the Antonine fortlet was established on the exposed southern slope below the hill-fort, presumably c. 140 A.D.[78]

Areas of paving which overlay the rampart spill above the original gateways into the hill-fort did not have either the appearance or substance of replacement gateways through refurbished ramparts, and the original ramparts of the hill-fort were already felled or denuded before they became a target for Roman missiles. On present evidence the pavements can only be understood as having led into what was ostensibly an open native settlement.[79]

The activity which led to the firing of missiles against the remains of the hill-fort defences and the later pavements must almost certainly be associated with the occupation of the Roman south and north camps, the former undoubtedly constructed after the abandonment of the Antonine fortlet. The attractiveness of the siege-theory which envisaged actual investment of the hill-fort in the period 155-8 A.D. is appreciated, and might be thought to have gained further support from the evidence for some native occupation on the hill-top in the second century. On the other hand, the denuded state of the native defences at this time can only add to the other difficulties in the way of accepting such a theory. The combined area of the two Roman camps exceeds that of the hill-fort itself and under campaign conditions they could jointly have housed a considerable force.[80] At no time during the course of Roman campaigns in Britain do such elaborate siege-works appear to have been necessary for the capture of native strongholds. Even in terms of close-range warfare and upstanding hill-fort defences the immediate

78. The length of tenure of such fortlets in the west is doubtful but most would seem to belong entirely to Antonine I.

79. Non-defensive stone-built native settlements overlying hill-forts are common enough in the Tyne-Forth Province but the situation further to the west is little understood at the moment (*v.* e.g. Jobey, G., *T.D.G.N.H.A.S.*, XLVIII (1971), 102-104; *P.S.A.S.*, CV (1972-4), 139.

80. *cf.* e.g. Reycross, Richmond, I. A., *T.C. & W.A. & A.S.*, XXXIV (1934). The usable area enclosed by the two camps at Burnswark could well have housed the equivalent of a legion and more.

topography at Burnswark would not seem to call for such preliminaries, whilst certain features in the south camp suggest that there could have been more than a very temporary occupation. The line of circumvallation has never been convincing as such, or as an associated feature, and the Roman south camp does not deny the only water supply accessible to inhabitants of the hill-fort as sometimes suggested. On present evidence a more satisfactory explanation of the complex might be seen in the presence of a field-exercise area or, as it were, a Command Battle School, offering practice in camp-construction and set-piece operations involving the use of a variety of arms, including slings, bows and field-guns. The one quibble against this might be that there was some laxity in the retrieval of re-usable ammunition.

No evidence has been recovered as yet for sub-Roman or early medieval occupation of Burnswark Hill. The Civil War of the seventeenth century saw the construction of a military redoubt on the western summit, but both this and more restricted use of the hill-top in recent times has been already recorded elsewhere.

Newcastle 1975

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APPENDIX

THE POLLEN ANALYSIS OF A SHORT CORE FROM BURNSWARK HILL

by

R. Squires, Department of Geography, University of Minnesota

A core approximately 6 metres in length was taken with a Macauley-type peat sampler from a small bog at the base of the north-east side of Burnswark Hill. This was one of a number of cores taken during July and August 1972 to investigate the Flandrian development of the vegetation of north Northumberland and adjacent areas. In this appendix only pollen analytical data collected from the top metre of sediment is presented. These data show clearly a massive deforestation phase which occurred some time about 2400 b.c. with a maximum intensity around 500 b.c. Data for the entire core and a more complete analysis of data presented here will be published elsewhere at a later date.

Tabulation of results

Pollen data from the top metre of the core are presented in the conventional pollen diagram (Fig. 18). The curve labelled "weeds" comprises data for plantain (**Plantago**), all composites (**Compositae**), umbellifers (**Umbelliferae**), nettle (**Urtica**), dock (**Rumex acetosa**), and other **Rumex** spp., chenopods (**Chenopodiaceae**) and vetch (**Vicia** sp.). A plant is a weed, "if in any specified geographical areas, its populations grow entirely or predominantly in

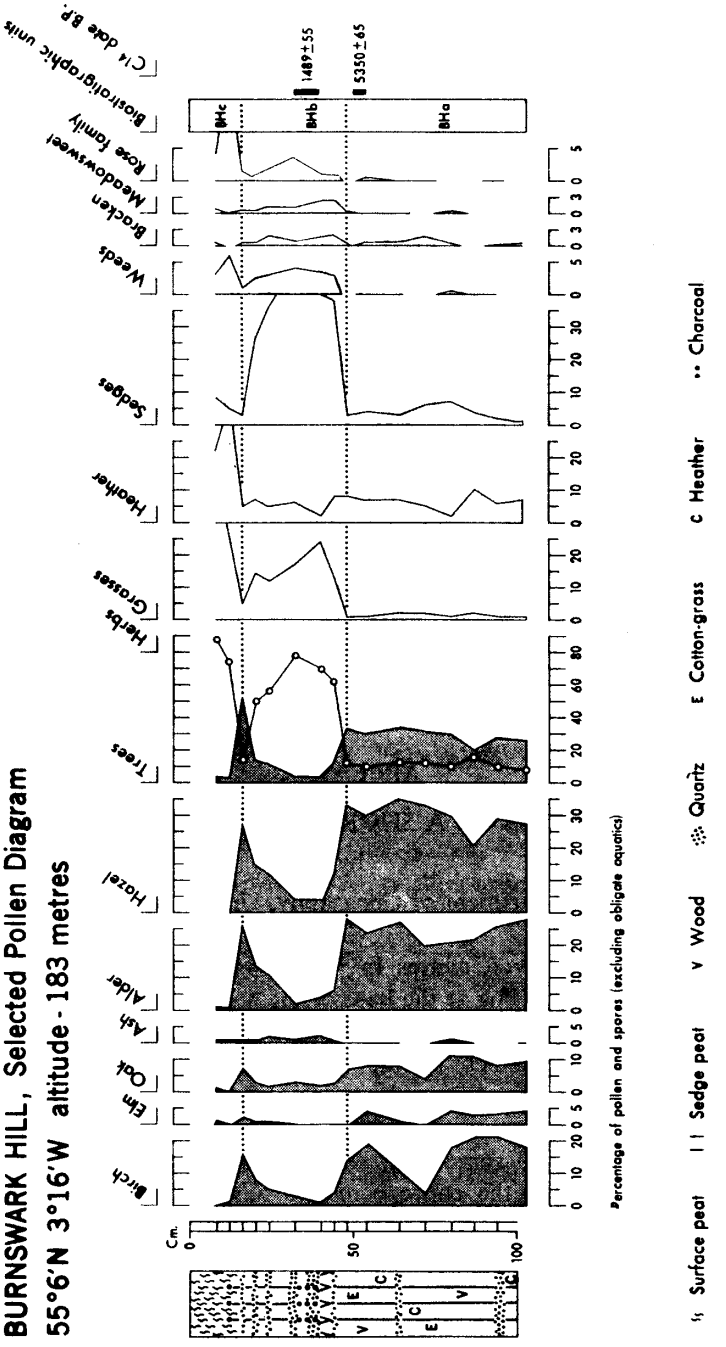
BURNSWARK HILL, Selected Pollen Diagram
55°6'N 3°16'W altitude - 183 metres
Birch
Elm
Oak
Ash
Alder
Hazel
Trees
Herbs
Grasses
Heather
Sedges
Weeds
Bracken
Meadowsweet
Rose family
Biostratigraphic units
C14 date B.P.
BHc
BHb
BHa
1489±55
5350±65
Cm.
0
50
100
Percentage of pollen and spores (excluding obligate aquatics)
Surface peat
Sedge peat
Wood
Quartz
Cotton-grass
Heather
Charcoal

Fig. 18.

situations markedly disturbed by man (without, of course, being deliberately cultivated plants)" (Baker, 1965, p. 147).

Site development

Only one core was taken which, although inadequate to reconstruct the complete development of the small basin during some 10,000 years, allows me to suggest that this site is very similar to the many small mires occupying topographic depressions in north-eastern England (Squires and Jones, **unpub. data).** The stratigraphy of the core derived from field and laboratory notes reveals that the basin was formerly a body of water which successively filled in with detritus from aquatics growing in the water and inorganic material from the surrounds (435-603cm); aquatic plants with very little inorganic admixture (350-435cm); and semi-aquatic and terrestial sedges with periodic influxes of inorganic lastics (10-350 cm). Remains of cotton grass, heather, grasses, and a variety of mosses, along with sedge remains, indicate the increasing acidity of the deposit in the last phase of development, a process typical of small mires throughout the British Isles.

At the coring site the stratigraphy of the top metre of the core was as follows:

0- 10cm extremely wet surface sedge/**Sphagnum** peat; not sampled.
10- 40cm dark brown sedge peat with occasional Sphagnum leaves; charcoal fragments at 12, 16, 34, 36, and 38cm; quartz particles at 16, 20, 24, 32 and 36-40cm.
40- 43cm wood
43-103cm dark brown sedge peat with occasional cotton grass, heather and wood remains, quartz particles at 44, 64, and 94cm.

The top metre of sediment merely reflects the latest stage in the development of the mire, when sedges became established on swampy ground and accretion from their dead and decomposing remains resulted in the mire surface slowly becoming higher than the water table. It is the quartz particles and charcoal fragments which make the stratigraphy interesting.

The bands of quartz particles, referred to as silt layers or "inwash stripes" in the North York Moors (Simmons et al., 1975, p. 49), seem to be characteristic of peat-filled depressions adjacent to fairly steep slopes (Squires, 1970; Simmons and Cundill, 1974; Jones, 1975; Squires and Jones, unpub. data). Inorganic material from the mire surrounds is carried into the depressions to form continuous or discontinuous bands in the peat. Such an occurrence may indicate a change in the hydrologic budget of the mire. Increased surface runoff carried an increased amount of inorganic material in suspension to become deposited at the foot of the slope in the swampy hollow. Alternatively the inorganic bands may reflect the deposition of material carried by the wind and may not be related to the slopes surrounding a mire (Squires, 1971). Both alternatives can be explained by similar mechanisms. Removal of the vegetation cover tends to increase the amount of surface runoff, hence the amount of suspended material (Anderson, 1954; Copeland, 1965; Harris, 1973; Hornbeck, 1973). Removal of the vegetation cover would presumably also provide the source for aeolian material (Squires, 1970).

Fire has occurred several times in the vicinity of the mire and charcoal fragments have become deposited on the bog surface. At 16, 36, and 38cm charcoal is associated with quartz particles. Although there is an element of doubt and the association may be merely coincidental, I suggest that fire destroyed the vegetation, laid bare the mineral soil and increased surface water-runoff and erosion (see Wright, 1974; Bradbury **et al.,** 1975). As a result both quartz and the charcoal which was deposited on the soil surface were washed into the mire. The charcoal bands at 12 and 23cm are not associated with inorganic material; it may be that these bands were deposited by the wind, as far as we know a more common form of charcoal transport (Swain, 1973; Waddington and Bradbury, 1975).

Another interesting feature of the stratigraphy is the wood "layer" at 40-43cm. Because only one core was taken the feature may, in fact, be an isolated branch or part of a tree trunk that was washed into the mire along with the quartz and charcoal. Alternatively

the "layer" may represent part of a tree growing on the bog surrounds which dropped on to the swampy ground, or even the actual occurrence of a tree on the bog surface during a dry phase of bog development.

The developmental sequence shown by the stratigraphy of the core described in this paper is of a topographic depression slowly filling with the dead and decaying remains of sedges, grasses, cotton grass, heather and various mosses growing **in situ** but subject to periodic inputs of allochthanous material, both organic and inorganic, as vegetation changes occurred in an area surrounding the mire.

Pollen data

The pollen diagram is divided into three units (Fig. 18).

BHa (48-103cm) Total tree pollen values exceed total herb pollen values. Birch, oak and alder comprise the main components of the pollen spectra. Hazel pollen frequencies exceed 25%. Heather and sedge are the only herbs whose pollen values exceed 5%. The upper boundary is drawn at 48cm where all tree pollen frequencies, with the exception of ash, sharply decline. This boundary lies 4cm above a horizon which has been dated to 5350 ± 65 b.p. (SRR 868).

BHb (16-48cm) Total herb pollen values exceed total pollen values. All herbs, except heather, have values considerably higher than in BHa. The main contributors to the spectra are sedges ($\geqslant$30%), grasses ($\geqslant$10%) and weeds and members of the rose family (ca. 5%). Tree and hazel pollen frequencies are generally less than 4%, elm values are very low (c. 1%). Ash is the only tree which shows increased frequencies from those in BHa. This unit can be subdivided into BHb1 and BHb2. At 32cm birch, alder, elm, and hazel pollen curves rise and all herb frequencies show gradual declines. A date of 1489 ± 55 b.p. (SRR 867) is given by peat from 32-40cm, where tree and pollen values are at a minimum.

The upper boundary is drawn at a point where tree and shrub pollen frequencies have increased to their BHa values. Grass, heather and rose family pollen frequencies increase sharply.

BHc (? 0-16cm) Following a temporary peak all tree pollen curves decrease. Herb pollen increases, especially heather and the rose family members neither of which contributed significantly to the pollen spectra in BHa and BHb. Grass and weed pollen also increase sharply.

Chronology

Some of the pollen fluctuations have been described as "sharp" and it has been suggested that the mire was subject to "periodic" influxes of charcoal and inorganic material. The terms "sharp" and "periodic" reflect both the nature of the pollen data and their presentation, thus are subjective. From an archaeological point of view it is important to be more precise in terms of a time framework especially if we attempt to infer some link between the palaeobotanical and archaeological data from the area.

Because there are two C14 dates it is possible to derive a sedimentation rate, hence a timescale, for deposition between 32cm and 54cm. Such a sedimentation rate represents an average and I assume a constant rate of sedimentation between these two horizons. I have argued however for periodic changes in sedimentation as inorganic material is washed or blown in to the mire. Thus the timescale for changes that took place between 5350 b.p. (3400 b.c.) and 1489 b.p. (461 a.d.) is, to say the least, speculative.

If the mean depth of 52cm is used for the sample yielding a date of 5350 b.p. (true depth 50-54cm) and 36cm for the sample which gave a date of 1489 b.p. (true depth 32-40cm) the depositional rate is 241 years/cm of sediment. The "sharp" decline in the pollen frequencies at 48cm can be given a date of c. 4350 b.p. (2400 b.c.) and the minimum tree pollen frequencies at 40cm can be given a date of c. 2450 b.p. (500 b.c.).

Interpretation

The pollen spectra in BHa represents the Flandrian II vegetation in southern Scotland, essentially a mixed deciduous woodland comprising a mosaic of oak, birch, elm and alder with a hazel understory (for a more complete description, see Birks, 1972). Fluctuations in the pollen curves may represent "noise" associated with the technique of pollen analysis; they may represent fluctuations in the pollen influx to the mire because of year to year variations in pollen production, dispersal and sedimentation (see, for example, Tauber, 1965); or they may represent real perturbations in the woodland cover, accompanied by the deposition of inorganic material in the mire.

A significant change occurred in the Flandrian environment around 2400 b.c. Trees declined and herbs became the main pollen contributors to the bog surface. The question is, did trees decline and herbs increase as a result, or did herbs increase and as a result the proportion of tree pollen become less? (This is a question which has to be faced by pollen analysts working with representative pollen frequencies (percentages) as opposed to absolute pollen frequencies (grains/cm^2/year^{-1}). Because all herb pollen types increase, but especially the grasses, weeds, and bracken; because there is an increase in the number of inorganic bands in BHb1, after 2400 b.c.; and because of the presence of charcoal fragments in BHb1 I argue that the woodland cover was destroyed by fire and the hydrologic regime of the mire altered. As a consequence, soil erosion took place and weeds such as plantains, docks, and composites flourished and bracken and grasses became established members of the vegetation surrounding the bog. Secondary woodland containing ash also became established (see Wardle, 1961). This woodland destruction apparently reached its zenith around 500 b.c. although it is not until a.d. 461 that there is any evidence for woodland regeneration. After a.d. 461 trees increased and herbs declined, a process which must have taken centuries. Following this lengthy reforestation period in BHb2, clearance once again took place and the mire became markedly acid with heather and tormentil (**Potentilla**) and other members of the rose family thriving.

Perhaps another explanation could be advanced for the pollen changes which occur in BHb2, an explanation which involves consideration of the periodic deposition of inorganic material. These might represent pollen deposited in the soil which became washed into the lake along with the soil (Bradbury and Waddington, 1973). Using this analogy the increased tree percentages during BHb2 reflect an increase in inwashed material rather than reforestation. This explanation of woodland "regeneration" means that after c. 2400 b.c. the source area for pollen being deposited on the bog was deforested.

Conclusion

There can be no real doubt as to the agent responsible for the massive, if local, vegetation disturbance. Only man has the ability to disrupt vegetation patterns and, as a result, hydrologic regimes in the manner described. Early man, possibly as early as 2400 b.c., and as late as the 4th century a.d., was altering the native vegetation as he used the land.

Acknowledgements

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THE EXCAVATION OF A HUT-CIRCLE AT MOSS RAPLOCH, CLATTERINGSHAWS

by J. Condry and M. Ansell

Introduction

The sites of two enclosures were discovered (M.A.) in May 1974, during drainage operations at Clatteringshaws reservoir. They lay 80 metres apart, on either bank of Clatteringshaws Lane, at 567' O.D. (N.G.R. NX 554776). The enclosures occupy the level east side of the valley, at a point where the southerly Black Water of Dee and Palnure Burn meet with the Gala Lane pass to Loch Doon. Immediately to the north, the ground rises to the watershed above 1600' O.D., between Merrick and the Rhinns of Kells.

The best preserved site, enclosure 1, appeared as a low wall 1.3 to 1.4 metres broad, enclosing an almost circular area 5.5 metres in diameter. Exterior facing stones were visible on the south-east. An entrance on this arc, 1.2 metres wide, was approached from the burn by a paved trackway. Enclosure 2 is recorded on the 1852 O.S. map as 'pen'; it is slightly larger and of more massive construction. However, in the absence of recognisable cultivation plots, its relationship to enclosure 1 must remain in doubt.

The area is notably devoid of early settlement, although the White Cairn on the Rig of Drumwhar is some two miles to the south-west, and the so-called Deil's Dyke passes just to the north of Moss Raploch. During the course of excavation, two further sites of human activity were discovered at Clatteringshaws; a microlithic site lay on the rising spur above enclosure 1, and a deposit of bog-iron, 50 metres across the burn from the site, had been subjected to primitive roasting. (Appendix 3).

In view of the danger of further erosion, enclosure 1 was excavated during July and August 1974. No work was possible at the lower enclosure 2, which was only briefly exposed. The authors wish to thank Mr McSkimming of Craigenbay for the discovery and presentation of a glass ring fragment prior to excavation; the South of Scotland Electricity Board for permission to excavate and the loan of storage facilities; the Mouswald Trust for financial assistance; the Macaulay Institute for Soil Research for pollen sampling and analysis; Dr R. Maxwell for soil analysis; Dr D. Ratcliffe and Dr A. P. Connolly of Leicester University for organic sample analysis; Mr J. G. Roger and Mr J. Williams for advice on aspects of the site; and finally, Mr Truckell for continued advice and encouragement.

Locality

Moss Raploch is a drained and afforested raised bog at the south-east corner of Clatteringshaws Loch, a reservoir, created in 1937 by the damming of the Black Water of Dee. The water level fluctuates considerably and is usually several metres above enclosure 1, but at the time of excavation the walls and causeway were visible amongst the silted material and exposed solifluction debris of the reservoir bed. Enclosure 1 is situated at the tip of a slight northward spur, extending some 50 metres from the present loch margin, and is on the south bank of a slight bend

in Clatteringshaws Lane. Its relationship to the pre-reservoir landscape is uncertain, as the valley was presumably covered in blanket-bog, but this has been eroded leaving a peat cliff at its highest extent, forming the present shoreline. Well-de-

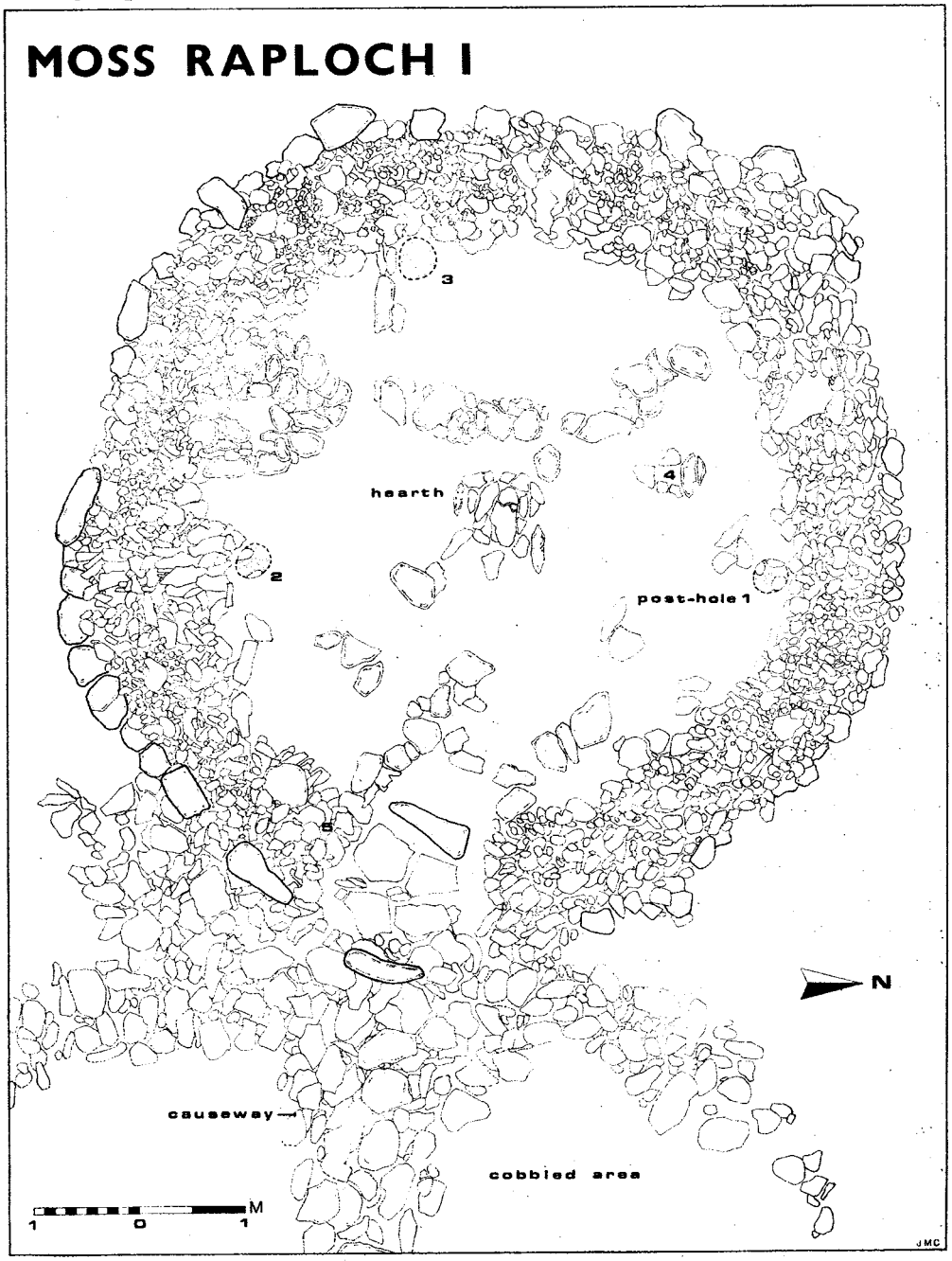

Fig. 1: Moss Raploch I. Plan of the hut-circle.

veloped gley-podzol soil profiles are apparent at the northern edge of Moss Raploch, but these range to shallower, attenuated profiles at the site, bedded on a morainic-till locally derived from Silurian shales and greywackes.

The pollen evidence

Recent studies of the vegetational history of the Galloway hills by Birks,[1] which include a pollen diagram for the north-east shore of Clatteringshaws Loch, may be correlated with the present diagram (Appendix II), for the limit of Moss Raploch adjacent to enclosure 1. Dr Durno's diagram shows a marked decline in *'Pinus'* pollen percentages at 170 cm., which may be correlated with the decline at about 5000 B.P. in the Birks diagram for Clatteringshaws. Most of the other pollen curves show comparable variations, except for undifferentiated *'Ericoid'* values which are higher at the base than in the Birks diagram, perhaps indicating that Moss Raploch was always acidic and boggy, rather than a woody swamp going over into blanket peat.

Excavation

Excavation (Fig. 1) covered a 10 metre grid over the site, with subsequent expansion to examine the related structures on the south-east. Beneath a thin layer of silt and peat (2-8 cms.), there was a brown friable loam of medium organic content (5-8 cms.); the presence of a weak iron-pan was denoted by a slight rusty brown layer at the base of this horizon. It was from this soil that the small amount of occupation material was recovered. Below this again, lay the hut floor, slightly levelled into the 10' slope, and consisting of a shallow, compact orange-brown loam (3-8 cms.). Both layers were extensively flecked with carbon. Soil samples taken from profiles externally and within the hut wall proved on analysis to be of limited value due to leaching by the reservoir and topsoil erosion.

The interior contained a number of structures. A slight platform at rear, measuring 2.3 by 1.5 metres, was defined by large stones, and lateral settings were detectable on the southern arc, one forming a small rectangular arrangement bonded to the wall and possibly designed for storage. The hearth had been formed by the excavation of a pit, 20 cms. deep, filled with reddened clay and minute fragments of burnt bone. Above this, an irregular area of cracked flagstones measured 1.3 by 1.2 metres; it was slightly sunk into the floor and had been defined by thin upright slabs. A spread of black, carbonised earth overlay the hearth and contained numerous small stones, some of which were doubtless utilised as pot-boilers. Three post-holes were located close inside the wall on the north, west and south arcs. Post-holes 2 and 3, 25 to 30 cms. in diameter and slightly greater in depth, were stone packed and filled with a grey greasy loam. Post-hole 1 was of similar proportions but contained a peaty fill. The remaining post-hole (4) formed an isolated stone socket, 10 cms. deep, to the north-west of the hearth. The hut wall was sectioned on the north and south. On average it was 1.4 metres thick, and had been constructed of a rubble core and filled with a brown loam similar to the normal gleyed horizon; the presence in this layer of orange and grey gritty lenses with frequent root channels suggested the former presence of turf. For the

1. Birks, H., 'Studies in the Vegetational History of Scotland IV' 1975 :*Phil. Trans. R. Soc. Lond. B. vol.* 270.

most part, exterior facing stones were absent except for a short section adjacent to the entrance on the south-east. At no point did the wall survive above a single course. Where best preserved on the south-east, a single slab was supported above the rubble core by wedged splinters of greywacke and a similar wedged portion extended through the south wall.

An entrance on the south-east was paved over the hut-floor. Its inner edge was marked by a sill-stone embedded in the sub-soil, with a small stone socket at its southern tip. This was aligned with a setting of upright stones which projected towards the hearth, forming a triangular 'porch' area with an opposing alignment on the north. The entrance was directly overlain by cracked secondary paving associated with a small raised threshold stone in line with the outer face of the wall. Outside the entrance on the south, the hut wall had been expanded by the placing of large stones against the face to form a simple buttress.

A small cobbled area was located outside the entrance. It was formed of a low rubble foundation, 0.8 to 1.2 metres in breadth, extending from the entrance in an irregular arc, to contain an expanse of small cobbles. Charcoal occurred widely amongst the cobbles, which were overlain by a variable depth of fibrous brown loam (3-8 cms.), containing a high organic content. A glass ring fragment was found at the base of this soil, on the cobbled surface immediately outside the entrance. The causeway, a narrow band of rough paving, extended from the entrance to within a few metres of the burn. At this point, the ground declined towards the burn, and there was no trace of an eastern perimeter or outer entrance to the site.

Finds

Glass

1. Fragment of blue glass ring, found on cobbling outside entrance to N. of causeway; 17 mm. in diameter (Plate XI).
2. Fragment of white glass ring, streaked with blue and green, found among causeway stones prior to excavation; 16 mm. in diameter (Plate XI).

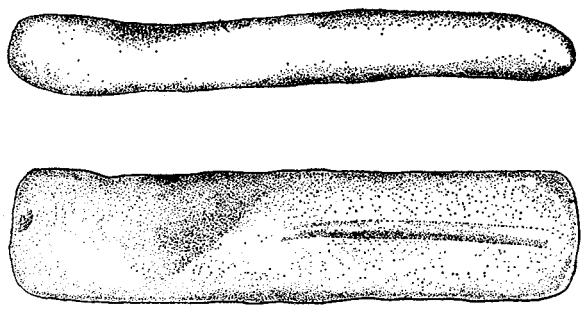

Fig. 2: Grooved whetstone. (Scale x ½).

Stone

1. A grooved whetstone of a micaceous mudstone, fitting easily into the hand, found in brown loam inside NW arc of hut wall; 150 by 36 by 16 mm. (Fig. 2).
2. A flake of dark brown flint possibly used as a scraper, found on cobbling outside entrance; 46 by 18 mm.

Bone

1. Minute fragment of bone with incised cross-hatching, found amongst small stones overlying hearth; 8 by 7 mm.

Discussion

On the evidence of the two ring fragments, a tentative date may be assigned in the 1st/2nd century A.D.,[2] and so placing the Moss Raploch hut in that period when stone-built huts became widespread in the Tyne-Forth Province. In addition, the glass ring finds partially redress the imbalance in distribution of these artefacts, which may simply reflect unequal levels of archaeological activity in southern Scotland in view of recent finds from Boonies and Burnswark, Dumfriesshire.[3] For by comparison with south-east Scotland, the extent of Romano-British influence in Galloway remains imperfectly understood and recent excavation has been confined to a small number of enclosed sites.[4]

The general layout of the Moss Raploch hut is similar to many houses of the Tyne-Forth group.[5] It has for example, such common features as a paved causeway associated with a raised threshold stone, and a SE facing entrance; the hearth is similarly slab-built and the rear of the hut is also raised and slightly separated. However, certain features of the Moss Raploch hut, such as the traces of external structures or the slight construction and post-holes set close inside the wall, differ from many excavated examples. They tend to be regular, well-built structures with solid walls, with an inner and outer face of large boulders enclosing a rubble core. The hearth is usually off-centre and well-made, and the floor at least partially paved; the presence of a central roof-support has been noted in several examples, although it seems clear that the main thrust of the roof was taken by the stone walls, which occasionally need buttressing where the walls have been built on sloping ground without well-prepared foundations.

An interpretation of the Moss Raploch plan involves problems which cannot be entirely resolved by comparison with its eastern analogues. The position of the substantial post-holes suggests that they may have formed the basis of an internal thrust-ring, perhaps supplemented with wattling based on ash uprights (Appendix I), and providing support for the main rafters, presumably secured by purlin-rings and centrally tied. It is difficult to determine whether the slight wall existed much above its present height, but it is possible that the angled slab adjacent to the entrance was part of a wider arrangement supporting the roofing spars. Such cantilever systems are not widely known, although it is possible that a similar explanation may account for the ring of vertical posts inside the Romano-British huts at Edgerston, Roxburghshire.[6] On the other hand, the interior use of wattling is well attested from local crannogs and, in view of the small stone socket at the entrance, may have been used for nothing more substantial than the door of 'wicker rods' which Lowther saw on his journey through Scotland in 1629.[7] At

2. Kilbride-Jones, 1938. Glass Armlets in Britain. P.A.S.A. LXXII, 366-395.
3. Jobey, G., 1974. Excavations at Boonies, Westerkirk and the nature of Romano-British Settlement in eastern Dumfriesshire. P.S.A.S. CV, 119-140 also Excavations at Burnswark. There transactions. This volume.
4. Scott-Elliot, J. G., McCulloch's Castle. These Transactions III, 41, 118 and Thomas, C., 1960. Excavations at Trusty's Hill, Anwoth, these Transactions III, 38, 58.
5. Jobey, G., 1966. In 'Rural Settlement in Roman Britain' *Council for British Archaeology.*
6. R.C.A.H.M., 1956. *Inventory of Roxburghshire.*, No. 457.
7. Lowther, C., *'Our Journall into Scotland a.d.* 1629.' Edinburgh, 1894.

Huckhoe, Northumberland, it was suggested that the slight internal divisions were marked by wattle-screens, and at this site there was also traces of flanking walls which resemble the external foundations at Moss Raploch.[8]

Unenclosed groups of round, stone-built 'hut-circles' featured widely in the Galloway Inventory,[9] but some doubt remains as to their function in view of similarities to earlier funerary monuments, particularly where they are isolated from plot-systems or cairnfields.[10] In Galloway, the position is complicated by the virtual absence of stone-built huts as successors to earlier enclosed settlements, whereas in the Tyne-Forth province no less than seventy-one instances of albeit enclosed groups of stone-huts overlying abandoned settlements have been recorded.[11] In view of this, the recent discovery of a possible enclosed stone-hut of Romano-British type, at Stanshiel Rig, Dumfriesshire, in association with clearance

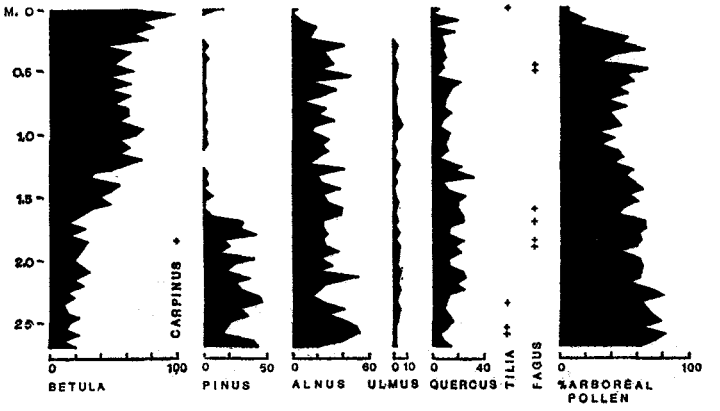

Fig. 3: Moss Raploch — Percentage Arboreal Pollen I.A.P.

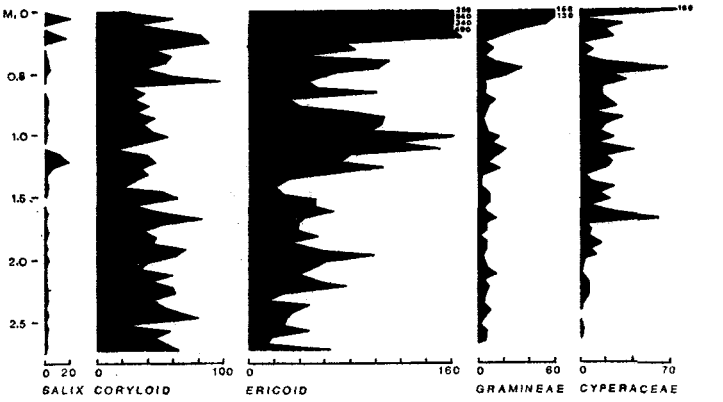

Fig. 4: Moss Raploch — Percentage Arboreal Pollen.

8. Jobey, G., 1959. Excavations at a Native Settlement at Huckhoe, Northumberland. Arch. Ael. 37, 217-78.
9. R.C.A.H.M., 1920. *Inventory of Galloway.*
10. Scott-Elliot, J. G., 1965. The small cairnfields of Dumfriesshire. These Transactions III/44/99.
11. Jobey, G., 1974. Notes on some population problems in the area between the two Roman Walls. Arch. Ael. 5, II, 17-26.

cairns and plot-systems, cannot be taken as indicative of a much wider phenomenon in the south-west.[12] On the other hand, it is clear that the Moss Raploch hut raises problems of distribution that can only be solved by further local fieldwork and selective excavation under more favourable conditions.

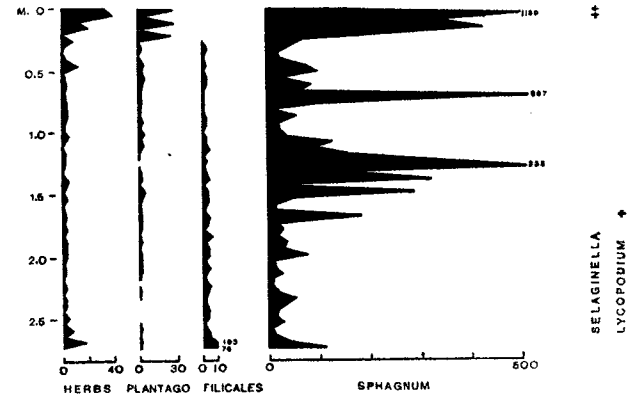

Fig. 5: Moss Raploch — Percentage Arboreal Pollen 3.N.A.P.

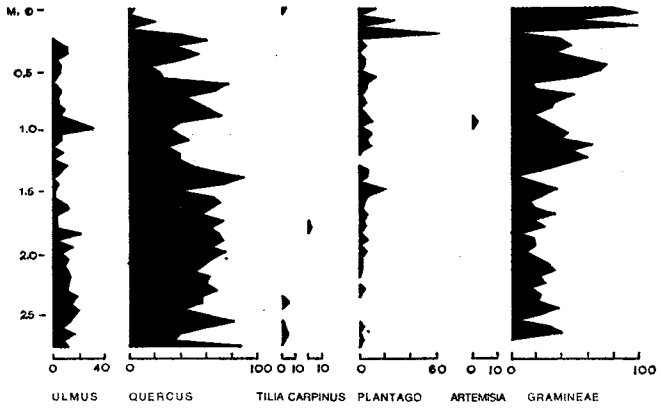

Fig. 6: Moss Raploch — Selected 'Dry-Land' & Open Habitat Indicators.

12. Feachem, R., 1974. 'Ancient Agriculture in the Highland Zone' P.P.S.

APPENDIX I

Report on the charcoal evidence

by G. C. Morgan, Department of Archaeology, University of Leicescter.

Sample 4: Charcoal from cobbled yard

Betula Birch — c. 10 mm. diameter.
Corylus Avellana Hazel — c. 10 mm. diameter
Populus Poplar
or —c. 10 mm. diameter.
Salix Willow
Fraxinus Excelsior Ash — c. 50 mm. diameter.

APPENDIX II
The Clatteringshaws Pollen Diagram

When compared with others from south-west Scotland (Nichols, 1967; Moar, 1969; Durno, unpubl.) the Clatteringshaws pollen diagram shows certain differences, the most important among the trees being the relatively high values for pine in the lower half of the diagram. The Flandrian history of pine in south-west Scotland, as revealed by the work of the above authors, has been of much lower frequency than that established in more northern regions. The Clatteringshaws pine pollen curve is distinctive in that it continues with moderately high values until the probable level of the sub-Boreal/sub/Atlantic zonal boundary at 1.7 m depth. This means that pinewood existed locally at a time when much of the pine forest in Scotland was confined to certain Highland areas. According to Moar, "The only positive evidence that **Pinus** occurred in south-west Scotland comes from pine stumps recorded in the Upper Forest Bed (sub-Boreal) in the Merrick Kells Ranges and in the Flow of Dergoals, Lowland Wigtownshire (Lewis, 1905; Samuelsson, 1910)."

The Clatteringshaws history of pinewood is therefore most likely indicative of an isolated stand which apparently came to a fairly abrupt end before birch trees and heather moorland extended their dominance over the terrain. This change does occur before an increase of **plantago** pollen frequency which suggests human activity but whether or not early settlement was responsible for the demise of the pine forest or whether it was wholly the result of climatic change is uncertain.

Plantago pollen is fairly abundant at the top of the diagram and, together with high values for grasses and other non-arboreal categories, indicates the effect of forest clearance and cultivation in modern time. Evidence of earlier human interference may be shown by the **Plantago** rise in frequency between 1.4 m and 1.5 m depth. (Diag. 6 is constructed from a selection of pollen curves to illustrate and accentuate this point: cf Nichols 1967 pp 158 and 166). This rise of **plantago,** coincident with a lowering of values for oak and heather, may be in response to a brief episode of human activity in the area but whether or not it corresponds in age to Roman times is impossible to tell from this evidence alone.

APPENDIX III
THE OCCURRENCE OF BOG-IRON AT CLATTERINGSHAWS, KIRKCUDBRIGHTSHIRE
by James Williams, F.S.A.Scot.

On Sunday 2nd June 1974 a visit was made to the East shore of Clatteringshaws Loch, in the company of Mr Michael Ansell and Mr A. E. Truckell, in order to examine several archaeological sites discovered during the low-water levels which prevailed at that time. In addition to the "Hut Circles" several areas of "cinder" were pointed out. Closer examination of these areas indicated that, in all probability. they represented roasting hearths for Bog Iron Ore which was present over a wide area in deposits up to 6 inches in depth.

Bog Iron Ore, or Limonite, is a hydrated iron oxide, often with manganese additions, which may be deposited when ferruginous surface waters meet organic material under conditions suitable for precipitation. In Scandanavia it is frequently found as a bottom deposit in lakes. In Great Britain it is extensively met with as a deposit, up to 4-6 inches in depth, beneath moorland turf. Once deposition commences it is often continuous and the ore will form at a rate of approximately one inch depth per decade.

A high iron content ore is not necessarily the easiest to smelt: Bog iron ore was frequently used in earlier periods possibly because of its wide-spread occurrence and ease of extraction. The ores would be pre-roasted to remove combined water and carbon dioxide and the "cinder" deposits at Clatteringshaws may be associated with this process. The apparent heavy contamination with manganese oxides has no detrimental effect as they are removed with the slag in the smelting process.

Although the melting point of pure iron is 1540°C the metal may be reduced from its ores as low as 800°C — the critical temperature, as far as early smelting operations is concerned, is the melting point of the associated slag — this is usually about 1150°C. During the process of smelting, iron is produced as a solid "sponge" from which, if the temperature is high enough, the slag will drain away to give rise to "Tap-Slag" which is so characteristic of these early smelting sites. The remaining mixture of iron and entrapped slag is known as a "Bloom" and this is ultimately purified by hammering out the remaining slag while maintaining the "Bloom" at a temperature above the slag melting point. On a larger and more commercial scale this latter process is known as "Puddling".

Unfortunately no tap-slag or blooms were encountered during the field surveys at Clatteringshaws but the presence of the roasted ore should indicate the presence of smelting sites in the near vicinity. In the absence of finds it is not possible to date these "roasting-hearths" as the process remained unchanged from the early Iron Age until, locally at least, the 17th/18th centuries A.D.

A summary list of known bloomery sites is appended to "A Mediaeval Iron Smelting Site at Millhill, New Abbey". See these Transactions III/44/129-31.

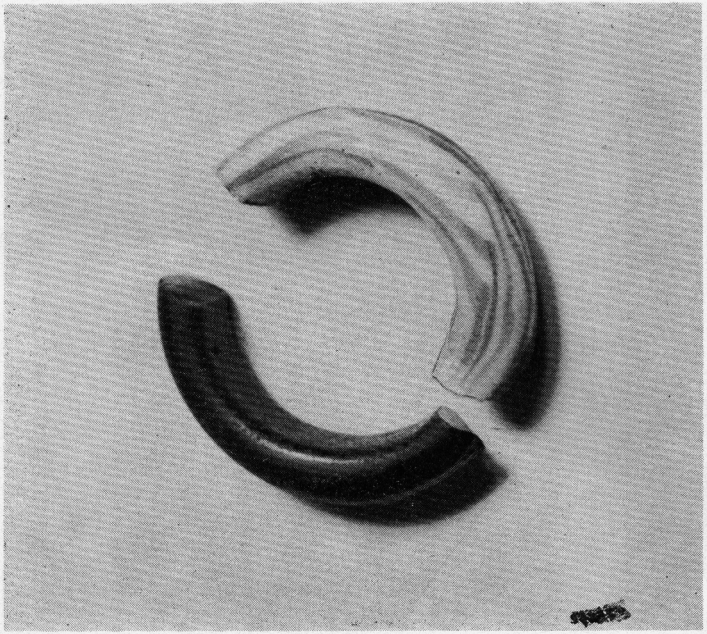

Plate XI: Glass ring fragments from Moss Raploch. (Scale x $1\frac{1}{2}$ approx.)

NORMAN SETTLEMENT IN UPPER CLYDESDALE: RECENT ARCHAEOLOGICAL FIELDWORK

by Christopher Tabraham

Inspectorate of Ancient Monuments

Introduction:

On a hot day in June 1976 the writer took the opportunity of examining more closely the small motte at Moat Farm, a little to the south of Roberton village. The existence of a silage pit cut into the heart of the mound presented the possibility of understanding the manner of its construction. The results obtained exceeded expectations and led to the extension of the survey to include other mottes in the neighbourhood. This paper records the findings from the motte of Roberton and offers some thoughts on the character of the Norman settlement in the upland reaches of the Clyde.

Roberton Motte (NGR 72/NS940270):

The motte (Fig. 1) stands high above the west bank of the River Clyde at at a point where its fast-flowing waters deviate sharply from the north to the east. It is a fairly steep-sided motte being some 3 m in height with an overall mean diameter of 23 m. The flat top is some 12 m in diameter and there are traces of an encircling ditch on the north-east and western sides. The ditch would appear to have merged with the precipitous slope of the river cutting on the south-east whilst a rough farm track has disguised any evidence for a ditch around the north side. The existing farm buildings of Moat situated to the north-east overlie the possible site of the bailey.

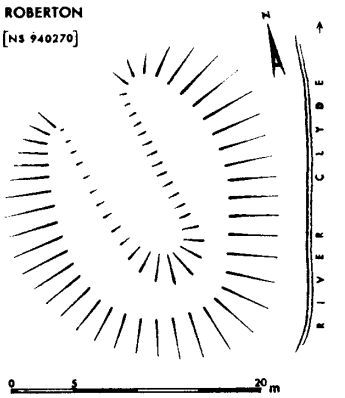

Fig. 1

Well over ninety years ago[1] this earthen mound had been damaged by the digging of a trench in towards its centre from the north. Though the original purpose for the trench is not known the void that was left now serves as a silage store. Though there were two sections available for examination, time and manpower allowed for only one to be tackled initially. Upon a cursory examination

1. Proceedings of the Society of Antiquaries of Scotland (D. Christison) Vol. XI (1889-90) p 286.

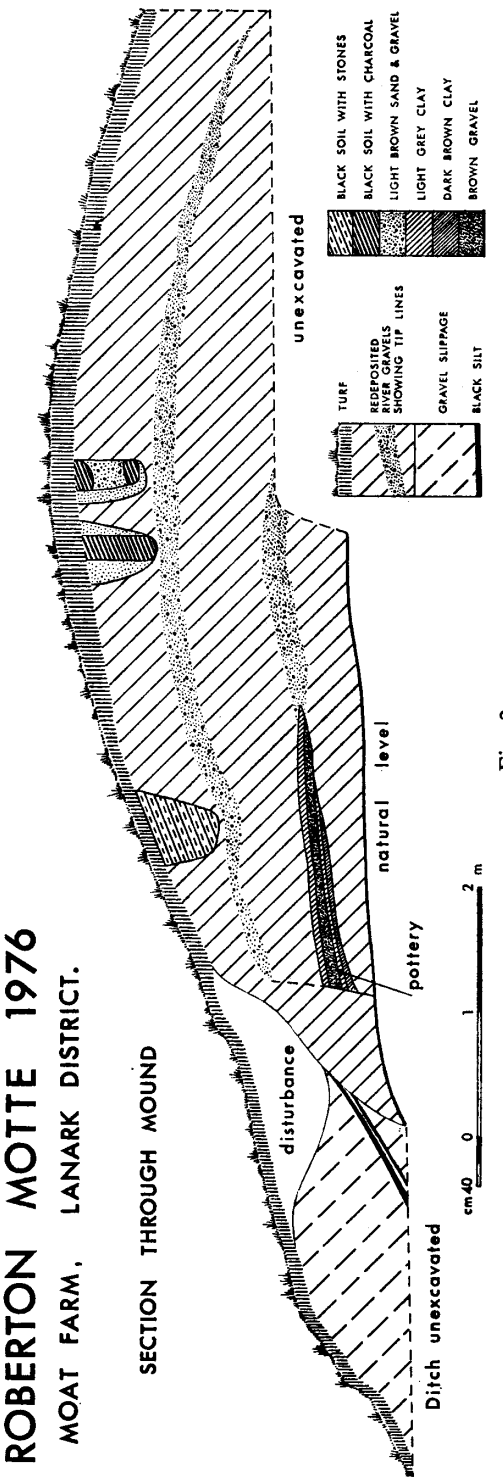
ROBERTON MOTTE 1976
MOAT FARM, LANARK DISTRICT.
SECTION THROUGH MOUND
unexcavated
natural level
pottery
disturbance
Ditch unexcavated
cm 40 0 1 2 m
BLACK SOIL WITH STONES
BLACK SOIL WITH CHARCOAL
LIGHT BROWN SAND & GRAVEL
LIGHT GREY CLAY
DARK BROWN CLAY
BROWN GRAVEL
TURF
REDEPOSITED RIVER GRAVELS SHOWING TIP LINES
GRAVEL SLIPPAGE
BLACK SILT

Fig. 2

it was decided to clean down and examine the eastern section for this appeared to show the existence of post-pits upon the summit of the mound. The section (Fig. 2) extended to a length slightly in excess of 11 m and attained a height of 2.4 m towards the centre of the mound. The section proved interesting for a number of reasons.

Firstly it showed quite clearly that the mound had been artificially constructed. Prior to its erection the old ground surface had been relatively flat with a gentle upward gradient towards the south. In constructing the mound the builders first erected a vertical shuttering approximately 0.80 m in height around the area to be raised and then proceeded to fill up the enclosed space with gravels and other soils from near at hand. With this solid, straight-sided dome-topped construction acting as the core further quantities of gravel were added to the sides and to the top increasing the height of the core by a further 0.60 m. The end result was an artificial mound with a flattish top and steeply-sloping sides. The section also showed that there had been a ditch encircling the mound along the northern side. Though no excavation was carried out enough evidence was forthcoming to show that the ditch was steep-sided around the inner scarp and that its humic silting layers were still intact. The side of the mound had also suffered badly from soil slippage sufficiently enough to bury the ditch and radically alter the profile of the mound. On present evidence it is not possible to say at what time this slippage took place.

Evidence for the existence of a timber structure(s) upon the summit also came to light. Immediately below the turf level four intrusive features were noted. The most northerly occurred within the area of soil slippage and appeared to be of no great antiquity. It had been damaged by a burrowing animal. The other features were more genuinely related to the mound. At the highest point along the section two post-pits were visible side by side. The more northerly was larger in dimension with a compact fill of sand and gravel packed round the charred remains of a timber c 0.20 m in width. The adjacent pit was smaller but filled with similar material though the post which it once presumably contained had gone and its void replaced by two patches of blackened soil separated by a small wedge of fine gravel. The fourth feature took the form of a pit 0.50 m wide by 0.60 m deep cut into the mound immediately below the summit on its northern side. It was filled with a blackish soil containing small stones.

Though more detailed excavation would be required before any positive conclusions could be drawn it is possible to identify these features on the evidence available. The two post-pits upon the summit probably carried timbers that formed part of the structure that originally stood upon the mound — the caput of the owner, Robert. Similar post-pits were discovered at the motte on Barton Hill, Perthshire[2]. It is difficult to envisage the Roberton posts as being independent members serving differing functions like those suggested for Barton Hill; rather they should be regarded as an integrated support for one load-bearing timber.

2. Scottish Archaeological Forum (Stewart, M. E. C. and Tabraham, C. J.) Vol. 6 (1974) p 58n.

The pit existing on its own to the north may be part of the palisade trench that would have enclosed the outer limit of the summit.

No artefacts came from the features that were observed and no attempt was made to excavate them. One fragment of pottery however was recovered from within the primary construction layer at the base of the mound (Fig. 3). It was a basal sherd in a hard smooth orange-buff fabric with a light grey core. There was internal rilling on the base and a heavy dark-green glaze that had run. Three 2 mm perforations were near the centre of the base suggesting that the pot had been used for straining. It was probably imported from Northern France or the Low Countries and has been independently ascribed to the fourteenth century.[3]

Fig. 3. Base of possible strainer from Roberton Motte — Scale one half.

The Survey:

R. C. Reid, in a short note in the Transactions of this Society[4] discussing the site of Castle Dykes immediately to the west of the present village of Roberton, makes a passing reference to the '. . . Anglo-Norman Mote . . .' situated 1.6 km to the south. The nature of the 'Normanisation' of this part of Upper Clydesdale has exercised the minds of several historians. Ritchie[5] noted that the place-names like Roberton and Lamington were living reminders to the settlement of the area by a group of men, most of them Flemish in origin, who had received their lands from Malcolm IV (or David I) during the first half of the twelfth century. They were probably sheep farmers or otherwise connected with the wool trade, attracted by the rich pasture land of the Upper Clyde Valley. Barrow[6] argues more strongly that the Flemish settlement was a 'deliberate and forcible stroke of royal policy' overruling the rightful claims to the rents and tributes by the church of Glasgow.

What evidence there is available seems to indicate that the predominantly Flemish settlement affected land either side of a 20 mile stretch of the Clyde river from the parish of Crawford John in the south to the parish of Pettinain in the north (Fig. 4).

Though there are now only seven ecclestiastical parishes there were at one time eleven. They were: Crawford John, Wandel, Lamington, Culter, Roberton, Wiston, Symington, Thankerton, Covington, Pettinain and Biggar. It has been shown[7] that the origins of the parochial system are inextricably related to the establishment from the early twelfth century onwards of secular manorial estates, the former often being formed after the latter by the incoming landlords. This equation between secular 'demesne' and ecclesiastical 'parish' appears to apply

3. Ex. inf. Mr J. G. Hurst, Inspectorate of Ancient Monuments: England.
4. Trans. D.G.N.H.A.S. Vol. XXXV (1956-57) p 141n.
5. Ritchie, R. L. G. 'The Normans in Scotland' (Edinburgh 1954) p 374n.
6. Barrow, G. W. S. 'The Kingdom of the Scots' (1973) p 289n.
7. Cowan, Ian B. in 'The Scottish Historical Review' Vol. 40 p 43n.

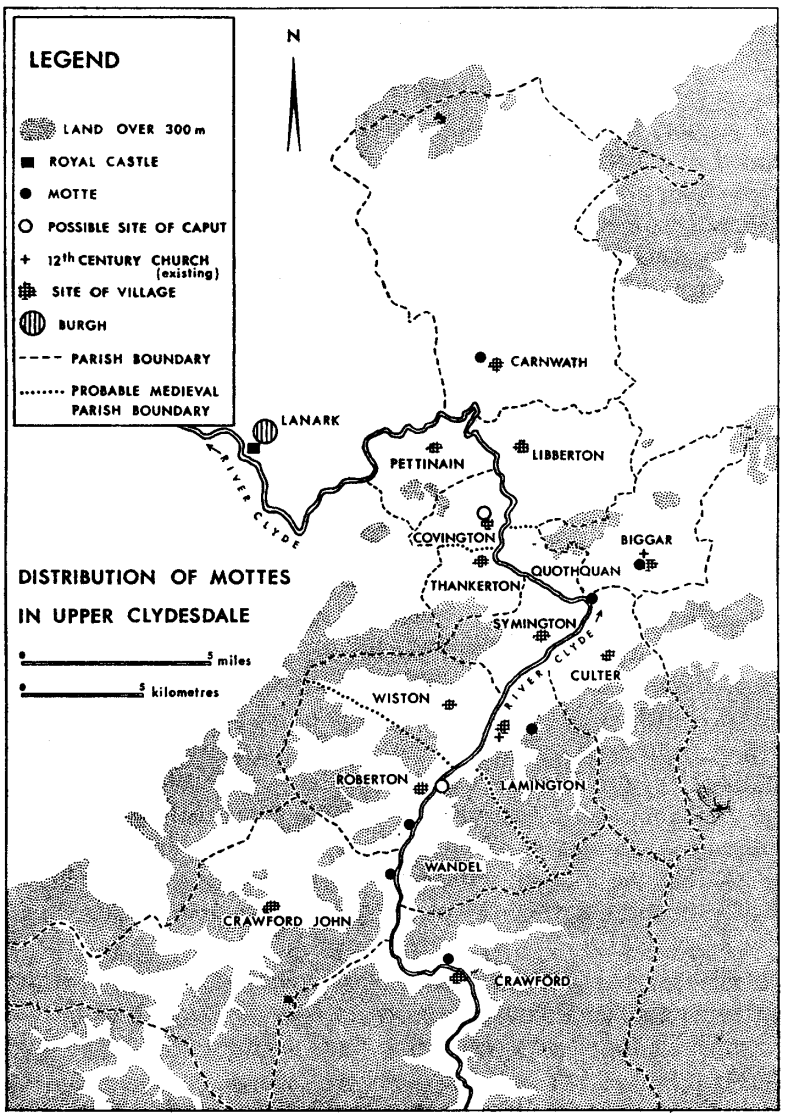

Fig. 4

with little difficulty to the part of Clydesdale covered by this survey once the vicissitudes in parochial organisation that have been effected since the Reformation (and earlier) have been disentangled. The survey therefore takes each medieval parish separately, examines the land tenure in each and assesses the archaeological evidence relevant to the period. In addition the non-Flemish parishes of Crawford and Libberton (which incorporates Carnwath) are examined likewise in the hope that they might provide useful comparison.

Crawford John[8]

'John of Crauford' appears on record as a witness to a charter of lands in Lesmahago, by Arnald abbot of Kelso, between the years 1147 and 1164 and the 'chapel of the vill of John the stepson of Baldwin' is referred to as being dependent on the parish church of Wiston between the years 1153 and 1159.

The parish is excessively large in comparison to the other Flemish settlements but the preponderance of poor upland pasture to the more fertile pasture to be found in the valleys perhaps explains this discrepancy. The village lies towards the north of the parish and is said to have contained all three component parts of a medieval demesne-church, castle and mill. There is now no archaeological evidence for any of them though it can be assumed that the present church has not moved far from its original site. There are numerous late-medieval castles scattered throughout the parish but none can be identified with the caput of John the stepson of Baldwin. There is however in the east of the parish and some 5.5 km from the village the best preserved motte-and-bailey to be found in the area.

The construction rises abruptly from the left bank of the Clyde (Figs. 5, 6). It consists of a sub-circular motte on the south measuring 20 m by 12 m and standing up to 2 m in height above the surrounding pasture land. To the north and west lies the bailey somewhat oval in shape and measuring 88 m from north-east to south-west by 60 m transversely. Both motte and bailey are surrounded on all sides by a ditch except on the east where the structures are protected naturally by the waters of the Clyde. Excavation in the nineteenth century uncovered evidence for occupation upon the summit of the motte.

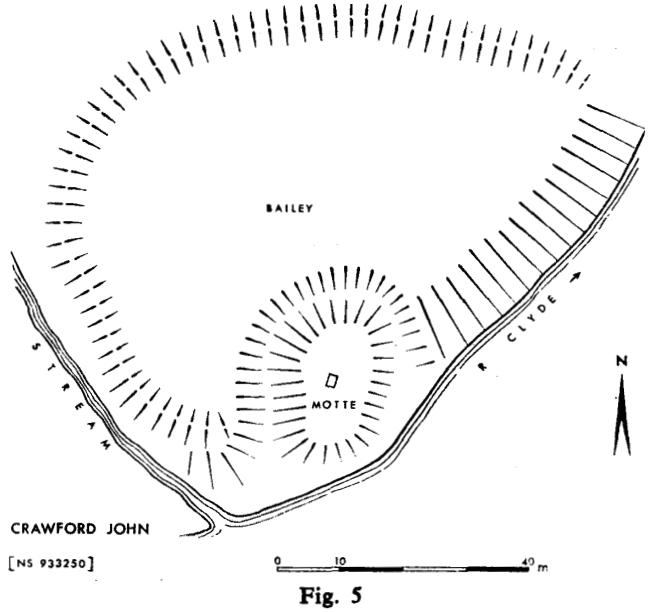

Fig. 5

8. 'Origines Parochiales Scotiae' Vol. I p 160.

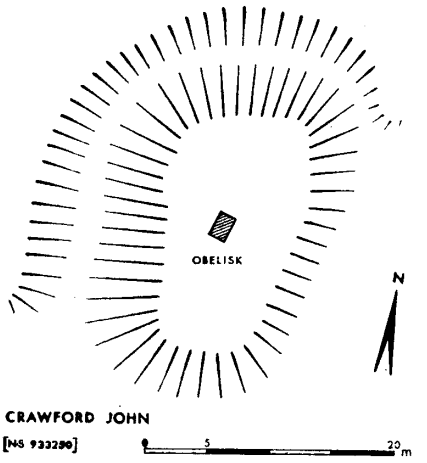

Fig. 6

Wandel:[9]

This tiny parish, joined to Lamington in 1608, seems to have been divided into two portions from an early period. The smaller, known as 'Quendal', belonged to the see of Glasgow about the year 1116 whilst the larger portion pertained to William of Hertesheuede, sheriff of Lanark in 1225. It is doubtful whether the see of Glasgow would have established a caput within the former but the family who took their name from Hartside may well have resided at the site now known as the 'Bower of Wandel'. Tradition associates the site (NS951287) with James V and it is possible that the ruined walls that survive belong to the later medieval period. Nonetheless this rocky promontory projecting into the Clyde could well have been occupied by timber structures prior to this time.

Lamington:[10]

This parish derives its name from one Lambin Asa who owned lands at Draffane and Dardarach near Lesmahagow also. He was the brother of Robert of Roberton and was in possession by 1164.

The village lies in the south of the parish and the church there still contains some fine Romanesque architecture. There is now no obvious trace of Lambin's caput in the vicinity. Lamington Tower, a little to the north of the village, shows no sign of having been occupied earlier than the late sixteenth century though its position on the right bank of the Clyde would have been suitable to the Fleming's needs. The parish does, however, possess a motte which is abnormally situated 1.2 km east of the church in the foothills below Lamington Hill.

The motte (Fig. 7) has utilised a narrow ridge on the left bank of the Easterton

9. Ibid p 171.
10. Ibid p 173.

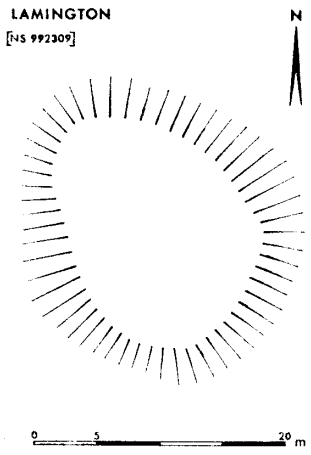

Fig. 7

Burn by the cutting of two ditches across the promontory to create an isolated sub-circular mound measuring 16 m in diameter. It has been extensively damaged by agricultural activity but it was clear that the motte builders had utilised a natural outcrop. Occupation layers still survive upon the summit. The slightly higher ground to the east may have been used as a bailey.

Culter:[11]

'Alexander of Cutir' was witness to a charter by Maldoven earl of Lennox between 1225 and 1270 though it is clear that the parish was in existence before that time. The church no doubt existed within the village of Coulter centrally situated within the parish but the caput of Alexander and his predecessors was situated 2.5 km away to the north.

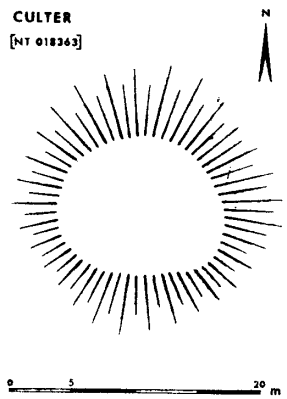

Fig. 8

The motte (Fig. 8) lies some 30 m from the right bank of the Clyde and measures some 12 m in diameter upon the summit. It stands 2.5 m above the sur-

11. Ibid p 174.

rounding land. The ditch that encircled the mound has now been filled in by cultivation and this agricultural activity may have removed all trace of the bailey that is likely to have been placed on its eastern side.

Roberton:[12]

'Robert the brother of Lambin' appears on record between 1153 and 1159 in connection with the association of his chapel with the parish church of Wiston (to which Roberton was rejoined in 1772). The present village of Roberton no doubt contained both church and mill, but the caput of Robert was built 1.6 km to the south. The motte has been fully described already.

Wiston:[13]

In the year 1159 Malcolm IV confirmed to the monks of Kelso the gift which 'Withce' had made to them of the church of his own manor. In his own charter 'Withce' styles himself 'Wice of Wicestone' and it is clear from the way in which he disposes of the chapels on land owned by 'Robert, the brother of Lambin' and 'John the stepson of Baldwin' that Wiston, formerly 'Abercarf', had an old church with well entrenched parochial rights.

The village of Wiston survives but there is little to indicate where Wice had his caput. The modern church to the east of the village stands upon a site that would have been suitable for his needs but the place-name 'Castle Dykes' some 1.3 km to the east of the village also has possibilities.

Symington:[14]

The parochial territory seems to have been co-extensive with the manor which Simon Loccard possessed by the beginning of William the Lion's reign. Unfortunately there is no trace of Simon's caput. Castlehill to the south-west of the village is unlikely to have been considered suitable for a residence in the twelfth century and the place-name probably derives from the 'castra' or Iron-Age hill-fort that is visible there today.

A ploughed-out moated manor on the north-east of the village (NS997349) is reputed to have been the residence of the Symingtons of that Ilk and may well have been so later in the medieval period. However the position of the moated manor does not offer the natural defensive strength that would seem to have been required by the Flemish incomers who are more likely to have preferred the ideal ground along the left bank of the Clyde. Simon Loccard's principal estate, however, was probably at The Lee to the south-west of Lanark (NS852404) so perhaps he had no need for a castle at Symington.

Thankerton:[15]

Though there is a little confusion as to the ownership of this parish, anciently called 'Wodekyrke', in the twelfth century it can be stated that the name is derived from a man called Tancard, who held land at several places in Clydesdale during

12. Ibid p 148.
13. Ibid p 146.
14. Ibid p 144.
15. Ibid p 142.

the reign of Malcolm IV. He left a son, Thomas, who appears as a witness in charters of William the Lion. In addition to Tancard's interests, Simon Loccard seems to have laid claim to a part whilst Anneis of Brus (c 1180) lends her name to Annieston (now in Symington Parish). There is however no sign of any earthwork within the parish that may be assigned to the twelfth century.

Covington:[16]

Prior to its annexation to the neighbouring parish of Thankerton in the early eighteenth century, Covington, anciently called 'Colbaynistun', was most probably co-extensive with the manor of Thomas of Colbainestun who, together with Simon Loccard and Thomas Tancard, was witness to a charter of William the Lion dated at Lanark sometime between the years 1187 and 1189.

As at Thankerton and Symington there is no sign as to the whereabouts of the caput of Thomas or his forefathers. The late medieval tower to the north of the church (NS974398) stands within impressive earthworks that appear to have formed an elaborate moated manor in occupation previous to the stone tower. Without excavation, however, it would be unwise to venture a twelfth century date for the earthworks which are more in keeping with the following century and later.

Pettinain:[17]

The parochial territory was in the ownership of the crown in the reign of David I and appears to have formed part of the royal forest on the Clyde. Later in the twelfth century it lends its name to the knightly family of Houston of that Ilk of whom the first, Hugh of Paduinnan, is remembered for having left his name in the Renfrewshire Houston. There is now no trace of any twelfth century caput within the parish and it must be doubted whether there ever was one.

Biggar:[18]

The lands of Biggar were given to a Flemish family whose surname was taken from the lands. 'Baldwin of Biggris' was sheriff of Lanark during the reign of Malcolm IV, and his son, Waldeve, succeeded him to the lands. Baldwin, as has already been noted, was stepfather to John of Crawford and it has been suggested that it was he who acted as entrepreneur and brought the Flemings to the Clyde for the king.[19]

The caput of Baldwin and his successors is situated on the north-west of the present burgh of Biggar overlooking the left bank of the Biggar Burn (Fig. 9). It has comprised a large motte measuring 32 m by 20 m with a bailey of indeterminate size upon its northern or upper side. It has been surrounded by a ditch on the north, east and south sides but natural strength has sufficed along the west.

Libberton:[20]

This parish was substantially larger in the twelfth century than it appears

16. ibid p. 140.
17. Ibid p 137.
18. Ibid p 132.
19. Duncan, A. A. M. 'Scotland: The Making of the Kingdom' (Edinburgh 1975) p 137.
20. 'Orig Par Scot' Vol. I pp 125 135n.

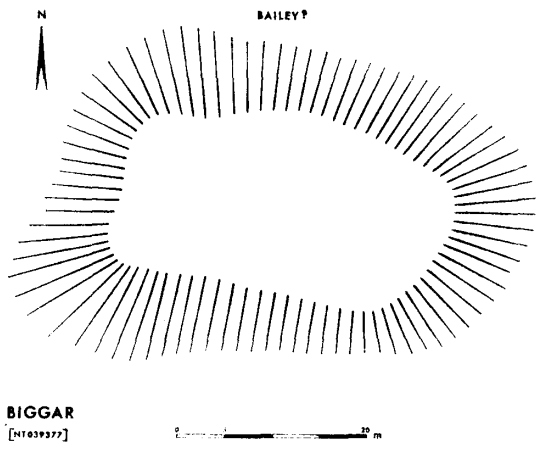

Fig. 9. (Note — This figure and Fig. 10 have been reduced to a smaller scale than Figs. 4 to 8 — Ed.)

today having originally incorporated the parish of Carnwath. The whole extent of the ancient parish (which also included the ancient parish of Quothquhan) belonged to William de Somerville (died 1160), a Norman who probably came to Clydesdale direct from Yorkshire at the invitation of David I.

The caput of the de Somervilles was placed a little to the north-west of the village of Carnwath a small distance away from the right bank of the Carnwath Burn (Fig. 10). It is a classic example of a Norman motte as depicted on the Bayeux Tapestry, having the appearance of a truncated cone with near unscaleable sides. Its lofty height and mass dominate the open pasture in which it stands but the effect is very deceiving. Though the diameter at the base is some 40 m and the mound stands 9 m high, its diameter at the summit is no more than 13.5 m which makes it little larger than Roberton or Culter and smaller than the other three recorded. The motte is surrounded by a ditch but there is now no trace of a bailey —if indeed there ever was one.

Crawford:[21]

This parish has for a long time been associated with the Lindsay family who were introduced into Scotland by David I. At what time they arrived in Clydesdale we cannot say but it is clear that they were established at Crawford by 1170. At that time the family seems only to have held the property in lordship of a man called 'Swein the son of Thor the son of Swein' but by the thirteenth century they appear to have held it of the crown in chief. Like the de Somerville family in Libberton parish, the de Lindsays were not of Flemish stock and Barrow suggests that the name derives from north-west Francia.[22]

The caput of the family was hard by the village of Crawford on the right bank of the Clyde (NS954213). Though it is difficult to envisage the appearance

21. Ibid p 163.
22. Barrow (1973) p 325.

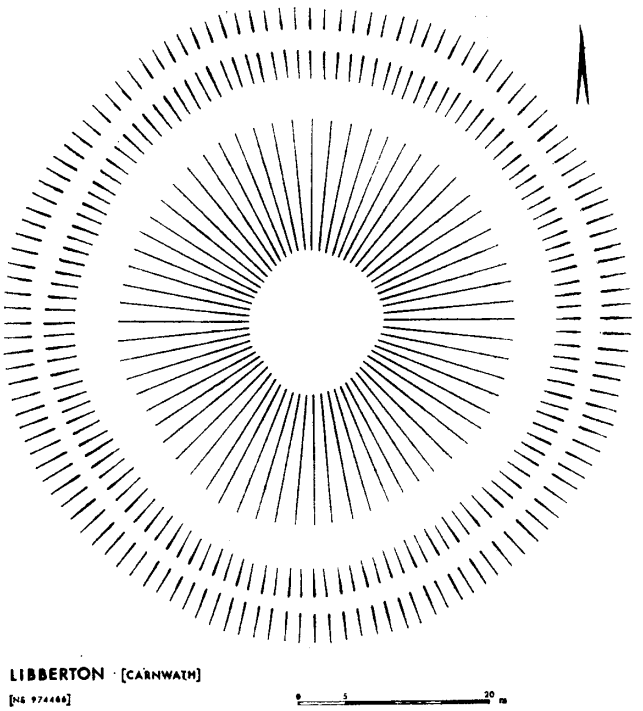

Fig. 10

of the twelfth century castle in any detail because the site was used continually as a baronial residence until the eighteenth century, enough survives to indicate that it comprised a large artificial mound standing 5 m high and surrounded by a wide ditch now partially destroyed. A causeway crossing the ditch on the north side is most probably a later feature.

Conclusions:

The rates of assessment of castle-ward at Lanark Castle owed by the baronies of Biggar, Covington, Thankerton, Symington, Roberton, Lamington and Wiston in the year 1359 was the same for each — 20s.[23] This uniform evaluation testifies to the symmetrical character of the Flemish plantation two hundred years earlier and a glance at the distribution may (Fig. 4) confirms this. Excepting the parish of Crawford John whose inordinately rugged terrain has been noted previously, all the other parishes share a similar topography and acreage. Even the baronies of Wandel, Culter and Pettinain, which are not mentioned in the 1359 assessment and which are not readily identifiable with Flemish landlords, share this characteristic and we must assume that they were an integral part of the twelfth century plantation. On the other hand, the barony of Carnwath was assessed at 60s in 1359 and it is clear from this and the excessively large size of William de Somerville's

23. Exchequer Rolls i 582.

demesne that, as well as colonising this part of Clydesdale with a whole community of alien aristocrats, the monarchy relied also on personal influence and friendship to effect feudal organisation. The arrival of the de Lindsay family at Crawford was the result of similar preferential treatment.

The physical evidence for the Flemish colonisation has been detailed in the foregoing survey but attempting to draw conclusions is made more difficult by the almost complete absence of reliable archaeological information gained from excavation not only within the area of the survey but throughout the whole of Scotland. It is assumed that the residence of a Norman lord was an earthen mound or motte surmounted by a timber hall and palisade and sometimes having a lesser enclosure or bailey associated with it. This is now known not to have been universally adopted, as the ring-works erected for the tenants of the Stewart honour of Renfrew illustrate,[24] but it would appear to apply to this part of Clydesdale and over the greater part of feudal Scotland. Unfortunately the only archaeological evidence we possess for the dating of the Clydesdale mottes — the potsherd recovered from the construction layer at the bottom of the motte at Roberton — begs a fourteenth century date for its construction and though one would hesitate to accept the evidence from one fragment of pottery (the dating of which is speculative) it does serve to remind us of the need for caution in the absence of further information. There is much to learn about the earthworks of medieval Scotland, particularly the relationship between motte, ring-work and moated manor.[25]

On the assumption that the mottes in Upper Clydesdale represent the caputs of the twelfth century landlords, the survey has shown that within the eleven original parishes there now remain five positively identified mottes (those of Crawford John, Lamington, Roberton, Culter and Biggar) and two sites of questionable origin (Wandel and Covington). No parish has more than one example and though there are no sites identified within the parishes of Wiston, Symington and Thankerton (Pettinain may not have merited a caput) it appears that each motte relates to a particular parish and, therefore, to the individual landowner of that parish. So that Lambin Asa of Lamington (or Lambin's vill) lived at the motte situated within that parish, that his brother Robert resided at the motte within the parish of Roberton and so on.

With the possible exception of the motte at Biggar, the other four examples display similar characteristics which tend to confirm their common origins. The first is the distance each is sited from its associated centre of settlement. Lambin Asa's caput is situated 1.2 km away from the village and church of Lamington, Robert's is 1.6 km from Roberton, Alexander's 2.5 km from Coulter and John's a sizeable 5.5 km from the village of Crawford John. Only Baldwin's caput at Biggar adjoins the village and church. Fieldwork being carried out elsewhere points to this being an unusual characteristic of the Norman motte[26] for the three features — castle, church and village — are normally to be found in close relationship to each other. This abnormality can possibly be explained by the fact that the

24. Duncan (1975) p 433.
25. A detailed excavation of the motte at Roberton is being considered by the writer.
26. A survey similar to this is under way within the Stewartry of Kirkcudbright and Wigtown district.

newcomers were totally alien to the area neither speaking the tongue nor following the customs of the native population.[27] Of course this would have applied also to the majority of Anglo-Normans arriving in Scotland during the twelfth century but, whereas the latter arrived individually, the Flemish lords came as a colony, closely knit through friendship if not through blood. Such groups are often reluctant to adapt to their new situation becoming increasingly introverted the longer they remain separated from their homeland. This perhaps explains why they chose to live apart from their tenants, isolated except from one another. (It is worth noting that the caput of Roberton is clearly visible from the home of John of Crawford). Why Baldwin should have chosen otherwise is not readily apparent though it should be remembered that he, as sheriff of Lanark, was active in the governance of the realm and may have had a more open outlook.

The other characteristic common to all but Biggar is their size and general appearance. Whereas Baldwin had his castle built on the grand scale with a summit area measuring 32 m by 20 m, his countrymen chose to be more reserved and their castle-mounds are recognised by their stunted appearance (none exceeds 3 m in height) and the smallness of their summits. Culter and Roberton share a similar diameter (12 m), Lamington is a little larger (15 m) while that at Crawford John measures 20 m by 12 m, though the size of its mound has largely been dictated by the dimensions of the natural outcrop from which it has been created. Whether this was the accepted standard in their home-land is not known but the more imposing nature of Baldwin's residence may have reflected his apparent exalted status.

In other respects the castles are similar. All are situated hard by the banks of rivers where the requirements of defence were matched by the need for a regular water supply. Three have used the fast-flowing waters of the Clyde itself (Crawford John, Roberton and Culter), a fourth, Biggar, is situated by a small tributary (the barony has only a small boundary along the Clyde within a stone's throw of the motte of Culter) whilst Lamington sits by the left bank of an equally small tributary at a height of 275 m above sea level.[28] Only two have baileys associated (Crawford John and Biggar) but their existence at the other three cannot be discounted for the nature of their remains makes them readily prone to removal through agricultural activity.

The mottes of the de Somerville and de Lindsay families (Libberton and Crawford respectively) confirm the separate nature of the Flemish castles with the exception of Biggar. Though they are similarly placed geographically by river courses, the scale of their construction is radically different. The mound at Crawford has undergone alterations but it has obviously been of some magnitude, even being in possession of its own chapel. The motte at Carnwath too must rank

27. Professor Barrow has kindly lent me the text for his Ford lectures (delivered at Oxford early in 1977 and to be published) entitled 'The Anglo-Norman Era in Scottish History'. In it he argues that there are a few tantalising hints in the documentary evidence which suggest that the Flemish settlement of Clydesdale in the 1150s and '60s was the second and permanent stage in a Flemish migration which had begun in Cleveland, Yorkshire.

28. The writer is not entirely happy that this is a medieval motte because of its geographical location. It might conceivably be a Roman signal-station associated with the nearby Roman road. A small excavation upon this badly-damaged earthwork may be undertaken at the same time as Roberton is being excavated.

among the finest in Scotland with its forbidding mass and near vertical sides. Both are close to their centres of settlement though William de Somerville chose to reside by the village of Carnwath and not at Libberton further to the south.

The motte at Carnwath nonetheless possesses problems when we come to visualise its physical appearance. Though the artificial mound is most impressive the dimensions of its summit are far from being so. In fact the diameter (13.5 m) is little larger than the smallest of the Flemish examples. In addition there is no trace of a bailey to allow for extra accommodation and it is unlikely in this instance that agricultural operations have removed it. William de Somerville seems then to have had an imposing castle but one with extraordinary little capacity. It may be that there is some truth in the legend held locally that there are steps upon the summit leading into the centre of the mound. Excavation elsewhere has shown that mottes are not necessarily as straightforward as they might appear. Unfortunately excavation at Carnwath would necessitate the wholesale removal from the landscape of one of the finest monuments in Clydesdale!

Acknowledgements:

I must record my appreciation of the services of Messrs Les Good and George Haggarty who fried with me in the silage pit at Roberton on one of the hottest days of this century. My thanks also to the owner of Moat Farm, Mr J. Henderson for allowing us to undertake the work. The measured surveys of the mottes were provided by Mr Guy Goeritz with the aid of Messrs John Lewis and David Stewart. The drawings were made presentable for publication by Mr Tom Borthwick of the Inspectorate of Ancient Monuments. My gratitude goes also to Professor Barrow of St Andrews University who read the text and prevented me from disgracing myself in public with several poignant comments.

The Society is indebted to the Scottish Development Department for a grant towards the publication costs of this paper.

EXCAVATIONS AT LANARK CASTLE

by J. H. Lewis

The Site (NS 879433)

Lanark castle is situated on a natural hill rising from the bottom of Castle Gate, about 300 m south of the town centre and 450 m east of the River Clyde (Fig. 1). In all probability the natural hill was scarped during the building of the

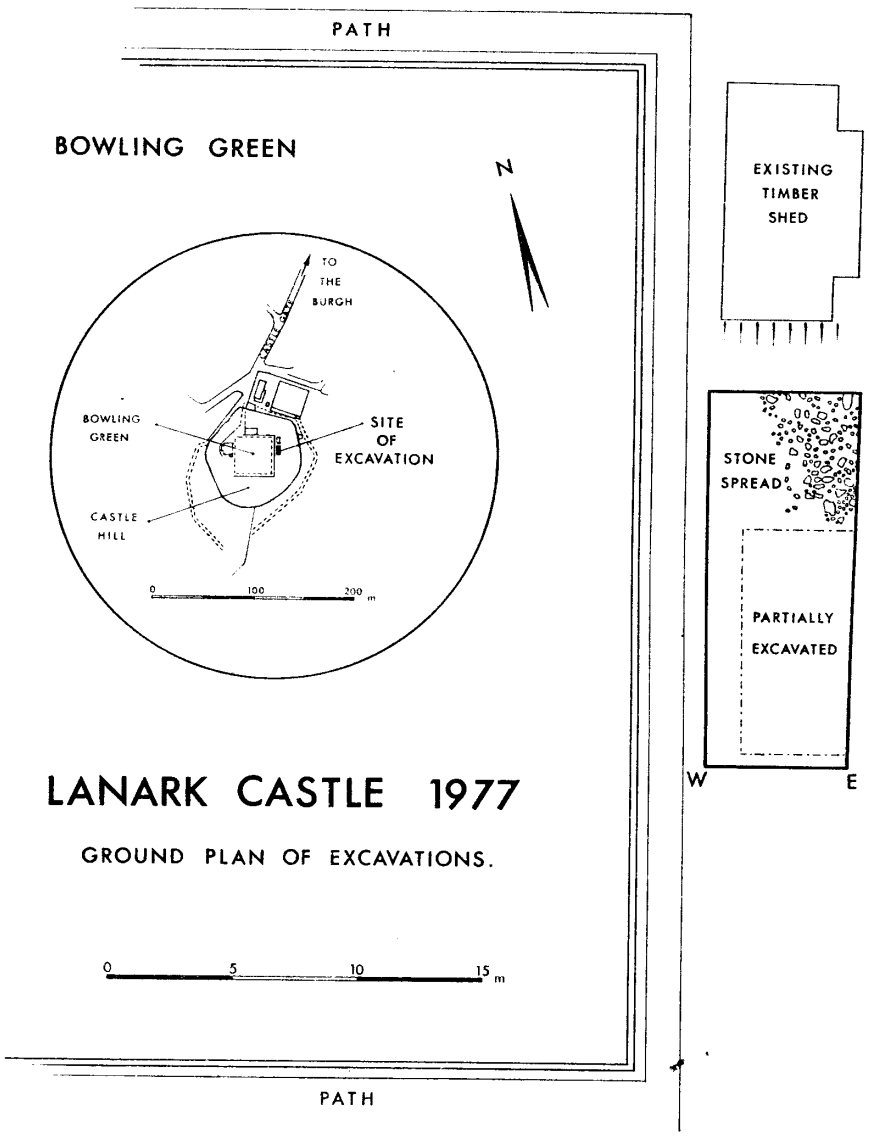

Fig. 1

castle. The base of the hill now has a diameter of about 90 m and the summit about 50 m. The castle would have had considerable natural protection because of the precipitous slopes especially on the south and west sides, much of which is now wooded.

The flat summit is now (and has been for two centuries) a bowling green with three associated buildings. The decision to build a new club house prompted the rescue excavation which was financed by the Department of the Environment. The excavation was carried out in March 1977 by a small team, working for the Lanark Archaeological Society.

The Castle

The royal castle seems to have existed in the time of David I (1124-53) and was perhaps built on the site of an earlier fort. 'Between 1175 and 1199 an inquest of the elders and good men of the country was held before King William the Lion in his court at Lanarc' (Regist Glasg vol i pp 48, 49). By the late thirteenth century the castle may no longer have been occupied but instead used as a prison. However, the Scots parliament is known to have met at the castle in 1293, 1294 and 1295. In 1310 Robert I gained possession of the town and castle, but it is not known to what use he put the latter.

The excavation

Originally two trenches were excavated but they were soon joined by the removal of a baulk to form one trench approximately 15 m north to south by 6 m transversely (Fig. 1). After the removal of turf, modern path material and top soil, the whole site consisted of a thick layer of yellow sand, containing patches of mottled clay. Cutting through the western part of the trench was a modern herring-bone drainage system. The sand was at least one metre thick over much of the site and due to shortage of time it was decided to restrict further excavation to the northern part of the site together with a 1.5 metre-wide strip on the west and a trial trench at the extreme south of the site.

Below the sand, which was completely devoid of finds, was a layer of burnt material 5-10 cm thick covering the entire excavated area. This turned out to be a succession of thin turf layers and intermediate thicker layers of silty material containing charcoal and patches of burnt clay. The pieces of charcoal were all of a small diameter and were unlikely to have been from structural timbers or from a palisade.

Near the bottom of the burnt material were two areas of flat stones, the more conspicuous of these being in the NE corner of the site (Fig. 1). Presumably they could have formed a path at some time. Associated with these stones were a few small nails and the only two pieces of stratified pottery on the site.

Underlying the burnt material and covering the whole of the excavated area was a uniform layer of yellow clay, within which no features were visible. On digging into the clay, at several places, to a depth of one metre, it was assumed that this clean, featureless clay was natural, undisturbed material.

Finds

A few small nails were found among the flat stones shown in Fig. 1.

LANARK CASTLE 1977

SECTION E/W ALONG SOUTH EDGE OF TRENCH.

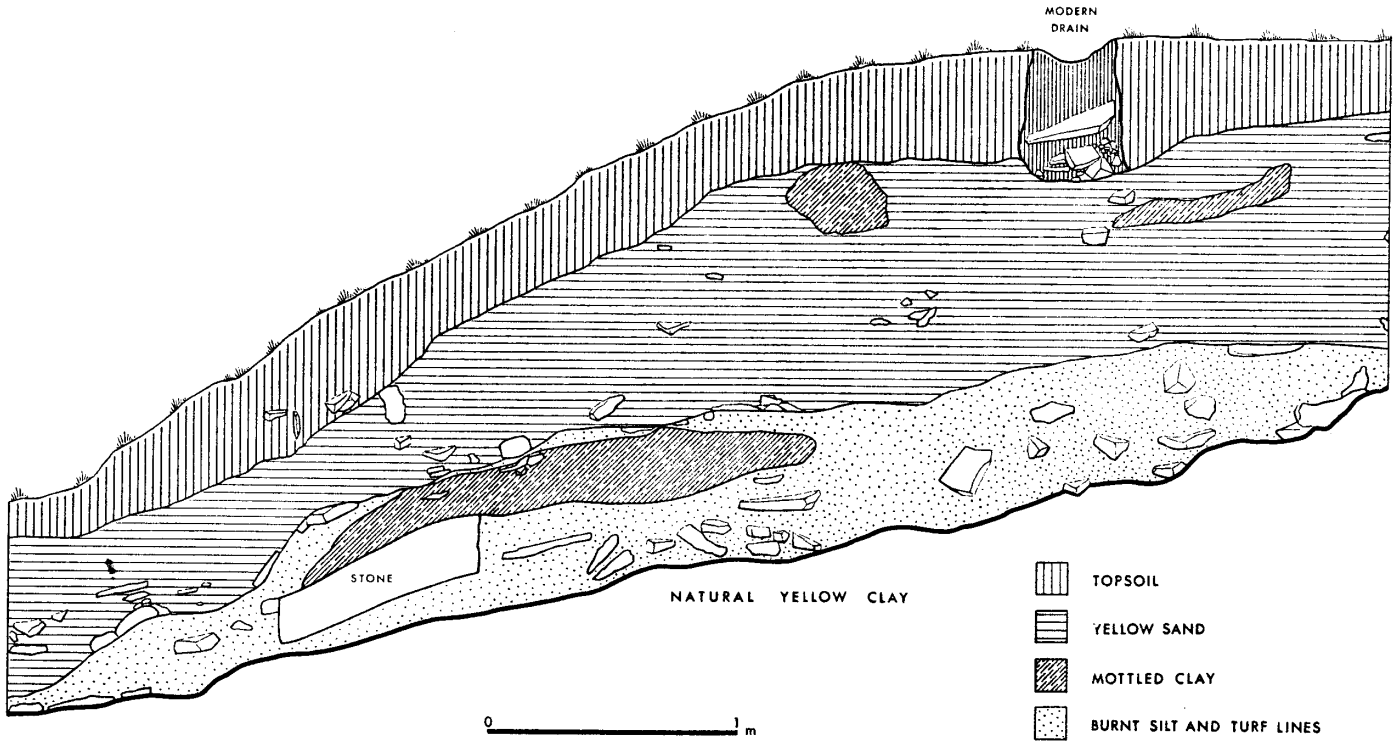

Fig. 2

Pottery

STRATIFIED

1 basal angle sherd in a pale orange quartz-tempered fabric fired light grey on interior. 12th-13th century.

1 tiny body sherd in an off-white quartz-tempered fabric with pronounced rilling. 12th-13th century.

UNSTRATIFIED

48 sherds, all badly abraded, 6 possibly 14th century, all the rest 17th-18th century.

Conclusions

The thick area of sand covering the site (Fig. 2) sealed the layer containing the stratified pottery which certainly post-dates the supposed date of the construction of the castle. The only logical explanation for the presence of this sand is that it was used in the laying of the bowling green to consolidate its edges.

The burnt material was probably formed by the regular burning of the hillside to destroy such flora as heather and gorse to facilitate the growth of pasture for grazing animals. This may have happened during or after the occupation of the castle.

The total lack of features in the natural clay would suggest that, had a palisade trench existed, it was not located in the area excavated. The presence of the pottery just above the natural would rule out the possibility of a palisade having existed at a higher level. It is likely that the area of the mound summit had been extended during the laying of the bowling green implying that the palisade trench and associated structures were some distance to the W of the present slope and hence not in the area excavated.

Acknowledgments

I would like to express thanks to the excavation personnel for their help at the site and also to the Lanark Archaeological Society for their help in many and various ways.

The Society is indebted to the Scottish Development Department for a grant towards the publication costs of this paper.

THE EXCAVATIONS AT POLMADDY, NEW GALLOWAY

by M. J. Yates, B.A.

Background

The impact of the land improvements of the 18th century can be seen everywhere in the Galloway landscape. The isolated farmsteads, the farm workers' cottages and the dry stone dykes which surround the fields and divide the moors are all products of a movement which dramatically altered the face of the land.

Until the 'improvements', most areas were farmed at a subsistence level by groups of tenant families living in **'ferm-toun'** settlements. The poor land and the inadequate methods of farming provided only a meagre living and consequently rents were low. New methods of farming and new markets for farm produce created a stimulus for many 18th century landowners to organise their estates more profitably. Unfortunately, the drainage, liming and enclosure programmes which followed had far reaching effects on the rural population. As the improvements continued rents rose steeply and land that had hitherto provided food for several families was now required for sheep pasture. Employment also became scarce since sheep rearing was much less labour intensive than the traditional mixed farming methods. Thus faced with high rents, eviction, and unemployment many people were forced to move away from the land.

Polmaddy is one of the many settlements abandoned at this time and although these sites can hardly be classed as ancient they are an important part of the recent archaeological record. Not only does their abandonment reflect a dramatic rural upheaval but the agricultural system they represent is one that had persisted for many centuries.

In 1971 an area of land which included the site of Polmaddy was acquired by the Forestry Commission. Fortunately Mr Ansell of "Rannoch," Glenlee, knew of the site and drew attention to its archaeological importance. As a result of this it was decided to preserve the site and develop it as a rural amenity. It was hoped eventually to reconstruct one house and a corn drying kiln and therefore the Forestry Commission initiated the present survey and excavation, to provide the necessary background information. After only one season's work the difficult economic situation caused the project to be postponed. This report must therefore be regarded as an interim account of the work and conclusions are provisional.

Description.

The deserted settlement of Polmaddy lies in a meander on the north side of Polmaddy burn 11km. north of New Galloway, Stewartry District. (N.G.R. NX 589 878). It is situated immediately above a wide flood plain between 136m. and 144m. (450' and 475') O.D., with rough moorland to the north and Dundeugh forestry plantation to the south and west. Although all the structures are now

ruined it is still possible to determine the general plan. It must be remembered, however, that the lay-out shown here (Fig. 5) probably only represents the final stage of occupation. Throughout its long history the arrangement of the structures could have changed many times and earlier buildings may have been completely removed to provide building material for their successors.

Houses and Byres.

It is rarely possible to distinguish between a house and a byre from superficial examination, indeed the same building may have fulfilled both functions. Building 8 is perhaps the exception since there is a well preserved drainage hole in the south wall which suggests that it was used for animals. All the structures are built of double faced dry stone walling from 0.70m. to 1.10m. thick and all except Nos. 21, 22, 23 and the south west end of No. 3 have angled corners. Several buildings are divided into two parts but in Nos. 2 and 5 it is clear that the smaller section is a later addition since the walls are not bonded into the rest of the construction.

Most structures stand 3 or 4 courses high and contain a great deal of tumbled stone. Buildings Nos. 1, 4, 21, 22 and 23, however, have been reduced to their foundations and are now largely turfed over. This may imply that they had been dismantled before the desertion of the rest of the settlement. Building 23 and the west end of No. 5 had been filled with field gathered stone which suggests that they had ceased to be used while the fields around were still under cultivation. Similarly building No. 3 is partially overlain by a yard wall suggesting that it too was abandoned during the life of the settlement.

The Inn (Netherward) No. 13.

As would be expected the inn is more complicated than the other structures on the site. The walls are well built with closely fitting facing stones pointed with lime mortar. They still stand to a height of 1.8m. at the gable ends but no trace of any chimney can be seen. At the north end two successive annexes have been added. The two outbuildings (nos. 14 and 15) are of somewhat inferior boulder construction and only survive to a maximum height of 1.10m. The western building can perhaps be interpreted as a stable.

The Kilns.

There are five kilns on the site. Nos. 19 and 20 are in poor condition and much stone has been removed from them, but sites 16, 17 and 18 are well preserved with kiln-barns attached to one side. Although the individual dimensions very considerably the basic design is the same. They consist of a circular bank of stone faced on the outside with rough boulders and with a smooth inner face of smaller close fitting stones. In the best preserved example (No. 18) the drying chamber is funnel shaped. They are all located on a steep drop in the slope with

the flue passing from the base of the chamber beneath the bank on the downhill side. Such places seem to have been favoured for corn drying kilns throughout Scotland, (c.f. Rosal, Sutherland, Fairhurst, 1967, 144) perhaps because it was then only necessary to build up one side. It is worth noting that in all cases the flue appears to terminate immediately outside the kiln bank and there is no trace of a long flue like that excavated by Gen. Scott-Elliot at Rue Farm, Dumfries. (Scott-Elliot, 1962).

The kiln barns are all covered by turf and there is very little tumbled stone. They are attached to the uphill side of the kilns on the relatively level ground opposite their respective flues.

Yard Walls.

Adjacent to many buildings are small yards enclosed by boulder walls a single stone in breadth. The absence of any identifiable stack stands may suggest that they are all kale yards, but this seems unlikely. The areas enclosed vary from 135 to 350 sq. m.

Mill and Associated Features.

About 450m. north of the mill water has been diverted from Polmaddy burn by a series of boulders running out into the middle of the current. The water was conducted into a lade which runs for 335m. into a pond north west of the mill. On average the lade is 3m. wide but the depth varies considerably. It is particularly well preserved where it cuts through rock 70m. north-west of the pond.

The pond is largely natural but it has been dammed on the south-east side by a thick bank of stones, probably containing some clay. At present it is completely silted up and does not contain any water although the ground is noticeably boggy. At the south east end of the pond is a sluice. None of the mechanism remains but it is possible to identify the break in the dam through which the flow of water could be regulated. From the sluice there is an additional lade which carried the water to the mill. Immediately north of the mill is a large amount of tumbled stone which seems to represent a short aqueduct intended to keep the head of water high so that the force of gravity, rather than the rate of flow, would turn the wheel. It therefore seems likely that the wheel was breast-shot, or perhaps overshot.

The mill, (building No. 6) is a little larger than the other structures and the walls are thicker. It is similar in construction but the massive corner stones are worth noting. The gear cupboard can still be seen sunk into the floor at the north end, although it is now largely filled with tumbled stone. A grind stone from the mill is now at Dalshangan House nearby.

Fields.

The boundary dykes are built of single boulders similar to the yard walls and

enclose fields of varying sizes. The best preserved rig and furrow can be seen in the most westerly field where the stoney subsoil has given rise to seven cairns of field gathered stone. On the north and south sides are two low banks which seem to limit the rig and furrow and may represent an earlier system of field boundaries.

The rig and furrow shown on the large floodplain is hardly discernable on the ground and has been planned from an aerial photograph. The rigs vary in width from 1.7m. to 5.5m. and although they are generally straight they do curve a little around the edge. In one place on the east side two phases of rig can be seen crossing each other at right angles.

The Pack Road.

The main pack road from Kirkcudbright to Ayr and the north fords Polmaddy burn south west of the settlement and passes close to the inn. It is indistinct where it crosses the floodplain but elsewhere it appears as a rough track hollowed out by use. The history of the pack road has been thoroughly covered elsewhere (Anderson, A. D., 1968, 219-224.) and it is likely that its replacement in the early 19th century by the present 'A' road was an important factor in the final abandonment of Polmaddy.

History.

(This brief history is based only on the more readily accessible documents, and subsequent excavation and research may well cause it to be revised.)

The earliest reference found so far is dated to 1505 (**Lord Treasurer's Accounts, III,** 23.) when Plumpton and Polmaddy were in the possession of William McClellane, Laird of Bomby. In 1511 it seems that James IV gave these two settlements to James Hepburn, rector of Dalry (**Register of the Lord Privy Seal, II,** no. 2277.) but by c. 1541 they had both returned to the McClellane family since they were mentioned in the will of Thomas McClellane, the grandson of William.

In the 17th century Polmaddy appears to have been closely linked with Barlae, a similar settlement about 2 miles north west. In the **Valuation Roll** for 1642 Gilbert McCormock is recorded as owning Barlay and its mill which probably refers to the mill at Polmaddy. Timothy Pont working in Galloway around 1595 records Polmaddy with a mill on his map published in 1654. From c. 1650-1670 Gilbert and William McCormock were important local figures in the legal affairs recorded in the **Sherif's Court Proceedings** of the Stewartry. These Proceedings also record that William Murdoch was the smith at Polmaddy in 1666.

In 1697 Esther Mackormack of Barlae had sasine of the mill at Polmaddy but by 1704 the mill and perhaps the settlement passed into the hands of Robert Gordon, and in 1705 there is the first mention of Netherward. Polmaddy remained the property of the Gordons until 1728 when James, Earl of Galloway came to possess it and Netherard, (Netherward?).

In 1734 Robert McMillan has sasine of the 20 shilling land of Barlae and Netherward which may have included Polmaddy, but certainly it was a member of the McMillan family (James) who sold Polmaddy and Barlay to Sir John Shaw some time around 1804-5. It was while Shaw owned Polmaddy that it was abandoned.

Excavations.

The west end of the long building, No. 9, and one of the corn drying kilns, No. 17, were examined. It was not intended to dismantle the structures, merely

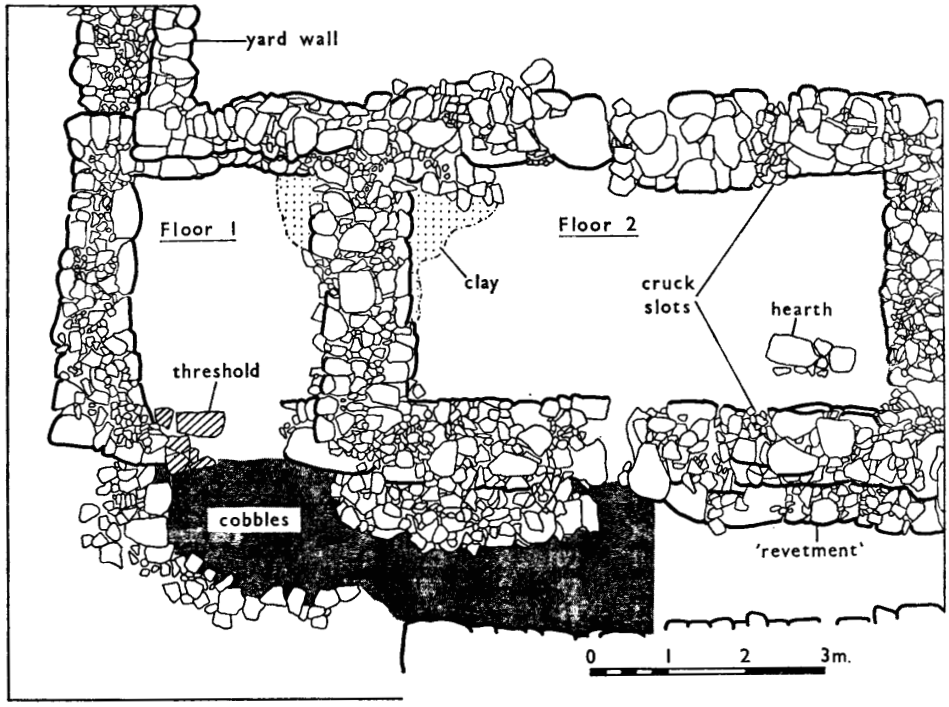

Fig. 1: Building No. 9 — Plan of west end.

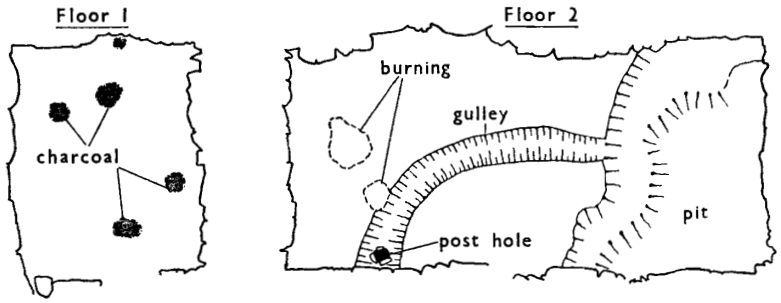

Fig. 2: Building No. 9 — Plan of floor areas at west end.

to remove tumbled stone to obtain accurate plans. Archaeological attention was concentrated particularly on the floor areas and the walls where constructional evidence might be found.

Building 9

Before excavation this site appeared to consist of a building 14.7m. x 3.0m. to 3.7m. wide internally with a partition wall 7.7m. from the east end. It was situated on well drained ground which sloped down to the east. The walls survived to a height of between 0.7m. and 1.4m. above the turf, and two entrances were visible in the south wall giving individual access to the two parts. From the north-west corner the wall of the yard continued the line of the building for 3.0m. then turned at a right angle and rejoined the building on the east end.

Structures of this type have been found to contain evidence of both human and animal occupation, with the latter usually confined to the lower end. It was decided to concentrate on the human habitation and therefore a trench 9.0m. x 12.0m. was layed out to include the higher western end with the partition wall forming the eastern limit to the excavations.

The tumbled stone and turf was removed from the interior of the building to expose the wall faces (Fig. 1). Generally these were easily defined but occasionally the stonework had slipped completely out of position. The construction of the upstanding walls varied considerably. In places they were well built with large boulders forming the inner and outer face filled in between with a rubble core. Elsewhere, especially on the north side there were very large boulders which continued through the thickness of the wall. There was no trace of mortar but a silty clay found amongst the core material suggested some attempt at weather proofing the otherwise draughty dry stone walls. Much of this clay had been washed out and was deposited around the base of the wall especially in the north west corner.

The walls did not survive to a sufficient height for any evidence of windows to be preserved but contemporary descriptions of similar buildings and the fact that no window glass was found suggests that the structure was windowless.

The entrance in this half of the building was identified merely as a gap in the wall. There was no threshold and no recognisable termination of the wall on either side, so it was possibly a later addition.

Two cruck slots could be seen in the north and south walls at the east end of the excavated area. The slot in the north wall was not easily recognised but that in the south wall was clearly visible and, indeed, still contained wood remains. Apparently the slots had been filled at some time since stones were found wedged into position.

The south wall of the building seemed to have two outer faces. It was difficult to be certain of the reason for this but an examination of the west end of the south wall revealed several outer facing stones leaning outwards at an angle of 15° from

vertical. It therefore seemed that the second outer face was intended to shore up the listing wall as a sort of revetment.

In contrast to the construction of the building, the yard was built of elongated boulders placed with their long axes at right angles to the line of the wall, so that each stone passed right through its thickness. This meant light was visible between the stones giving an unsubstantial appearance rather like the upper courses of a 'Galloway dyke' (Rainsford-Hannay, 1957, 50). The amount of tumbled stone suggested that it was never much more than 1.0m. high.

When the top soil and tumbled stone was removed from the western end of the excavations it was clear that the building had originally been longer. The north wall had extended some 3.0m. west, beneath the yard wall, and turned southwards for 4.15m. forming an earlier west end to the building. These walls had been extensively robbed of stone and only a single foundation course remained on the west side. On the north side two or three courses had survived beneath the yard wall. Like the rest of the structure the walls were faced with boulders and filled in between with rubble core, and clay. Although the south wall of this section had been almost completely removed a short portion could be identified where it joined the upstanding walls to the east. At the west end there was an area paved with flat stones which could only be interpreted as the threshold of an additional entrance. Outside the threshold was an area of small cobbles bordered to the south and west by a rough arrangement of larger boulders. The cobbles extended east, between the buildings and continued beneath the 'revetment' material.

Butting against the north-west corner and partially covered by the yard wall was another wall faced with rough boulders and filled with rubble. Since only a small portion of this was uncovered it is difficult to offer any positive interpretea-tion. It may have been an earlier yard wall although it did appear rather too substantial. Alternatively, it could have belonged to another building, dismantled when the yard was built.

Several features were noted during the examination of the interior of the building. In the floor area 1 (numbers refer to floor areas shown in Figs. 1 and 2) there was evidence of burning and a large amount of charcoal and iron slag was found. Although this might suggest that the site was used for iron working there was no other indication and smelting waste could have been brought in as suitable floor material.

In area 2 there was a hearth set away from the walls in the south east corner. It consisted of a large slab reddened and cracked by heat and surrounded by smaller blackened stones. A considerable quantity of charcoal could be seen in the immediate area. There is no identifiable floor layer in area 2 but the hard surface of the clay subsoil may have been adequate.

At the east end there was a large pit which extended beneath the partition wall to the east. It was therefore not possible to excavate this feature, so its precise

details could not be obtained. An examination of the top 30cm. revealed a fill of greasy black soil and stones.

An irregular ditch filled with fibrous brown soil and containing flecks of charcoal emerged from beneath the west end of the south wall and ran up to the west side of the pit. Although the two features may be associated no evidence was found to confirm this. Near the south wall the ditch measured 56cms. wide x 32cms. deep but as it approached the pit it decreased to 24cms. x 24cms. deep. A post hole, filled with black fibrous material and surrounded by packing-stones was found in the south end of the ditch.

Since both the ditch and the pit ran beneath the walls of the building they probably represent an earlier phase of occupation on the site, but as only a small area could be examined no interpretation can be offered.

Conclusions.

After some unidentifiable activity on the site a structure 20.1m. x 4.9m. was built, probably with a cruck roof. It was not possible to determine whether there were any partition walls constructed at this time and the number of entrances belonging to this phase was equally uncertain. The westernmost entrance was certainly in use and was probably associated with the cobbles outside.

The subsequent events cannot be placed in any definite chronological order but the sequence given here is presented merely as a working hypothesis.

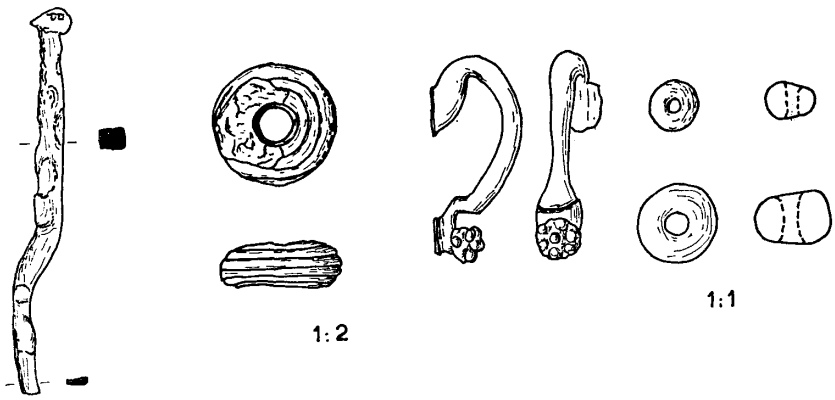

Fig. 4: Small finds: Left to right — nail, spindle whorl, glass handle, beads. Scale — beads full size, remainder one half.

At some time the cruck roof was abandoned and the slots in the wall filled in. The roof which replaced it may have been 'wall plate' or 'gable' design which would exert a considerable outward pressure on the dry stone walls at the side. This could account for the slant of the south wall and perhaps cause the inhabi-

tants to erect the 'revetment' for additional support. Possibly at the same time it was decided to dismantle the west end of the building. The western end wall of this later stage may have been an entirely new construction or perhaps a pre-existing partition was adapted. When these alterations were complete the yard was built over the disused part of the north wall to meet the new north west corner of the building.

It was not possible to assign the hearth to any particular phase but its presence suggested that this part of the building was used at some time for human habitation.

Finds.

From top soil outside the building.
- 3 fragments of unidentified iron.
- 2 fragments of iron nails square in section.
- 1 iron nail, square in section. (Fig. 4).
- 1 fragment of light green bottle(?) glass.
- 1 fragment of the top of a dark green glass bottle.
- 12 fragments of clay pipe stems.
- 4 fragments of clay pipe bowls.
- 1 cup (?) handle, white glazed porcelain with gilt decoration.
- 1 rim fragment of pottery with blue decoration.
- 1 fragment of brown glazed pot.
- 1 fragment of mottled glazed pot, brown and green on white.
- 1 fragment of white glazed pot with blue pattern.
- 1 fragment of white glazed pot.
- 1 fragment of rim of small white glazed plate or saucer, burnt.

Beneath tumble stone from yard wall.
- 1 fragment of green bottle (?) glass.
- 1 fragment of clay pipe stem.

Amongst stones of yard wall.
- 1 unidentified fragment of iron.

Overlying cobbled area.
- 1 fragment of clay pipe stem.
- 1 fragment of white glazed pot.
- 1 fragment of the base of a vessel of dark brick red fabric, unglazed on the outside and with a thick cream glaze on the inside.

Amongst the stonework of the 'revetment'.
- 2 fragments of clay pipe stem.

Floor area 1.
- 2 unidentified pieces of iron.
- 1 nail head.
- 1 fragment of dark green glass.
- 10 fragments of clay pipe stem.
- 1 small bead of a vitreous material. (Fig. 4).

Floor area 2.
- 2 pieces of iron.

2 fragments of dark green glass.
1 handle of dark uncoloured glass, finely made with a flower decoration at the lower end. (Fig. 4).
3 pieces of a large earthenware bowl with a brown glaze on the inner and outer surfaces.
5 pieces of fine white glazed jug (?) including the handle, decorated with a brown, blue and orange pattern.
1 piece of the base of a white plate or bowl decorated with a pattern of green leaves.
13 fragments of clay pipe stem.
2 fragments of clay pipe bowls.
1 black vitreous bead (see Fig. 4).
1 perforated spindle whorl of dark grey shale bearing six incised lines round the circumference. (Fig. 4).
1 badly corroded coin (unidentified).
Part of a small sandstone quern stone broken across the perforation. The underside and part of the outer surface was worn smooth. The wear suggested that it was used as a whetstone after it had been broken. Tooling marks could be seen on the sides of the perforation and on the outside.

In ditch fill.
1 corroded piece of iron, possibly a knife blade.
1 abraded sherd of unglazed orange pottery.

Apart from the finds in the ditch the only discoveries from stratigraphically sealed layers were those found beneath the tumbled stone of the walls. Since this could have occurred at any time after the site was abandoned, its archaeological importance is slight.

It was not possible to date the majority of the finds precisely and several items like the spindle whorl, beads, and quern stone could have been used for many years. With the exception of the sherd from the ditch, all the pottery seemed to belong to the second half of the 18th century or very early in the 19th century. A similar date would be appropriate for the clay pipe bowls. The glass handle is probably earlier being no later than the mid 18th century, but being a fine piece it could have continued in use.

Taken together the finds suggest that the building was abandoned towards the end of the life of the settlement.

The Corn-drying Kiln, No. 17.

The kiln was built on the end of a small natural spur with the ground falling away to the south, west and east. Attached to the north side of the kiln, on relatively level ground was the foundation of the kiln barn, which was partially covered by a field boundary dyke: It was originally hoped to excavate all the structures but time only permitted an examination of the northern area. It was, however, possible to remove turf and tumbled stone from the south part of the kiln in order to obtain a complete plan.

The Kiln. (Fig. 3).

The kiln itself consisted of a circular stone bank 4.0m.-4.2m. external diameter,

surrounding a central drying chamber 2.0m. in diameter, at the top. Although the chamber was not completely emptied it appeared from a superficial examination to be funnel shaped like the others on the site.

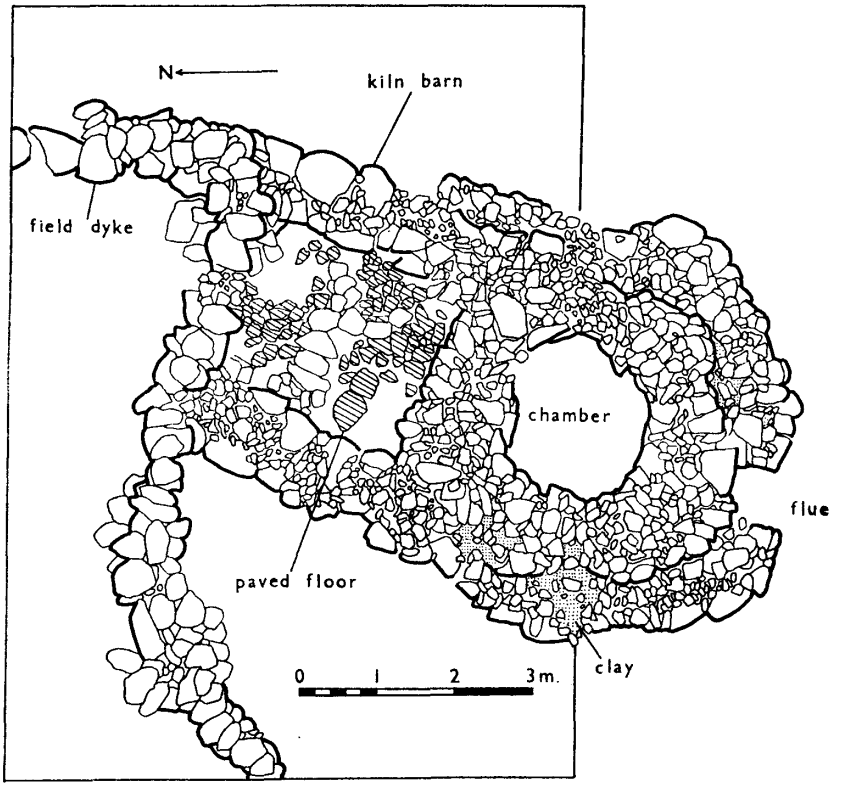

Fig. 3: Corn-drying Kiln and Kiln barn.

The bank was constructed of rubble and silty clay and was faced on the outside with rough boulders. The inner face around the chamber had been built much more carefully using smaller closely fitting stones to give a relatively smooth surface. In places it appeared that the gaps had been 'pinned' (i.e. small stones hammered into the spaces between the facing stones).

On the north side the bank was 0.6m. high but to the south it stood 1.4m. above the ground level. Because the ground sloped downwards to the south west and east it was necessary to build higher on these sides so that the top of the chamber would be moderately level. The steep gradient posed additional problems to the builders since there was probably a tendency for the foundations to slip down the slope. To avoid this there seems to have been an additional outer face to the kiln.

The flue was not excavated but it could be identified passing beneath a large lintel stone in the south side of the kiln bank.

Since the upper portions of the bank were poorly preserved and may indeed have been robbed of stone, no evidence for any roof had survived. For the same reason there was no trace of a scarcement inside the top of the chamber to support the drying floor upon which the grain was laid.

The Kiln-Barn.

The walls of the kiln-barn (Fig. 3) were faced with large boulders some of which had slipped out of position. The core consisted of rubble but no clay was noted. Only a single course remained on the east and west sides where the wall measures 1.0m. - 1.13m. thick at the base. The outer face of the kiln-barn was bonded into the kiln itself suggesting that the whole structure was built at the same time.

The north wall had been badly disturbed by the field boundary dyke which overlay it and no facing stones were visible. It is probable that there was an entrance in this end but no trace was found.

Inside the barn the floor area had been paved with small flat stones. Over lying this were several larger stones running from east to west across the building. Their arrangement seemed too regular to be fortuitous and it may be suggested that they were intended to support a wooden floor above ground level.

Finds from the Kiln site.

Topsoil.

1 fragment of clay pipe stem.

1 fragment of blue/grey glazed pottery bearing 2 ridges.

Overlying the floor of the kiln-barn.

1 flat piece of iron.

Beneath tumble of the field boundary dyke.

1 small rim fragment of an orange hard fabric bearing a trace of yellow/cream glaze.

The Field Boundary Dyke.

Like the yard of Building 9 and the other field dykes on the site this was built of single boulders.

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Mr M. Ansell of Glenlee, New Galloway, first drew attention to the site and the writer is also indebted to him for his assistance during the excavations. Garth Rhodes of the 'International Voluntary Service' performed the invaluable duties of the foreman in the first season's work, and Mrs Angela Yates gave indispensible help not only during the excavations, but also in the preparation of this report.

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Appendix.

External dimensions of structures.

1. 9.00m. x 5.60m.
2. 11.50m. x 4.60m. — (including annex) two entrances on south east side.
3. 9.30m. x 3.60m. — curved at the south end and overlain by yard wall at north.
4. 8.20m. x 4.60m. — overlain by yard wall.
5. 11.30m. x 4.60m. — (including annex) — west end filled with field gathered stones. stones. Entrance in south wall.
6. 11.00m. x 5.50m. — mill. Built of large stones. Entrance in south.
7. 9.30m. x 6.10m. — built into bank at north end. Entrance on east side.
8. 5.00m. x 3.90m. — byre. Drain passes through south wall. Entrance on west side.
9. 20.00m. x 5.20m. — see excavation report.
10. 13.00m. x 5.40m — very ruined condition.
11. 9.90m. x 5.00m. — west side set into bank. Entrance on east side.
12. 7.90m. x 5.90m.
13. 17.40m. x 5.60m. — inn.Very well built with lime mortar pointing still visible. Entrance on west side. Partitioned. Two annexes on north end.
14. 7.80m. x 5.00m.
15. 9.00m. x 5.40m. — very rough construction. Divided into three parts with possible extension to the south end.
16. 6.00m. diameter at base x 2.30m. diameter across top. — kiln. There are traces of a kiln-barn on the north side.
17. See excavation report.
18. 5.80m. diameter at base x 3.00m. across the top and 1.70m. deep at the centre of kiln chamber. Very well preserved with kiln-barn 4.40m. x 4.40m. attached to the north east side and the flue visible in the south east.
19. No precise measurements available — Kiln very ruined.
20. No precise measurements available — Kiln very ruined.
21. 6:80m. x 4.00m. — very ruined, apparently with curved corners.

22. 6.20m. x 4.80m. — very ruined, apparently with curved corners.

23. 9.30m. long, but other dimensions obscured by field gathered stones.

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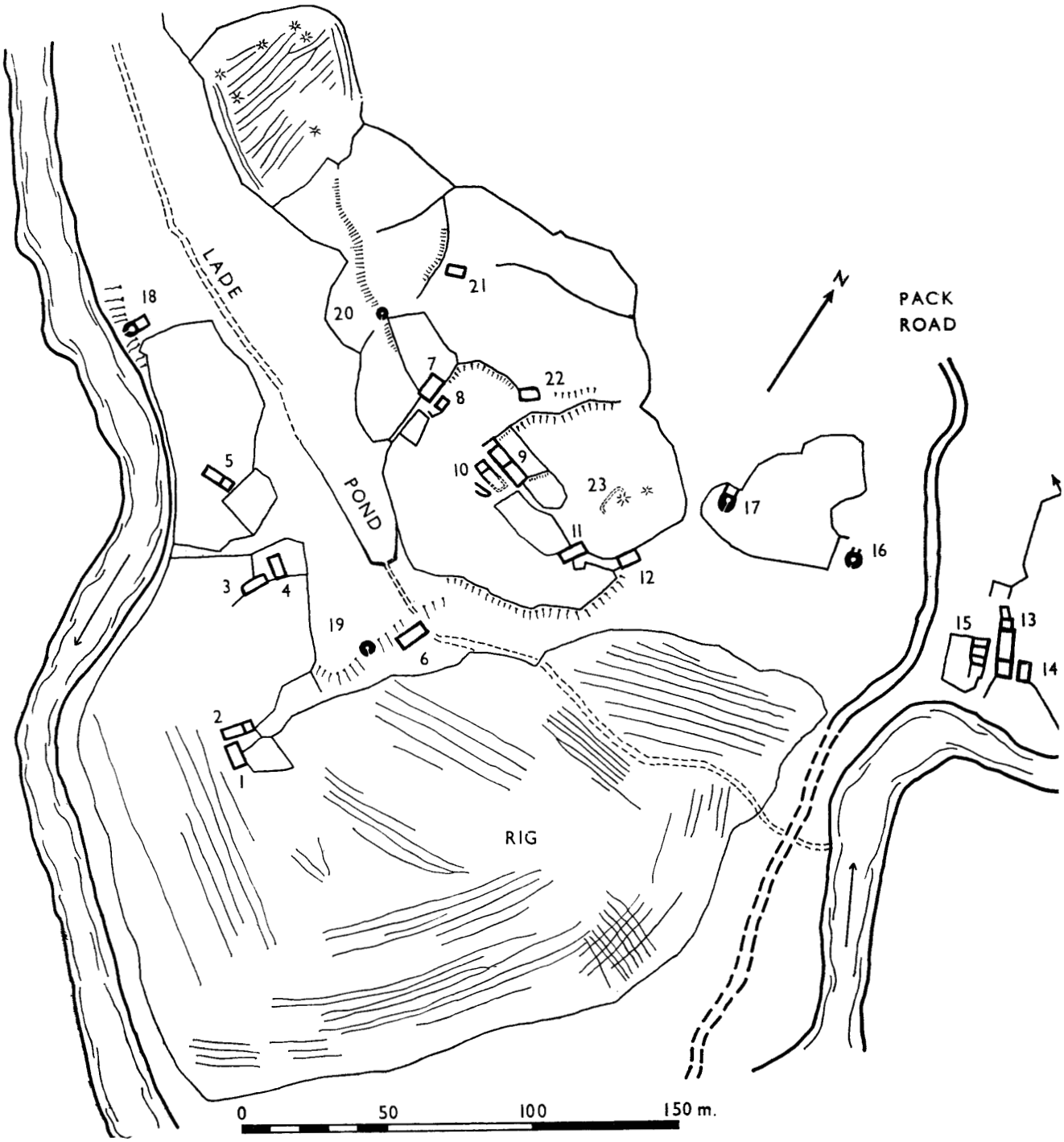

Fig. 5: Polmaddy — General Plan showing Inn (13), Kilns (16 to 20) some with kiln-barns attached, Mill (6) with pond and lade, Houses and Byres and Fields with traces of rig and furrow cultivation.

MID NINETEENTH CENTURY POVERTY IN DUMFRIES
BASED ON LOCAL SOURCES

by Jane Donaldson

My original aim in this disseration was simply to discover how the Dumfries poor, both those inside and outside charitable institutions, actually lived. However as I gathered information a number of questions arose. Did enough help exist for the poor or did they have to rely on their own resources, was it better to be an inmate of Dumfries poorhouse or to be independent and what was the relation between poverty conditions in Dumfries and those on a national scale? I also intend to show the social conscience of all classes to the existent poverty.

First let us study the conditions of the poor living in the town. The housing conditions of many poor were "uncleansed and deplorable"[1] As described by one doctor during the 1848 cholera outbreak. In Colvin Close where many poor lived the houses were "old, brokendown, ruinous buildings, walls insecure. Houses in this close with one exception — old, inferior and nearly worn out"[2] (See appendix). Frequently landlords threw tenants out leaving the Poors Board to provide them with housing. One local newspaper reported: "The tenants allege that landlords rack them. This is Ireland over again — one might fancy one was reading an Irish report."[3]

The Dumfries and Galloway Benefit Building and Friendly Society, established in 1857, was the only society to help with housing problems. However the 1s share necessary to join could not be afforded by many poor, who in the area of housing received little, if any, help. Improvements they had to make themselves. Few people were prepared to help them as befitted the contemporary beliefs in self help and non-interference.

During winter employment was hardest to find. In 1833 there were frequent complaints about employment possibilities for aged females, who, unable to find employment, applied for poor relief. The people making these complaints were probably more concerned that their rates were being used to keep these women, than about the women themselves. The winter soup kitchens only remained open until the good weather returned and the poor had the opportunity to find employment in the nurseries, gardens and fields.

In April a hiring market was held in the High Street where servants were taken on for the summer half-year. This was always overcrowded with people seeking work. Females were generally hired at from 50s to 52s 6d and ploughmen, the most highly paid workers, at £5 to £6 in 1840. However the majority of poor were labourers earning in 1840 about 9s weekly and "can no more than maintain his family in some decency with but a scanty sufficiency of wholesome food."[4]

1. Poors Board Minute Book No. 2. 8th December 1848.
2. Report on Dumfries Closes. John Malcolm 1887 Page 1.
3. Dumfries and Galloway Courier 25th March 1840.
4. Courier 22nd April 1840.

However for the unemployed poor the situation was worse as they had to provide all their own help.[5]

Periodically there were complaints about vagrancy in the town. There can be little doubt that the many Irish intensified this problem. In 1844 there were 64 Irish families in Dumfries and one-fifth of the poors roll were Irish[5] as few were ever able to find employment and those that did tended to be labourers. However 3 years residency in town was necessary to receive relief and meanwhile the Irish became half or common beggars. Some of the enrolled poor, including children and able-bodied, begged in order to subsist. The large number of vagrants passing through Dumfries heightened existing problems. Some houses provided them with bread but elsewhere they received no help.

An annual grant was provided for suppressing vagrancy. In 1839 the problem was felt to be well dealt with but in 1843 the Poors Board discussed "the necessity of preventing public begging in the town and giving a small sum to the poors inspector for attending to this duty and taking charge of the police officers in putting down this very serious nuisance."[7]

The diet of the poor consisted mainly of potatoes, porridge, oatcakes, milk and salt herring. However they often found it hard to feed themselves and many received help from the soup kitchens, which generally opened in January and continued until April, boiling daily 1200 quarts of "strong, rich, nutritious broth"[8] For 1d the poor received 2 quarts of soup containing 2 pieces of meat. This was extremely beneficial, especially in 1839 when meat, bread and potatoes were dearer than for 20 years past, fuel prices were astronomical, weather was extremely bad and employment was scarce. Reports of the soup kitchens said "the good thus done was soon obvious, from the altered countenances of young and old — tattered raiment there still might be, but there was no squalor and the medical men of the town were the foremost in acknowledging the benefits derived from the kitchen."[9] However they depended on donations of food and money and in 1839 almost closed from lack of donations. Obviously there were many who could donate but did not bother to do so. If this had continued all year it would have been of paramount benefit to the poor but also a greater burden on the kindness of a few individuals.

Funds existed for selling to the poor seed potatoes "in not a few instances on terms which gratitude alone can repay."[10] The infirmary also received donations. These charities existed only during winter and in summer, when, although employment was easier to find, conditions were still extremely hard, the poor relied on their own resources. The poor complained they must pay "1s for 6d worth of bread; 1s for 6d worth of soup; 1s for 6d worth of sugar; 4s for 1s worth of tea; 8s for 1s worth of tobacco."[11] The same report proceeded to complain that the

5. The Loyal Robert Burns Lodge provided a form of unemployment benefit, but only for members and only if the full initiation money had been paid. The various trades also provided a certain amount of help to members in the form of monetary assistance when temporarily unemployed due to illness or injury. However these charities would not help the very poor.
6. Poor Law Report for Scotland 1844.
7. Poors Board Minute Book No. 2. Page 85.
8. Courier 2nd January 1839.
9. Ibid.
10. Courier 15th May 1839.
11. Speech by Dumfries and Maxwelltown Working Men's Association 22nd July 1839.

industrious were robbed for poors rates while the poor were starved and many men worked 14 hours daily receiving only 5s 6d to support a family.

Drink was another problem amongst the poor. Whereas the wealthier recognised its existence their attitude tended to be "if the labouring classes do not begin their own reformation it is quite out of the power of the rich to compel them.[12] An abstainers' union was formed in 1868 but consistently lost money and was more concerned holding tea-meetings and soirées than providing practical help.

Many poor could not afford to clothe themselves properly as the large number of thefts from clothing lines during winter shows. A Poors Board clothing committee superintended orphans' clothing but elsewhere practically nothing was done.

Education facilities for the poor were appalling, especially for adults wanting, through education, to improve their social position. Some more fortunate townspeople realised this, but again it was mainly up to the poor to help themselves.

The lowest class of working people remained uneducated. Orphans hired out by the Poors Board did not attend school but worked plaiting straws. Ofter there existed no facilities for educating widows' children. In 1844 325 widows' children were not attending school out of 478 families.[13] Education in the country was considered better for orphans as in town it was extremely difficult for poor to become enrolled in schools and their education became neglected.

In September 1833 out of 39 schools in the parish only 4 made any attempt to educate the poor. The Benevolent Society ran two schools — one teaching poor children of both sexes in reading, writing, arithmetic and the principles of religion; the other for girls teaching sewing and Bible-reading. These subjects differed greatly from the fee-paying Academy's wide range. There were two adult schools supported by charitable institutions, containing 200 scholars, most of whom were Irish. It was said about one adult school "we trust this eminently useful institution will continue to receive that support which it so well merits at the hands of a liberal and enlightened public."[14] So attempts were being made to educate the poor but perhaps greater attempts the poor made themselves. They formed several societies aimed at improving themselves through education; for example The Mill Girls Improvement Society holding twice weekly classes in several subjects and sabbath evening Bible classes. However this only applied to few people and relied largely on donations.[15]

Few medical facilities existed for the poor as the 1832 and 1848 cholera outbreaks demonstrate. Yet these two dreadful occurrences might have done some good if they had only taught the townspeople the great need for improvements in medical and public health facilities. However following the outbreaks conditions worsened for the poor rather than improved. During the outbreaks many of the town's doctors were appalled by the squalor and filth they discovered, so con-

12. Southern Mirror 21st January 1832.
13. Poor Law Enquiry for Scotland 1844.
14. Courier 25th March 1840.
15. Perhaps the Mechanics Institute started in 1826 was most beneficial. It emphasised the way to self-improvement but applied more generally to working classes than the poorest poor. Its object was "the advancement of the mental and moral improvement of its members, by means of lectures, classes, a library, friendly conversations and a reading room" (Laws of Mechanics Institute 1853). The membership fee was 4s per annum for males, 2s for females. In return they received many benefits especially from their library which lent out books on a vast range of subjects varying from agriculture to philosophy, poetry and politics. For a history see the article by W. B. de B. Nicol in Vol. XXVIII of these Transactions.

fessing either their ignorance or disregard of such conditions previously. Certainly, despite the relatively poor medical knowledge of the day, more could have been done for the poor regarding health.

In 1833 there was an Infirmary with lunatic asylum attached. The majority of asylum patients also received poor relief. Very few, if any, of the 970 treated annually would be poor, who could only receive medical help through the free medicine dispensed by the Infirmary, which probably did little good as in 1831, 2538 people were supplied with medicine for only £30.[16] By 1844 a nurse had been provided to feed bedridden paupers but this aid was relatively useless. The permanent poor could receive medical treatment from a surgeon who had to supply his own medicine and was paid only £10 annually. By 1846 there had been several complaints about this surgeon's lack of medical attendance. Often the Infirmary received donations but they only indirectly benefited the tiny proportion admitted to hospital and not the vast proportion requiring help in town. In 1839 a survey into the relation between temperature and mortality stated in winter it was mainly the poor and feeble who were susceptible to death.[17]

It was only during the two cholera outbreaks which killed 1287, many of whom were poor, that necessary steps were taken to improve the poors health and housing conditions. During the 1848 outbreak a Board of Health was appointed, which set up an enquiry into the state of the poors' dwellings, arranged for all poor cholera victims to be removed and buried and advanced allowances to the poor. The Infirmary agreed to admit patients from the poorhouse and the Poors Board to finance any medical attention the poor themselves could not afford. These were largely panic measures and although helpful were discontinued once the cholera scare had subsided.

The outbreaks affected the poor profoundly. The number of people walking barefoot in town decreased while cleanliness increased. However with no exceptions the poor suffered greatly due to cholera.

The 1832 outbreak created more widows and orphans adding to existing pauperism. The Poors Board cared for 60 orphans after the outbreak compared to 6 before and many girls eventually became prostitutes. Cholera harmed the trades: "many freemen were suffering severely from the depression of trade in consequence of cholera having been so prevalent for many weeks."[18] This trade borrowed £40 to relieve the poor freemen but landed in such financial difficulties that in April 1834 the trades funds had to be divided. By that time it had also become necessary for much of the trades property to be sold by public roup to pay debts incurred largely by cholera. The trade never really recovered from the debts occurring during the 1832 outbreak and when cholera again struck in 1848 it disbanded altogether.

Although the poor relied extensively on themselves, various charities, especially

16. N.S.A. p. 26.
17. The Loyal Robert Burns Lodge, founded in 1841, object was "mutual relief of members in sickness and distress" (Byelaws of Loyal Robert Burns Lodge 1842). Members paid so much into the Lodge depending on age, receiving in return amongst other benefits a sickness benefit, by wmich members received money and medical attention from the Lodge surgeon. Many of the trades also had funds whereby ill or injured members were cared for. These two examples demonstrate that once again the people had to help themselves and as in the case of the Squaremans Trade too much help led to its own collapse. However even these two examples did not apply to the poorest poor.

during winter, were available. The Parochial Board provided greatest benefit to the greatest amount of people, yet even its benefits were limited.

The Parochial Board drew up the poors roll every six months when the poor were inspected to ensure they were "fit objects for relief in their houses."[19] The majority receiving help were women and any men that did so were either aged or disabled. Allowances in 1844 varied from 6s to 12s monthly. In an 1844 survey from 478 poor families, 126 received permanent relief, 77 casual relief and 275 no relief at all. The casual poor were helped by the Kirk Session who raised funds from banns, burials, collections etc. However those not wanting their church collections put towards supporting the poor need not do so. In 1832, 560 received parochial aid from the Kirk Session excluding the poorhouse inmates and pensioners. These funds combined with their own efforts helped the poor support themselves while not allowing them to be idle.

The Poors Board often refused aid to the poor of other parishes and sometimes even threatened action against paupers receiving aid in circumstances where they should not, as with Widow Cavens and her children, to whom the Poors Board did not want to give help, but whose original parish would not maintain her either.[21] The poor had to be in dire circumstances before receiving any aid. Often allowances were suspended or withdrawn.[22]

During bad economic times the Poors Board also experienced financial difficulties and often could not provide necessary aid. From 1840-1844 at practically every Poors Board meeting a number of paupers were either struck off or had their allowance reduced. At one meeting 45 were struck off and 25 had their allowances reduced. Dumfries parish also received numerous requests to relieve other parishes from the maintenance of Dumfries poor resident elsewhere at this time. By 1847 the situation had improved, with relief being given more liberally and fewer people being refused help.

Despite the Poors Board's valuable aid, frequent complaints were made against it and the shoddy way its officers carried out duties. Sometimes it was stateed in bequests to the parish poor that funds were not to fall into the hands of the Poors Board. In July 1848 a petition was presented to the Poors Board complaining about an inspector's neglectful duties. The Board defended "this conscientious and faithful public officer",[23] on the grounds that he could not help paupers unless they, of their own accord, applied to him for assistance.

"The poor of this town and parish are more numerous and the expense of management greater than in many other places, in proportion to the population".[24] This was said when arguments for abolishing the present visitorial system were made, on the grounds that its methods of caring for the poor failed due to in-

18. Minutes of Squaremans Trade 1821-1848 23rd October 1832.
19. Poor Law Enquiry for Scotland 1844.
21. Poors Board Minute Book No. 2. 11th June 1840.
22. One man's allowance was suspended until his furniture was assigned to the Poors Board treasurer and sold. One man's allowance was reduced being the owner of a room and one was struck off altogether on discovering he earned 2s pushing peats.
23. Poors Board Minute Book No. 2. 6th July 1848.
24. Courier 13th May 1840.

attentiveness and the visitors were simply "paying machines"[25] who didn't care about the management of the paupers.

The Parochial Board and Kirk Session might have provided greatest help for the poor but other, perhaps more practical charities were established in winter. For example during 1839-1840 winter a blanket society was formed for the "industrious but indigent poor",[26] a society for distressed mariners, a Shipwrecked Fishermen and Mariners Society and Dumfries and Maxwelltown Samaritan Society had existed previously when much good was done and it stated "it would be the duty of this committee to divide the town into districts; to appoint a visitor to each district, who should go from family to family and administer religious instruction, and temporal relief in the shape of clothing or money, as the several cases might require".[27] However this society was probably more interested in teaching religion than providing practical help as relief was only "sparingly administered"[28] while religious aspects were emphasised.

Many charity balls were held whose proceeds were divided amongst the deserving poor. The rich at these balls invariably enjoyed them as the large turnout despite the often inclement weather shows. Glowing reports of the balls' proceedings appeared in local newspapers with perhaps one line at the foot saying proceeds were "for assistance in supplying the wants of the industrious poor".[29]

The trades were also charitable, distributing every December money amongst the "most deserving" poor members of the incorporation. Many charities were formed by the poorer classes themselves. Some have already been discussed and need not be re-mentioned.[30]

Life within Dumfries poorhouse was certainly different from that in town. Poorhouse affairs were managed by a weekly House Committee chosen by the Kirk Session, town council and inhabitants, deriving funds from mortified money, rents, subscriptions and donations.

Children received "training in habits of usefulness, industry and virtue"[31] but as soon as possible, boys were apprenticed and girls placed in service. The able older women sewed and knitted while the stronger men worked in the garden.

A typical inmates' diet consisted of porridge, broth, tea, milk and sugar. In 1855 attempts to procure potatoes for the inmates and in 1857 enquiries into the price of butcher meat with the view of providing it in the workhouse were made. Both enquiries seem to have broken down. However an inmate whose work was especially remunerative to the workhouse might receive a small premium of bread and butter once daily instead of porridge or in special cases tobacco or snuff. Inmates frequently complained about their food, but although food never varied and helpings were small they were always given a meal.

The rules and regulations of Dumfries poorhouse showed it up in a harsh

25. Ibid.
26. Courier 18th December 1839.
27. Courier 1st January 1840.
28. Courier 22nd January 1840.
29. Courier 6th March 1839.
30. The Dumfries and Maxwelltown Co-operative Society founded in August 1847 object was "to carry on the trade of dealers in food, clothing and other necessaries, by productive and distributive co-operation in these branches" (Rules of Co-operative Society). It helped members in distress allowing them to take out any funds at the management's discretion and helped purchasing, land, premises or machinery.
31. Rules and regulations for management of Dumfries poorhouse 1855.

light. Inmates had to rise, go to bed, start and finish work at precise times indicated by bells ringing. All meals must be taken in the dining area and no inmate was to go to his or her sleeping room during the day. The sick, infirm and young children were to be occupied profitably as idleness was frowned upon. No inmate was allowed to "consume spirituous or fermented liquor"[32] or "any tobacco, food or provision other than is allowed in the dietary".[33] There was to be no reading, writing or possessing material of an improper tendency, no games of chance, smoking or possessing combustible materials and punishments for infringement of these rules would most satisfactorily be confined to days when the inmate would otherwise be allowed out.

The inmates hated these restrictions, often rebelling against them but punishments were extreme, designed to cause pain or humiliation and meted out for the pettiest offences.[34] However often they did not deter culprits from repeatedly committing them.

There were few pleasures for inmates. They were only permitted out for 4 hours monthly with harsh penalties for extending this period. Many used this opportunity for public begging. Visitors to the workhouse had to apply for permission and be accompanied, but in 1855 it was laid down in future nobody was to visit the poorhouse without a written order from the chairman, as visitors had made too many complaints about the running of the workhouse. In 1856 the inmates received tea on New Years night as a special treat but it was necessary to "notify several newspaper reporters"[35] about the event.

The workhouse building was damp and in winter snow could enter it. The second floor possessed no drains or water provision and only in 1860 was hot water installed. Sleeping quarters were padlocked and in 1857 stopcocks were fitted to pipes to prevent burning gas after hours.

Numbers entering the workhouse increased greatly in winter but not all paupers were admitted. In April 1855 four children deserted by their parents were refused admittance and ordered to be sent to England instead. Theoretically a pauper could leave the poorhouse 24 hours after receiving the House Committee's permission, but often they possessed no clothing of their own or means to support themselves outside. Sometimes the committee gave them clothing or money, paid their fare to another town or helped them start life outside anew, as when they gave one man £1 to start in the calf-rennet trade, but even he had to repay this in instalments.[36] Sometimes permission to leave was altogether refused and only in especial circumstances were paupers re-admitted.

Was it better to be inside the poorhouse or not? The poor preferred not to be. This is shown by their reluctance to enter and their attempts once inside to leave, no matter how much worse prospects of life outside might be. Some of the silly crimes committed were merely carried out to demonstrate their hatred

32. Rules and Regulations for management of Dumfries poorhouse 1855.
33. Ibid.
34. One girl who missed school had to wear boy's clothing for 2 days and go without certain meals. Another time 5 young girls daring to sing on a Sunday evening were denied milk for a day. Punishments of long periods of solitary confinement and deprivation of meals were commonest.
35. House Committee Minute Book 1855-1866 26th December 1856.
36. Ibid. 30th April 1858.

of the establishment's regulations. Mainly poorhouse inmates only remained a short period of time and often many did not return from their monthly visits out. The inmates were always certain of a bed and meal but many preferred the greater freedom of outside life.

Was enough done for the inmates? Certainly not as much as was possible. There were few, infrequent privileges and any proceeds derived from inmates' employment were used for the behoof of the parish poor, so that, in a way, the inmates were partly self-maintaining. Extravagant use of funds for inmates was discouraged. In 1859 the high average cost of keeping inmates was under scrutiny.

Various attitudes were adopted by different elements of society towards poverty:

> "Although a great deal of poverty exists in the obscure parts of the town, the inhabitants enjoy to a very considerable degree the comforts and advantages of society, and are contented with their situation and circumstances".[37]

This attitude was typical of some of the more fortunate members of society, who preferred to ignore the poor altogether and let them tend to their own troubles. Others, in fact the majority, believed no matter how terrible life was for the poor they should fend for themselves making the best possible use of their available resources. This was in accordance with the belief in "laissez-faire". Others realised the appalling state of life for the poverty stricken and helped by donating food, coal and money for their use. However even they often accompanied their donations with a clause saying they must be divided amongst the deserving, indigent or industrious poor. Words like these were extremely important. It did not do to encourage idleness. Certainly all those of the more privileged class admired the poor who accepted no help whatsoever.

Naturally the poor retained a different attitude. They possessed no quibbles about accepting any help to them but that did not mean they possessed no pride. Frequently they tried to help themselves and some refused any aid. The local newspaper stated: "it cannot, perhaps, be stated that there exists any general disinclination in the poor to receive assistance from the session, although instances do occur of extraordinary exertions made by the kindred of the parties, rather than they should apply for it".[38] A minister once met two labourers who were with difficulty trying to raise money for a poor bedridden invalid. They refused his help saying "You have all enough ado with the poor — it is right we should go among ouselves".[39] They managed to keep their friend until his death.

The poor were often bitter about their way of life compared to that of the rich. For example, in February 1840, to celebrate the Queen's marriage 80 gentlemen dined at the Kings Arms with numerous smaller parties, much singing and drinking elsewhere. The poor were forgotten and the Chartists "recommended working classes to refrain from uniting in any expression of joy".[40] They complained bitterly about the mismanagement of poors rates. One complaint said "these pretended friends of justice, the imposer and swallower of the Poors Rates,

37. N.S.A. p. 16.
38. Courier 9th October 1839.
39. Courier 9th October 1839.
40. Courier 12th February 1840.

abuse and misrepresent us (working men) and do all they can to poison the minds of the public against us".[41]

Nationally the period 1838-1842 saw terrible sufferings for the working classes when low wages combined with unemployment. This was exactly the same in Dumfries. The lowest standard of living and main brunt of business depression was carried by the workers. Chartism and co-operative movements, both in Dumfries and nationally, were the main field of social protest. However the working class revolt was perhaps not so strong in Dumfries although Chartists protested ardently and the working men's association encouraged its "robbed, enslaved, oppressed brothers and sisters"[42] to fight for their rights.

Although Dumfries was assessed before the 1845 Poor Law Amendment Act the same arguments existed over adoption of the new Poor Law as did nationally, and, as with many cities, Dumfries relied on both poor rates and voluntary contributions.

The town population had risen with immigration from the countryside but not to the extent of larger towns. As overall, the poorest people living in the most deplorable areas were Irish. Dumfries, like the rest of the country, suffered long working hours and low wages but there is no evidence of widespread hatred against machinery, probably because Dumfries' industries were on a relatively small scale and employment possibilities were better than the national average.

Also, as nationally, the Hungry Forties were followed by a longer period of improvement. However the insanitary conditions of home and factory, ill-lit, badly paved streets, small poor quality diet for the poor and appalling education facilities were largely the same as nationwide. Life in the poorhouse was similar in all respects as were charities for the poor and society's attitude towards poverty.

There was also the same relation between disease and bad social conditions. The inadequacy of medical facilities for the poor and the effect of the cholera outbreaks on them reflected the national picture. All over the country few doctors attended the poor. Very little care was taken of them in Dumfries, shown by the fact that there existed 12 bakers' shops compared to 79 whisky shops[43] in the town, so that the only recreation for the poor was alcoholism and they had to provide most of their help themselves. These problems were the same nationally.

So Dumfries was representative in many ways of the country as a whole and although its treatment of the poor may seem exceptionally callous if viewed in a contemporary light, it was no worse and in some respects better than other areas.

Appendix

John Malcolm's "Report on Dumfries Closes" was valuable in discovering what the poors housing conditions were like. However the report, being published in 1887, was a little late for the period being covered in this dissertation. Whereas during the 1840's and 1850's the buildings would not be so ruinous or tumble-down as they were 30 years later, the same problems of overcrowding and lack of amenities would exist for the poor. For example, in the already mentioned building

41. Report of speech by Dumfries and Maxwelltown Working Men's Association 22nd July 1839.
42. Ibid.
43. The Common People G. D. H. Cole and Raymond Postgate Page 307.

in Colvins Close there were 69 occupants for 39 rooms. 28 occupants possessed no water closet accommodation and 24 had to share. 10 dwellings had no sink and one dwelling which did possess a sink had no water supply discharge pipe. Most dwellings used an outside tap and gully although some did have a common water supply. This building typified many and clearly reflects the comfortless living conditions and lack of facilities which many poor had to endure.

Perhaps landlords did not care into what state of disrepair their property fell as might be inferred from this order:

> "I am instructed by the local authority to inform you as owner of the property that the same are considered unfit for human habitation, that the tenants must be removed until they are put into a proper state of repair".[44]

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44. John Malcolm. Report on Dumfries Closes, Dumfries 1887.

AGRICULTURAL IMPROVEMENT AND THE FORMATION OF EARLY AGRICULTURAL SOCIETIES IN DUMFRIES AND GALLOWAY

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When Robert Heron passed through Dumfries and Galloway in 1792 he was conscious of having witnessed the end of an era in the passing of the old ways of life. Contemporaries breathe in his pages. He described the shepherds who allegedly earned £10 or £12 a year by leading a life of indolence; the labourers who spread corn out to dry in the sun before taking it home in creels slung on the backs of ponies; and the superstitious countrymen who still bound pieces of rowan into the cows' tails as a protection against witchcraft. Many of the pieces in Percy's **Reliques of Ancient Poetry** still survived in the oral tradition and on long winter nights brownies and 'gyar carlins' were to be heard curling on frozen lochs and lochans.[1] The poverty of the thatched, turf-built cottages on the Moss of Cree contrasted with the opulent granite mansions of the wealthy; slated roofs were becoming a sign of status. Homespun clothing was gradually being replaced by less drab manufactured articles. The old ways were passing when 'folks . . . kept a few potatoes as a treat for Halloe'en, bled their cattle in Spring to make black puddings, sent their children to school with a "cauld kail blade" in their pockets for a "piece", and luxuriated in black oats and braxy'.[2]

Almost everywhere the system of run-rig had been, or was in the process of being abolished. At Mousewald tenants were paying their landlord 5% on money expended on the installation of enclosures, a process which might increase the rented value of the land by one third.[3] The tenants of Closeburn paid the landlord an extra five shillings of rent for every eighty measures of lime which he supplied from his nearby works at Barjarg. Elsewhere there was little change. Cultivated patches in the parish of Colvend still struggled for survival among scatterings of boulders and briers. In the wild mountainous tracts of Minnigaff, land was let by the mile rather than the acre. In several areas agricultural innovation was directly traced to the improvement of roads. The maintenance of roads had ineffectively depended upon statute labour, converted in 1777 at the rate of twelve shillings per hundred marks of valuation from the county heritors and one and sixpence from every householder paying fifteen shillings yearly rent.[4] Sometimes the improvement of roads depended upon the initiative of landlords such as the Duke of Buccleuch who appropriated 5% of the land rent of the parish of Canonbie, to which he added fifty pounds out of his own pocket, for road maintenance. Lord Daer, son of the Earl of Selkirk, made bridges and roads the groundwork of his many improvements. Nonetheless, as late as 1828 the Ayr-Stranraer road was

1. Robert Heron, *Observations on a Journey through the Western Counties of Scotland in the autumn of MDCCXCII* 2 vols. (Perth), II p. 228. Heron was born in New Galloway. See also, James Webster, *General View of the Agriculture of Galloway* (Edinburgh 1794) p. 12.
2. *New Statistical Account of Scotland* (N.S.A.) ed. Sir John Sinclair, 18 vols. (Edinburgh 1845) Kells, IV p. 117.
3. Bryce Johnston, *General View of the Agriculture of the County of Dumfries* (London 1794) p. 43.
4. *Statistical Account of Scotland* (O.S.A.) ed. Sir John Sinclair, 21 vols. (Edinburgh 1791-99) Hoddam, III p. 352; Dumfries, V p. 128.

passable only on horseback.[5] In 1790 it was still cheaper for the merchants of Dumfries to import coal by sea from the English Solway ports, despite a levy on sea-borne coal, than to transport it thirty miles by road from Sanquhar.

There is doubtless much truth in the assertion of one commentator that run-rig caused the tenants to live in a constant state of animosity, quarrelling and fighting over the division of farm produce.[6] Agrarian change, however, bred new social tensions. David Low, professor of agriculture at Edinburgh University in the 1840s, observed that 'besides the labourers who cultivate the ground and the artisans who supply materials for the production and preparation of raw produce, there are two classes of persons connected with the land of the country, upon each of whom devolves a particular set of duties — the landowners who possess the right of property and the tenants who advance the funds required for cultivation'.[7] Between c. 1780 and c. 1840 there is abundant evidence from Dumfries and Galloway of friction between these different classes although it must be admitted that there is little sign of any threatened revolt such as England experienced in the same period.[8]

The sources of social conflict were many and varied. Robert Burns complained:

'Poor tenant bodies, scant o' cash,
How they maun thole a factor's snash'.

The factor's role was crucial in rural society since he alone could make or break the relationship between landlord and tenant. Sir John Sinclair considered that he 'ought to be a man of good temper, prudence and considerable address, that he may patiently listen to the complaints of the tenants, redress their grievances if well founded, and preserve their esteem, respect and goodwill without sacrificing or neglecting the interest of his employer'.[9] At least one Dumfriesshire factor disagreed. He believed that 'a man to act between his employers and the borderers must be . . . a terror to all'.[10] David Low warned that 'it must not be supposed that changes affecting the habits and condition of great bodies of men can all at once be made . . . the natural course of rural improvement is progressive and slow'.[11] His dictum can hardly be overstressed; improvement was a laborious and tardy process; but in social terms the transformation could prove more rapid. Improvement might be couched in terms of Benthamite Utilitarianism but it was also indebted to the thought of Adam Smith. In all situations the pursuit of capital ensured that the end justified the means. Men who had been tenants in run-rig could, overnight, become employed labourers forced to live at the whim of the weather or of the tenant farmer who hired them. There is much evidence to show that once runrig was abolished, one farmer held land previously occupied by several. In Balmaclellan there were thirty farms where there had previously been fifty. Land

5. *Parliamentary Papers*. Report from the Select Committee on Scotch Entails 1828. vol. VII p. 87.
6. O.S.A. Tongland, IX p. 326.
7. David Low, *On Landed Property and the economy of estates* (London 1844) p. 1.
8. E. J. Hobsbawn and George Rude *Captain Swing* (London 1969) passim.
9. Sir John Sinclair, *General Report of the Agricultural and Political Circumstances of Scotland* 5 Vols. (Edinburgh 1814) I p. 95.
10. Quoted Col. E. Johnson-Ferguson 'Place-names in Dumfriesshire and other notes' *Dumfries and Galloway Transactions* XX (1935-36) p. 43.
11. Low, *On Landed Property* p. 1

formerly let to four, five or eight tenants, was occupied by one.[12] Such examples could be multiplied though in some areas population increase was attributed to larger farms being split up, while the division of common lands sometimes had the same effect.[13] Nevertheless social dislocation was, in most cases, the inevitable consequence of improvement. It is hardly surprising therefore that there was often a grass-roots hostility and resistance towards agrarian change of any kind.

If the lot of the labourer was often hard, the same could be said of the small tenant. As well as the prospect of financial gain, there was great prestige in holding land. Since the lower rented farms were within the reach of a greater number of bidders competition was severe. Furthermore the method of renting lands by public roup often meant that tenants found themselves paying more than they could afford. If in such cases the lease did not stipulate that improvement would be undertaken by the proprietor, their land was of little use to them. Thomas Carlyle's father was typical of many. He had been a mason and had saved enough money to acquire a holding only to discover that he was little better off than his labourers who, too poor to eat a midday meal, would slip off to refresh themselves with a draught of burn water. It was an indication of the recovery of Carlyle's mother after a nervous breakdown that she had been 'upon the haystacks three or four times'.[14] Robert Burns for lack of capital had little success at Ellisland. The wealthier tenants, on the other hand, were gravitating towards the society of the landowners. They might live in fine houses, own well-bred horses, and attend meetings of the Dumfries and Galloway Hunt. One way of fostering amicable relationships between the different sections of the agricultural community, and at the same time of educating the rural population at large on the need for improvement, was through the formation of agricultural societies. Dr Bryce Johnston, minister of Holywood and one of the most perceptive commentators on local agriculture may have been correct when he opined that 'that landlord who cannot behold the prosperity of his tenants without regret ought not to have tenants; and those tenants who behold their opulent landlords with an envious eye ought not to have farms'[15] but some way had to be found of bringing landlord and tenant together. The prejudices and suspicions of practical farmers whose ancestors had wrung a living from the land for generations, had to be overcome.

The difficulties involved in improvement were sufficient to daunt the boldest spirits in an area which was predominantly mountainous, laced with numerous moors and flows, and distant from the markets. A rather uncooperative population had not forgotten the example of the Levellers in the early eighteenth century. Enclosures were still very unpopular and people complained that they necessitated 'round about roads every time they stirred from their homes'.[16] Improvements were notoriously expensive with little guarantee, at least initially, of adequate returns. Lieutenant-General Dirom spent £20,000 purchasing his Dumfriesshire

12. O.S.A. Balmaclellan, VI p. 228; Tongland IX p. 318.
13. e.g. O.S.A. Keir XII p. 78.
14. Thomas Carlyle, *Reminiscences* ed. C. E. Norton (London 1887) p. 48; J. A. Froude, *Thomas Carlyle: A History of the First Forty Years of his Life* 2 vols (London 1882) I p. 56.
15. Johnston, *Agric. Dumfries* p. 80.
16. O.S.A. Johnstone IV p. 221.

estates and upwards of £30,000 improving them.[17] Lime sold at anything from 11d or a shilling a bushel in parishes near a limeworks or on the coast to 2/1d or 2/2d in inland areas.[18] Thirty to seventy bushels of lime might be required to the acre depending upon the state of the soil. Shells had been used for liming in Galloway in the late seventeenth century[19] but so restricted was their use that it was left to farmers fifty years later to 'discover' their benefits. Samuel Smith in his description of the agriculture of Galoway maintained that they were first used for this purpose in 1730 while others placed the date later. Although they were much cheaper their bulk was a problem since forty to sixty cartloads were required per acre. Small wonder that in the 1790s almost the whole of the parish of Sanquhar remained unenclosed, in Dalry turnips were 'hardly ever raised', and in Old Luce a trial had been made with lime on only three farms.

It is difficult and somewhat pointless to award the credit for originating improvements to any one man; almost every parish had its own revered personage to whom such initiative was attributed. Smith asserts that Marshal Stair made some unsuccessful experiments in 1732, and the Earl of Stair was active in 1747. Robert Riddell of Glenriddell claimed that when his father could not find a tenant for Braco at £9 per annum he took it in hand himself; by 1772 he had divided it in four and he let the whole for £90 a year.[20] One of the Earl of Selkirk's farms at Twynholm in 1795 was let at fourteen times the rent it had fetched in 1761. His son Lord Daer virtually revolutionised the family estates before his tragically early death in 1794. The year before his death Daer sold the barony of Baldoon to the Earl of Galloway for a price founded upon a rental of £5,000. Daer was to retain the lease of the estate for ten years at a rent of £7,000 per annum and on expiral, after valuation by arbiters the earl was to pay twenty five years' purchase of the surplus valued rent above £5,000. In the event it cost Galloway £125,000 on the expiry of the lease.[21] Men like Daer or Craik of Arbigland were exceptional. Craik the linguist, architect, hard drinker and 'sower of wild oats' was up before the sun for thirty years bullying and coaxing his tenants to improve their lands, sometimes successfully, sometimes making costly mistakes from which he attempted to learn.[22]

The temptation to scourge the land after improvement was as common as unsuccessful experiments. One tenant in Canonbie, for example, after ploughing the virgin moor added a small quantity of lime and 'without repetition of the liming or the addition of any other manure it bore nineteen successive crops of oats — a barbarous practice but a good experiment'.[23] The same commentator reported that improved land at Springkell had reverted to the wild. While farmers could

17. John Roddick 'Lieut-General Alexander Dirom (1757-1830)', *Dumfries and Galloway Transactions* XXXV 1956-7 p: 23.
18. O.S.A. Cummertrees VII p. 306; Kelton VIII p. 298; Dalry XIII p. 50.
19. A. Symson, *A Large Description of Galloway* 1684 ed. Thos. Maitland (Edinburgh 1823) p. 42.
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22. C. W. Shirley 'Two Pioneer Galloway Agriculturalists' *Dumfries and Galloway Transactions* XIII 1925-6 pp. 150-161. Craik was locally rumoured to be the father of John Paul Jones. See also *Farmers Magazine* 1810 p. 60.
23. Andrew Wight *Present State of Husbandry in Scotland extracted from the reports made to the Commissioners of the annexed estates* 4 vols (Edinburgh 1778) II p. 422.

not be blamed for attempting quick returns the difficulty was more often to persuade them to undertake improvements at all. The mere fact that men like Craik, or even more so peers like the Duke of Queensberry or the Earl of Galloway, became involved in improving, was a disincentive to humbler men — 'it is well known with what distrust the practical farmer is ever apt to view the agricultural operations of the gentleman'.[24] At the same time while agricultural theory 'has been the subject of the ingenious speculations of closet philosophers its practice has generally been confined to the unlettered peasant'.[25] If 'unlettered peasants' were less numerous than some writers liked to pretend, there was an awareness among agricultural authors that their language must be readily understood. In discussing lime Johnston remarked, 'not writing for the philosopher only, but for the peasant, or the practical farmer . . . I shall not define these terms chemically'. Similarly James Hogg, one of whose earliest literary efforts was an essay on sheep disease: 'I must be allowed to retain a homely and plain style with the common phrases and denominations of sheep, herbs and diseases; otherwise I would be unintelligible to the very class of men to whom these hints can be of any use'.[26] In 1800 the **Farmers' Magazine** was founded. It was a remarkable journal concerned with the state of agriculture in all parts of the United Kingdom thrashing out problems which preoccupied its readers, problems which ranged from the comparative utility of horses and oxen for draught purposes to manuring, draining, the land tax, leases, and 'observations on the best and most economical method of boiling potatoes'. Many farmers from Dumfries and Galloway wrote articles and letters for the magazine; reports from Dumfriesshire, Upper Annandale, Wigtownshire and Langholm appeared regularly. **Cairnensis** and **Agricola Junior** communicated frequently. Reports on practical experiments in draining in Dumfries and Galloway or on specialised topics such as the patent water engine designed for Jardine of Applegarth's threshing mill were published from time to time. The aims and to a lesser extent the influence of the **Farmers's Magazine** could be compared to those of the **Edinburgh Review** in the political world. Such books and publications obviously helped to disseminate information but something more was required.

Bryce Johnston observed in 1794 that 'not having such frequent opportunities of associating in large clubs as men in many other departments of life, farmers are, and always have been, the most peaceable subjects and members of civil society'.[27] Yet eighteen years earlier, on 3 April 1776,[28] the Society for the Encouragement of Agriculture within the Counties of Dumfries, Wigtown and Kirkcudbright had held its first meeting in the King's Arms Tavern, Dumfries under the presidency of Craik of Arbigland. Craik rejoiced that 'a new and almost incredible spirit for improvements . . . is now diffusing through all ranks'. He hoped that the society would 'give this spirit its proper direction . . . by preventing new bad habits

24. Samuel Smith, *General View of the Agriculture of Galloway* (London 1810) p 51. cf. O.S.A. Dalry XII p. 48 — 'How shall we convince the farmer that it is in his interest as well as the proprietor's to manure and cultivate the poorest or arable land . . . in preference to the richest?'
25. *Farmers Magazine* 1801 pp. 387-8.
26. James Hogg, *The Shepherd's Guide, being a practical treatise on the diseases of sheep* (Edinburgh 1807) p. 4.
27. Johnston, *Agric. Dumfries* p. 54.
28. For this and what follows see *Transactions of the Society for Encouragement of Agriculture within the Counties of Dumfries, Wigtown and the Stewartry of Kirkcudbright* 1776, Ewart Library Dumfries DG 63p.

and practices from taking root, in place of old ones, which would soon become equally difficult to rectify'. The society proceeded on the premise that 'there is something so very invincible and illiberal in the dispositions of the general run of common farmers, and their dislike to everything which has the least appearance of an innovation upon their old practices, is so very deep-rooted, that a gentleman farmer cannot obtain the smallest degree of credit among them for any improvement he makes, however much superior to their antiquated and slovenly methods either in point of real profit, or regularity and neatness'.[29] It would be maintained that such improvement belonged to a heavy purse; the only remedy was to encourage such men by offering them praemiums approximately equal to the amount laid out in investment.

The proposed regulations reveal something of the exclusiveness of the society. Subscription was to be a minimum of two guineas per annum, while farmers who were not proprietors could be admitted on payment of at least one guinea. Members were to be allowed to spend what they pleased on meat and drink, at meetings. The committee solicited such non-resident landlords as the Duke of Buccleuch, the Duke of Queensberry and the earls of Galloway, Stair and Selkirk, for subscriptions, on the assumption that the more illustrious names that could be recruited, the greater were their chances of success. Finally, and rather quaintly, the society agreed to purchase stockings from a Mr McWhirter since 'it would be proper to encourage home manufactures of every kind in this part of the country'. The society, however, had chosen an inauspicious time to commence proceedings. Craik was an old man who no longer possessed the necessary drive to keep it functioning. The failure of the Ayr bank four years earlier had had wide repercussions all over the south west, many of the principal shareholders suffering considerable losses.[30]

A farming society at Kirkconnel in the early 1790s made its first priority the establishment of a market; a similar association under the presidency of John Gordon of Kenmure established a cattle market at New Galloway during the same period.[31] The Agricultural Society of the Lower District of Wigtown founded in 1802, followed similar lines to the society of 1776 but subscriptions were more realistic. Entry money was set at one guinea and thereafter the payment was five shillings a year. At society dinners the cost of food and drink was not to exceed three shillings; any additional expenditure was to be met by the **praeses** out of his own pocket.[32] Such stipulations indicate that the association was catering for the less wealthy members of the community. That trend continued, not so much through choice, but because rural Scotland experienced a number of crises in the early nineteenth century which rocked the foundations of Scottish agriculture.

The most obvious of these was the termination of the French wars in 1815. Artificial wartime conditions had stimulated an already expanding cattle market but concentration on beef production had been diverting attention away from cultivation. Farmers in a predominantly pastoral area such as Dumfries and Gal-

29. *Ibid* pp. 26-7.
30. See W. McDowall, *History of Dumfries* (Edinburgh 1867) pp. 687-8.
31. O.S.A. Kirkconnel X p. 452; Heron *Observations* p. 156.
32. *Agricultural Society of the Lower District of Wigton* 1802. Pamphlet, Ewart Library.

loway were comparatively slow to react to the declining demand for beef during the post war depression. Coupled with the end of the war was the calamitous weather of 1816 when livestock perished in storms and the barley harvest, normally the earliest crop, did not begin until 20 September. Few harvesters were required for the diseased wheat and even oats were still green at the end of October, in certain districts. Many labourers were thrown out of work and soup kitchens were opened in ten Dumfriesshire parishes including Dumfries, Lockerbie, Ecclefechan and Kirkconnel.[33]

Before 1815 warning voices had been heard. 'It is little more than three years since a great and celebrated roup afforded to speculative farmers an unusual opportunity of making the experiment in earnest, whether or not land can be taken too dear. Several unfortunate persons have paid the forfeit of delusion'.[34] Farmers and graziers had outbidden one another in their eagerness to obtain leases. ' A great many landlords, impressed with the idea that lands will always rise, as they have done, shorten the terms of their leases to fifteen, twelve or even to six or seven years'.[35] Short tacks make thriftless tenants; a tenant faced with a short lease had to make the most favourable return possible, and his methods were generally detrimental to the land. Dr Singer, writing the last paragraph of his encyclopoedic agricultural report at the height of wartime prosperity, in 1812, drew an analogy between a golden chain and agricultural improvements. Prophetically he wrote: 'if only one link of this chain be taken away, the connection and power of all must be interrupted. The most ingenious and enlightened men, who apply their powers and influence only to some parts of the system, neglecting others, must ultimately fail of success'.[36] Rents were high, as were labour costs but all such expense was obscured by boom conditions. When good prices no longer prevailed, the faults were painfully revealed. The depression of 1816 and following years was not a passing crisis which could be overcome with temporary abatements of rent. A complete reorientation was necessary; the whole system needed to be overhauled. Such a system could not be devised overnight and hence the reverberations of the post-war depression were felt throughout the twenties, thirties and forties of the nineteenth century.

The **New Statistical Account** presents a gloomy picture. The rent of the parish of Torthorwald had risen from £1,890 in 1791 to £4,675 in 1833, an increase not solely attributable to a rise in the price of farm produce and the improved system of husbandry, but also to the diminution of tenants' profits so that they 'can do no more from the produce of their farms than pay their rents and maintain their families'. At Moffat (1834) it was 'certain there is a tendency to depression'. Abatements of 20% in Kirkpatrick Juxta were insufficient to compensate for the deficiency in returns. On estates in the parish of Johnstone abatements of 25% to 40% had to be given in consequence of twenty one year leases at boom prices in 1814. Elsewhere 'the present depressed state of agriculture means that tenants find

33. J. David Wood 'Complicity of Climate in the 1816 Depression in Dumfriesshire' *Scottish Geographical Magazine* 81 1965 p. 9.
34. *Dumfries and Galloway Courier* 13.12.1809.
35. Smith, *Agric. Galloway* pp. 77-8.
36. W. Singer, *A General View of the Agriculture of Dumfriesshire* (Edinburgh 1812) p. 480.

that to make money is out of the question' — 'profits are nothing or less than nothing' — 'low prices received for farm produce has dampened the spirit for improvement'. From Hutton 'a good deal of pecuniary distress' was reported.

The Reverend William Dunbar sensibly pointed out that the labourers were too intimately connected with the tenantry to avoid their feelings and deprivations but he claimed that the landlords were not to be blamed for taking what they could, since they too were heavily burdened: 'the fact seems to be that there are too many engaged in agriculture, or in other words, the competition for farms is so great that land had not been allowed to fall to its fair value'.[37] Thomas Oliver of Midlothian who claimed to be familiar with Dumfriesshire when he gave evidence to the parliamentary committee on agricultural distress, said that every farmer who died left three sons in his stead, each seeking a farm of his own. In addition farming capital was wearing down.[38] There was undoubtedly a widespread belief that, given time, 'the agriculture of the kingdom . . . the first of all its concerns, the foundation of all its prosperity', would recover its former position but there was a general failure to profit from the lesson of the post war experience. So much is evident from a comparison of Johnston's **Report** of 1794 with Singer's of 1812, and Low's **On Landed Property** published in 1844, in all of which remedial advice on the essential conditions of leases is almost identical. As late as 1844, to cite but one example, the tenants of Kirkmabreck were struggling with heavy rents, short leases (which were in some cases yearly), miserable houses and wretched fences. Small wonder that in many cases the greatest single obstacle to both improvement and agricultural revival seemed to be the attitude of the landlords. Low believed that rent abatements announced in newspapers or otherwise as acts of great liberality, should lead to the conclusion that the estates in question were under bad management; the rent should be so adjusted that the tenant could bear the pressure of deficient crops, or of the low prices occasioned by bountiful ones.[39]

If abatements were a sign of bad management, they were at least preferable to the harsher expedients employed on some estates. The Maxwell properties at Springkell were hard hit in the 1820s. In 1822 there were twenty six farms to let; some leases were sold to pay arrears of rent. In 1831 the factor held a supplementary rent collection since arrears were in the region of £3,000; he realised less than £70. Defaulting tenants were placed in Annan jail. The law of hypothec could be cruel — 'there are some tenants that cannot go on longer whose stock and crop were hypothecated after Candlemas last on security of five years' rent due at that time'.[40] Such a law, however, could some times prove counter-productive. 'A man who has little or nothing to lose is much less timorous and much more ready to bind himself for the payment of a large rent than one possessed of capital'.[41] So landlord and tenant on the Springkell estates, and elsewhere, learned to their cost.

There was one further complicating factor which should be mentioned. By the time the south west had experienced the worst years of the depression com-

37. N.S.A. Applegarth IV pp. 186, 190.
38. *Parliamentary Papers.* Reports from Committees 1833 V p. 125.
39. Low, *On Landed Property* p. 16.
40. Johnson-Ferguson 'Place-names' pp. 43-5.
41. N.S.A. Tinwald IV p. 51.

munications were entering a new era. That era was heralded in a letter published in the **Dumfries Courier** on 23 September 1828. In it an agent in Liverpool, writing to a friend in Galloway described how the Irish were now sending their cattle to the English markets by steam packet, which time and labour saving expedient he contrasted with outmoded droving methods. In 1812 20,000 Irish cattle were imported to Portpatrick; in 1837 the number was only 1,080.[42] By 1833 it was computed that due to steam between five hundred and a thousand head of cattle and some ten thousand sheep were exported annually from Wigtown and Garlieston alone, besides those that were taken in sailing vessels or were driven south.[43] In the droving season 20,000 head of cattle had been known to pay toll at Dumfries in a ten day period, on their way south. In 1830 only 6,000 cattle were exposed at the September fair; at the June market of 1839 only 246 Highland cattle and seventy Stewartry Galloways were sold on the Whitesands.[44]

The number of markets dotted over Galloway was remarkably high according to Symson's **Large Description.** Many of these were revived, and others were established for the first time, during the prosperous war years. The advent of steam brought the large markets of the English Midlands and the Scottish industrial belt much closer. Steam packets began to visit the Scottish side of the Solway in 1830. Local prices were increasingly regulated by prices in Liverpool and Glasgow, while local markets declined. The advent of steam virtually ended such occasions as the Kelton Hill Fair so graphically described by Heron — 'here are assembled from Ireland, from England, and from the most distant parts of North Britain, horse dealers, cattle dealers, sellers of sweet meats and of spiritous liquors, gypsies, pickpockets, and smugglers . . . through the whole fair day one busy tumultuous scene is here exhibited of bustling backwards and forwards, bargaining, wooing, carousing, quarrelling, amidst horses, cattle, carriages, mountebanks, the stalls of chapmen, and the tents of the sellers of liquors and cold victuals'.[45] Such fairs and markets were struggling for survival during the post war depression; the arrival of steam killed most of them stone dead. The heyday of the drovers was also over. In the 1830s most of them suddenly found themselves without work.

Such developments obviously produced great tensions within rural society which were often aggravated by class conflict. Yet despite potentially dangerous confrontations, which for reasons of space cannot be discussed here, the overall effect of the period was to bring the landlords and the practical farmers closer together. During a very painful process of readjustment thousands migrated to the cities or emigrated to Canada, America or Australia. John McDiarmid, editor of the **Courier** observed that 'emigration operates as a drain and it is just as useful in thinning an extra population as extended rows of tiles are in carrying off surface water'.[46] So successful was the operation of this drain that by 1851 19% of those born in Dumfriesshire, 20% of those in Kirkcudbrightshire and 25% of those born in Wigtownshire were resident elsewhere in the country. It is remarkable that only

42. N.S.A. IV p. 233.
43. *Courier* 28.5.1833.
44. N.S.A. Dumfries IV pp. 20-21, *Courier* 26.6.1839.
45. Heron, *Observations* II pp. 129-30.
46. *Courier* 25.6.1833.

Argyll with 37% can boast a higher figure than the counties of the south west. In counties where the much publicised clearances took place, such as Inverness, Ross and Cromarty and Sutherland the figure varies between 16% and 19%.[47] The unfamiliar story of the 'Lowland Clearances' and particularly the experience of Dumfries, Kirkcudbright and Wigtown, must, however, be postponed to a later paper.

The grievances of the agricultural community did not pass unnoticed. One reporter fulminated against taxes which were 'falling with something liker despotism than law; while all inducements and means of improvement and every stimulus to exertion seems to be either withheld entirely or administered with a sparing hand'. He condemned the malt tax (a common grievance) and the substitution of sugar for grain in the distilleries. He considered that such abuses 'must be owing to the want of well supported representations and to the interested clamour of men whose interests are inconsistent with the standing and permanent interests of Britain and Ireland'. He complained that farmers had no means of being heard by the legislature, but, 'they would be heard if they had the means of drawing up and submitting their sense of public measures, in so far as they appear to effect agriculture'. He concluded that farming associations of landlords and tenants were needed in all districts 'for these purposes and for others of equal importance to the permanent interests of the kingdom'.[48] The Wigtownshire reporter in the same volume of **Farmers' Magazine** advocated a mass petition to parliament. The first action of the Stewartry of Kirkcudbright Agricultural Society founded in 1809 under the presidency of the Earl of Selkirk, had been to protest against the property tax.[49] Such radical activities were unusual to say the least; most agricultural societies in the area under discussion were emphatically pro-Establishment.

The first ploughing match ever organised by the Highland and Agricultural Society of Scotland was held at Hoddam under the supervision of Dirom of Mount Annan. The winner received three guineas and unsuccessful entrants were given three shillings each. The following year, 1802, the winners were further rewarded by having a bow of pink ribbon pinned to their bonnets. Of the first thirteen matches organised by the society, seven were held in Dumfries and Galloway. A match near Kirkcudbright in 1803 was attended by many ladies and gentlemen in their carriages, as well as by the Kirkcudbright cavalry, who held back the crowds.[50] Such meetings did bring the classes together in the common interest. Landed proprietors usually organised the matches and practical farmers were appointed as judges. But after the ploughmen had received their ribbons and occasionally their drams, they were abandoned while their patronising superiors adjourned for lavish dinners and innumerable toasts. The standard of ploughing undoubtedly did improve. The first time the society held a show in Dumfries, on 21 September 1830, £163/15s/4d was drawn at the gate. No fewer than four hundred were present at the show dinner with the Duke of Buccleuch in the chair. But from such grand

47. *Farmers Magazine* 1810 pp 116-7 — 'Upper Annandale Report'. It is tempting to identify this anonymous and regular reporter with Dr Singer, minister of Kirkpatrick Juxta who wrote the 1812 report on Dumfriesshire.
48. *Courier* 13.12.1809.
49. A. Ramsay *A History of the Highland and Agricultural Society of Scotland* (Edinburgh 1879) pp. 140-45.

social occasions the poorer members of the agricultural community, be they smallholders or labourers, were pointedly excluded.

The Highland Society had great influence upon the formation of the Dumfries and Stewartry of Kirkcudbright Society in 1843. Like the Highland, the local society encouraged improvements by awarding praemiums, and it organised shows for its four hundred and fifty members. While it still hankered for aristocratic patronage, the fifth article of its regulations demonstrates a sharply contrasting attitude to those of its forerunners — 'that in all arrangements due care will be taken that farmers on a small scale shall have equal attention and encouragement with proprietors and extensive farmers, the leading object of the Society being to hold out equal encouragement to all connected with Agriculture towards the general improvement'. Subscriptions were ten shillings yearly and although donations were received from various proprietors, all but a few of the tenant farmers are listed as 'refusing donations'.[50] Nothing could better illustrate the dramatic change in social attitudes and the whole approach to agriculture since 1776. After a long and painful adolescence Scottish agriculture had come of age.

50. *Dumfries and Stewartry of Kirkcudbright Agricultural Society*. MS minute book, Ewart Library DG 63f.

DAVID ALLAN AND THE MOFFAT WELL IN 1795

by W. A. J. Prevost

This paper about David Allan is a sequel to Sir John Clerk's 'A proposal in 1732 for the improvement of Moffat Well'[1] and to a longer paper entitled 'Moffat Spa in the 17th and 18th Centuries',[2] both of which appeared in TDGAS.

It is evident that in the last decade of the eighteenth century Moffat Spa was booming, and doctors were prescribing Moffat mineral waters and goat's whey for their patients for all kinds of ailments. Therefore it seems quite natural that in 1795 David Allan's medical adviser suggested that a visit to Moffat might help his condition which Allan described in a letter 1 January 1796 from Dickson's Close in Edinburgh as a 'Dropsical complaint' and from which he died on 22 July only a few months later.[3]

David Allan (1744-1796), a Scottish painter, is perhaps not so well known as Allan Ramsay (1713-1784) and Sir Henry Raeburn (1756-1823) who were his contemporaries but in the last fifty years there has been a growing appreciation of his place in Scottish Art.[4] He was known as the Scottish Hogarth[5] for in both artist's works appear humorous little asides and sometimes slightly indelicate touches which the two men obviously enjoyed. Allan was capable of very good portrait painting and T. Crouther Gordon writes that it was in an unconventional style of small portraiture that he showed himself an unexcelled artist in Scotland. This was the Conversation Piece with figures painted against a background of mansion and park.[6] He was also famed for his Edinburgh street personalities and Allan was able to recall vividly the life and personalities of the eighteenth century. Many examples of his work are in the Scottish National Portrait Gallery and in the National Gallery of Scotland where there are many listed on loan from the Dunimarle House Collection.[7] In this collection there are three water-colours, two of Moffat Well and one of Moffat village, painted in 1795 when the artist was there drinking the waters (Plates XII to XIV). 'So impressed was the painter with the place, and especially with the Mineral Well, that he completed no less than three delightful water-colours of the scene.'[8]

These paintings are the justification for writing this paper but before examining them in detail it may be noted that Allan was the witty illustrator of Allan Ramsay's **The Gentle Shepherd** and also 'The Illustrator of Burns'.[9] Furthermore, early in his career Allan was living at Hopetoun House making paintings[10] for Lord Hopetoun who was his patron. There was a warm friendship between the two men and it is possible that it was Lord Hopetoun's help that enabled the painter to

1. *TDGAS*3, 1 (1973), 116-117.
2. *TDGAS*3, xliii (1960), 137-146.
3. T. Crouther Gordon, *David Allan* (1951), 71.
4. Ibid, 76.
5. Ibid, 26.
6. Ibid, 79.
7. Ibid. 83-91.
8. Ibid. 69.
9. Ibid. 55-66.
10. In 1960 Sir James Hunter Blair added to his collection at Blairquhan, Maybole in Ayrshire, a set of 4 oil paintings by David Allan of the mine at Leadhills of which the Earl of Hopetoun was the proprietor. These painting came originally from Hopetoun House and may be examples of the artist's early work.

make his way to Moffat,[11] perhaps even to staying there as the Earl's guest in Moffat House.[12]

Plate XII is a general view of 'Moffat Well', then exposed to all the winds that blew and only a few skrunts in the shape of trees to add to the picture. The thatched building on the left of the picture is the 'Long Room' which was built by Dr Hunter in 1759 as recorded on a corner stone, the cost being defrayed by a generous public.[13] Also known as the Old Ball Room[14] it was used at one time for dances and sometimes also for public breakfasts.[15] A few years ago this building was in reasonable condition but the slated roof has now caved in and the place is abandoned. The Well is seen enclosed by a stone thatched edifice[16] which, it is suggested, was also built by Dr Hunter to conform to the improvements outlined in Sir John Clerk's 'proposals'. It is also reasonable to suppose that the curator was provided with a cottage which in due course was pulled down to make way for a more modern building which is still to be seen standing near the Long Room. John Brown, writing in 1873, records that this cottage was then of recent erection.[17]

In 1795 the Mineral Water had not been piped down to Moffat and David Allan has drawn a water carrier in the foreground, in this case a boy with in each hand a bottle of the water for delivery to someone in the town. Water carriers were employed by William Neilson who was feuar of the 'Hartfell Spaw Well' and who advertised the water in 1792 as being sold in Moffat at most reasonable terms, every bottle being sealed with the impression of a 'Deer running', and with the words 'Hartfell Spaw' round the seal. It was obtainable in Edinburgh from a druggist at 11d a bottle.[18]

Allan has written beneath his picture a line from Horace which reads as follows. **AEqui pauperibus prodest, locupletibus AEqui.** Making allowance for his error in the spelling of AEque, the Latin may be translated into English thus. 'It is beneficial to poor and rich alike.'[19] This was at one time inscribed on the Well House together with **Infirmo capiti fluit utilis, utilis alvo,** meaning 'A fluid good for the weak head, good for the belly'.

Plate XIII is a close up of the Well building. On the left of the picture are some goats, and the goatherd can be seen standing like a sentinel of the crest of the low hill in the middle distance. Goats were kept in the neighbourhood of the Well in 1758 when Dr Hunter became tenant of Archbank,[20] and Mr Brown the minister of Moffat writes in 1792 that a considerable number of goats were then being milked every morning and evening at the farm. The milk was sent down to the

11. Crouther Gordon op. Cit., 33-34.
12. An advertisement in the *Edinburgh Evening Courant* of 21 May 1795 announced that there was to be sold on 15 July in Edinburgh 'That LARGE HOUSE in the TOWN of MOFFAT, possessed by the Earl of Hopetoun, with the Office Houses, Garden . . .' etc. This surely refers to Moffat House which we know remained unsold since Lord Hopetoun continued to pay Window Tax on 60 windows.
13. From the account book of the Earl of Galloway for 1756. 'For subscription to the Long Room for Phemie and Henrietta.'
14. John Brown *Moffat Past and Present* (1873), 90.
15. William Keddie, *Moffat. Its Walks and Wells* (1854), 9
16. Ibid. As described by Keddie in 1854.
17. John Brown, op. cit., 90.
18. *Edinburgh Evening Courant*, 25 June 1792.
19. Quoted by A. M. Grieve, *Guide to Moffat*, 7 Edition (1923), 54.
20. J. T. Johnstone, 'Moffat and Upper Annandale . . .' *TDGAS*3, i, (1913), 197.

town or it could be got from the farm-house hard by the Well, from the first of June to the end of August.[21] This was the season for drinking the goat whey, and punctually in the **Edinburgh Courant** for 2 June 1797 an advertisement announced that the goat whey at Moffat 'is now ready . . .'

At the Well the artist has drawn Agnes Tod serving a man with a tankard of the mineral water. Agnes died in January 1826, aged about 80, having been in charge of the Well 'for above fifty years',[22] and was succeeded by a 'bonny lass' who lived in the cottage hard by. It is said that no charge was made for this service but it was expected that drinkers, before leaving the place, would reward her trouble with a suitable donation. This seemed only fair, as besides paying a small rent, she was kept busy at her job from 6 in the morning till 9 or 10 o'clock.[23]

To the right of the Well building Allan has depicted an over-weight elderly gentleman sitting on the low dyke and quaffing a measure of his daily dose. At the end of the dyke furthest from the Well one can see a man pouring out the mineral water from a bottle on to the bare leg of a friend who had no doubt read the page in Robert Sibbald's **Scotia Illustrata** which recommends its use in certain skin complaints. **'Externus quoque usus in ulceribus, junctuarum dolaribus aliisque morbis externis commendatur.**[24] This may be translated into English as 'Its external use too is recommended for sores, pains in the joints and other external complaints:' or as put in rather more detail by another authority, that the water is efficacious in certain conditions such as eruptions or ulcers of any kind, whether scrofulous or scorbutic.[25]

Sibbald had also something to say about the smell of the sulphur water which the painter has made no attempt to communicate to his viewers. His description is written in medieval Latin which is baffling to the user of a classical **Latin-English Dictionary. 'Fontis autem odor simillimus est odori faecum pulveris pyrii in Tormentis usitatissimis remanentium.'** A literal translation of **pulveris pyrii** does not make sense in this context but a reference to a Medieval Latin Word-List gives 'gunpowder', a substance not known to the early Romans.[26] Likewise **tormentum** is a catapult, the first form of artillery, and hence it is reasonable to suppose it could also mean a gun when the need arose. With this information Sibbald's description could read, 'Now the smell of the well is very like that of the deposit of gunpowder remaining in often-used guns.'[27] There is no doubt that Dr Garnett had read **Scotia Illustrata** when he wrote in 1800 that the water had 'a strong smell, resembling bilge-water or the scourings of a foul gun.'[28]

Plate XIV is a sketch of 'Moffat 1795'. On the extreme left of the picture is Moffat House, in the centre is the **Kings Arms,** now the **Annandale Hotel,** and on the right is the old parish church. Behind the **Annandale** and to the right is the Gallow Hill which was then covered with young trees, planted by the Earl

21. Rev. Mr Alexander Brown, 'Parish of Moffat', *Statistical Account of Scotland* (1792), ii, 297.
22. Moffat Parochial Register, Baptisms, January 1826.
23. *A Guide to Moffat* by a Visitor (1833), 9, 10, (in my typed copy.)
24. Roberto Sibbaldo M.D., *Scotia Illustrata* (1684), Caput x, 24-25 on 'De Aquis Medicatis'.
25. *A Guide to Moffat* by a Visitor, 12 (in a typed copy.)
26. R. E. Latham, *Revised Medieval Latin Word-list* (1965).
27. I am indebted to Mr H. F. Macdonald for this translation.
28. T. Garnett M.D., *Observations on a Tour* . . . 2nd Edition (1811), ii, 240.

of Hopetoun.[29] In the foreground is the Annan which is part of a stretch of the river which had been straightened and diverted from the old course nearer the village. Amongst the various plans of the Annandale Estates at Raehills is a 'Profile (or section) of the intended Cut for the River of Annan at Moffat' drawn in 1761.[30] With it is what appears to be an uncompleted draft of a contract for cutting out the new bed for the diversion. This was to be 142 roods in 'lenth', 25 feet wide at the top and 23 feet wide at the bottom. 'The earth to be wheeled to East Side 3 feet off the Watter Course and likewise a bank raised for Defending the Watter at a proper highness.'[31]

Allan's artistic sense did not allow him to depict this straight 'cut' and bank though it seems that the work had already been completed. His sketch can be compared with another by an unknown artist C. Forbes entitled 'A North West View of the Aspect of the Village of Moffat' and dated 1780.[32] This shows the **Kings Arms** and Moffat House as in Allan's picture but in the foreground Forbes shows a new bridge carrying the Moffat-Dumfries road over what is clearly the new man-made course of the Annan. In the middle distance, between this new bridge and what appears to be the gable end of the **Black Bull,** is another bridge which must have carried the road across the old course of the now diverted river.

There have been many changes since these two artists were at work and none more so than at David Allan's Well which is now a shambles. The mineral well itself is still surrounded on three sides by a whinstone wall of which part or all may date back to 1759. It has been left alone by the vandals who have confined their efforts to breaking up the pavilion which provided shelter for the visitors in the days when Moffat was a spa. Professor Blackie's four lines of poetry seem very inapplicable today.[33]

Never was a town more sweetly
Spread beneath more kindly skies:
All who sigh for healing waters,
Come to Moffat and be wise.

Acknowledgment

I am indebted to J. C. and A. Steuart, W.S., Edinburgh, for authorising on behalf of the Trustees of Dunimarle the publication of the three photographs of David Allan's water-colours.

29. 'Plan Exhibiting the Altitude of the Gallow Hill and Bankland Plantations above the Gate of Mersedale Park,' surveyed by James Tait in 1773. Scottish Record Office RHP 10158. See also *The Statistical Account* of Moffat (1792), ii, 295.
30. Scottish Record Office, RHP 10146.
31. Ibid. RHP 10147.
32. In *Moffat House Hotel.*
33. John Stuart Blackie (1809-1895), Scottish professor and man man of letters. *The Concise Dictionary of National Biography* (1903).

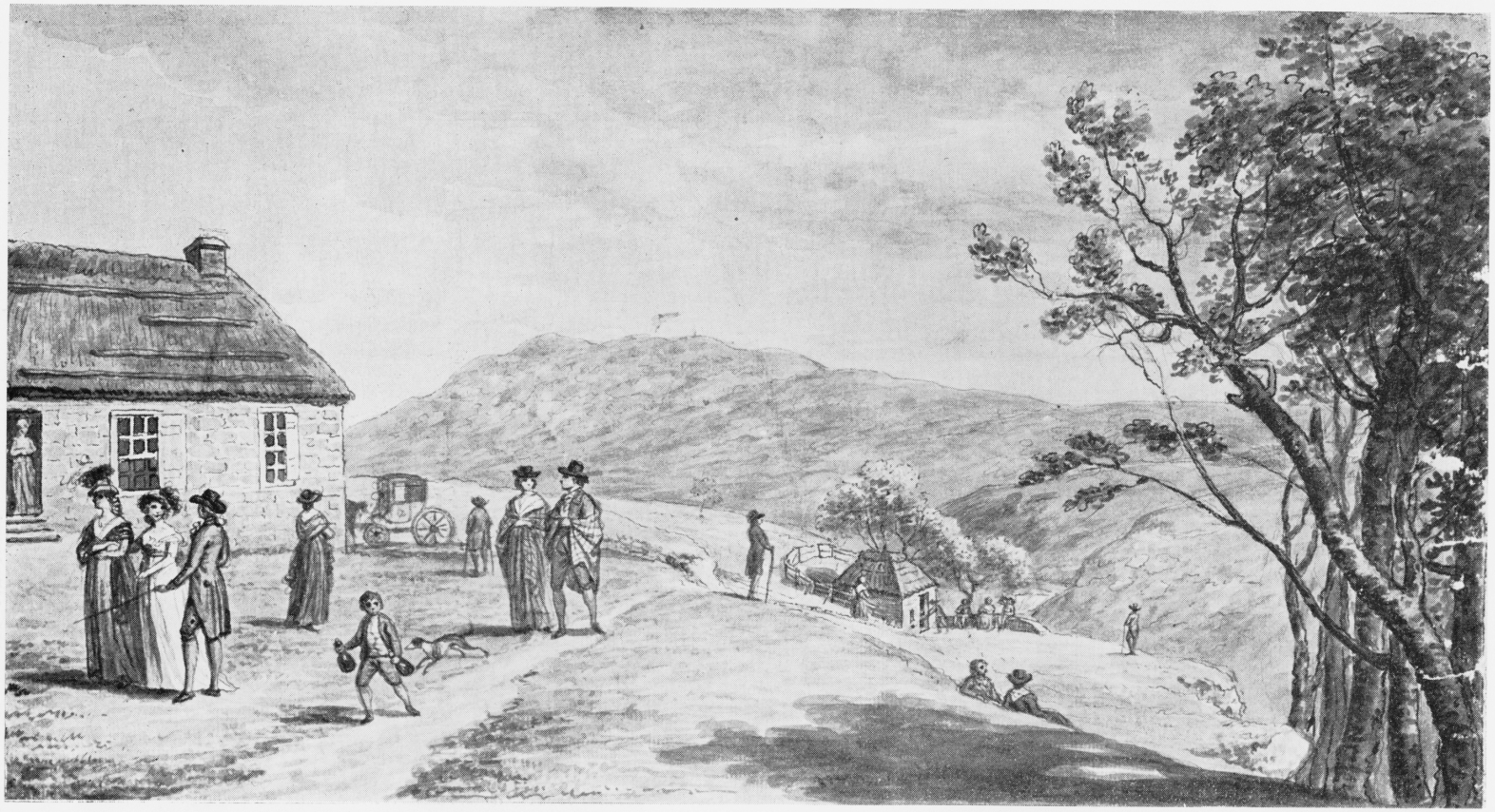


Plate XII — Moffat Well by David Allan 1795. By courtesy of Trustees of Dunimarle.

Plate XIII — Moffat Well, close up, by David Allan 1795. By courtesy of Trustees of Dunimarle.

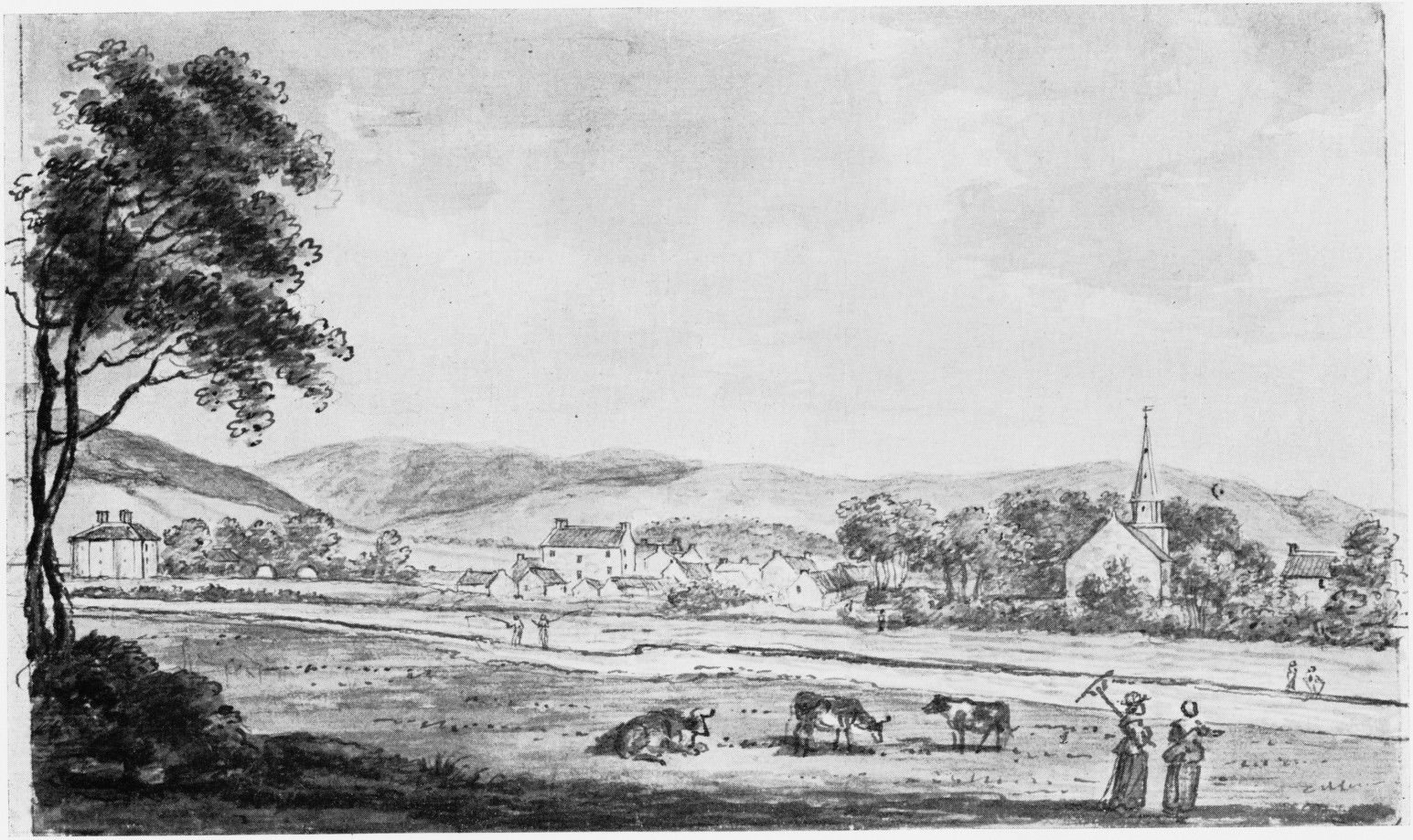


Plate XIV — Moffat, 1795, by David Allan. By courtesy of Trustees of Dunimarle.

TIBBIE SHIEL AND THE INN AT ST. MARY'S LOCH

by W. A. J. Prevost

Walter Shiel, an 'agricultural labourer', and Mary Grieve his wife are recorded in 1780 as being 'indwellers at Thirlstane Mill' where their eldest daughter Mary was born. Walter spent all his working life in Ettrick and was once again in Thirlestane when his second daughter 'Isobel' was baptized in the parish kirk on 22 November 1783. They had eight children for which see the appendix.

Isobel or Isabella[1] who was better know as Tibbie, spent her early life in the service of Margaret Laidlaw or Hogg at Ettrick Hall a short distance from Ettrick kirk. Margaret was the mother of James, the Ettrick Shepherd, and in this way began the lasting friendship between the Shepherd and Tibbie. She once said that James Hogg had courted her but never came to the point, and this left her free to marry in November 1806 a man from Westmorland named Robert Richardson, 'moleman at Longshawburn in Eskdalemoor'.[2] He was one of those 'mowdiemen' who, like the Taylors in Moffat, had been enticed by certain landlords to come to Scotland,[3] and Richardson worked for the Napiers on their estate.

Tibbie mothered seven children. They were born in various places as shown in the appendix. The youngest, a girl called Dorothy, was born in 1820 in a cottage on Chapelhope at the head of the Loch of the Lowes. They were then badly housed and in 1823 they became tenants of St. Mary's Cottage which Lord Napier had had built on some level ground between the now abandoned road to Tushielaw and the southernmost shore of St. Mary's Loch, and standing at about 800 ft. above sea level.

The cottage was like many others of its kind.[4] It still survives with its two apartments on the ground floor[5] which were then separated by a small apartment opposite the front door. The attic story with sky-lights was reached by a ladder through a hatchway in the kitchen ceiling. The interior walls are 15 ft. wide and 36 ft. long and were originally covered with a thatch roof.[6] It is shown in the Valuation Roll as being in the parish of Yarrow, together with Bowerhope on St. Mary's Loch and Crosscleuch east of the Loch of the Lowes. Henderland is also in Yarrow to which parish it was transferred from Megget and Lyne in 1891. The **Rodono,** Hogg's Monument and Chapelhope are in Ettrick.

This is a lovely part of Scotland which has been described many times in verse[7] and prose,[8] and it was here that the Richardsons set up house. They were then able to appreciate the comfort of their new home which Richardson was not to enjoy for long. He died after a short illness on 1 March 1824 and was buried in Ettrick on the occasion of one of the severest snow-storms ever seen in Yarrow. It was a terrible task for the bearers who carried the coffin up the Captain's

1. Death certificate of Isabella Richardson.
2. Register of Proclamations, Ettrick, 7 Nov. 1806.
3. John Mactaggart, *The Scottish Gallovidian Encyclopedia,* 2nd Edition (1876), 351.
4. Dr Singer, *View of Agriculture . . .* (1812), 97.
5. 'A comfortable cot of two apartments.' William Keddie, *Moffat* (1854), 49.
   'A kitchen, a small bedroom and bed closet,' *The Fishing Gazette,* 17 Sept. 1898.
6. Jrofessor John Wilson, *Noctes Ambrosianae* (1888), 44. [Wilson]
7. See Rev. R. Borland, *Yarrow, Its poets and poetry,* 2nd Edition, (1908).
8. Veitch, *History and Poetry of the Scottish Border,* 2nd Edition, (1893).

Bridle Path by Riskenhope,[9] across 'The Slunk'[10] at 1800 ft. and thence down the 'Kirk Road' to the burial ground on the 800 ft. contour.

Tibbie was left responsible for her family of three boys and three girls and she planned to make a living by providing accommodation for anglers who resorted to St. Mary's Loch which then 'abounded in fish' as did the other lochs and burns. She set aside for guests an attic room which had two press beds,[11] and in this venture she was helped by Robert Chambers the publisher who in 1827 wrote in **The Picture of Scotland**[12] that the widow Richardson was letting the spare room of her small neat house for any length of time for a small rent. She could provide her guests with food and it was all truly delightful. Her old friend and neighbour James Hogg[13] also recommended Tibbie to his friends among whom was a young Edinburgh student, and so it happened that on 10 July 1828 Thomas Tod Stoddart,[14] John Wilson and two other students walked over from Innerleithen by Traquair to stay in Tibbie's little cottage.[15] They ate their own trout, supplemented with bacon and mutton chops, scones and butter, and from that beginning 'the small neat house' was to become famous.

Thomas Stoddart was a dedicated angler who wrote books on the art of angling and on his angling reminiscences. He became a frequent visitor to Tibbie's when he fished with Hogg on Yarrow, St. Mary's Loch and Loch Skene.[16] He has described a great day when they fished down the Winterhope burn and Megget, and 'the creel-fuls we respectively emptied out on arrival at Henderland . . . would have astonished even a Tweedside adept.' On another days fishing, at the foot of Megget close to where it enters the loch, he killed three panniers-ful of trout, each containing a stone weight and upwards; and to show how well stocked were the waters in those days Stoddart had seen 40 or 50 lbs. weight of trout caught out of St. Mary's Loch in three or four hours by a Scotchman from Moffat fishing with an 'otter' or 'lath', the use of which has now been made illegal.[17]

John Wilson, one of Stoddart's companions on his first visit, was the son of John Wilson, Professor of Moral Philosophy at Edinburgh University. The father was also a keen angler and in 1829 stayed at the cottage and struck up a friendship with Tibbie on the spot and afterwards paid her many a visit.[18] He also stayed at Birkhill where the legendary Jenny Broadfoot was wont to point out to visitors the box bed in which the professor slept. Thirlestane, the home of the Napiers, was another of his haunts, and a favourite port of call was Altrive Lake or perhaps Mount Benger, the home of his friend the Ettrick Shepherd. Wilson knew the district well and on one occasion, in June 1815, he fished all the way from Traquair Knowes to Altrive where he surprised Hogg in his cottage bottling whisky,[19] and this was one way of getting there since there was then no public

9. *The Daily Review,* Monday 29 July 1878.
10. Slunk, a mire, a quagmire.
11. T. T. Stoddart, *Angling Songs,* with a memoir by Anna Stoddart (1889), 39.
12. R. Chambers, *The Picture of Scotland* (1827), i, 167.
13. Hogg in 1817 went to settle permanently at Altrive. In 1820 he took a disastrous 9 year lease of Mount Benger.
14. T. T. Stoddart, *An Angler's rambles and angling songs* (1866), 202.
15. T. T. Stoddart, *Angling Songs,* op cit., 37.
16. T. T. Stoddart, *Songs of the Season* (1881), xxv.
17. T. T. Stoddart, *The Anglers Companion. 2nd Edition* (1853), 201.
18. T. T. Stoddart, *Angling Songs,* op. cit., 41.
19. Mrs Mary Gordon, *Christopher North* (1879), 133.

transport. Hogg wrote to his publishers in Glasgow that the way to get to him was 'by the Peebles coach which during the summer months runs to Innerleithen and from that you must foot it or hire a gig to Altrive'.[20]

Tibbie had been given permission to make the cottage an inn on condition that she sold neither wine nor spirits, but patrons could bring their own whisky and she provided hot water, sugar and spoons.[21] It may have been about this time that the widow Richardson resumed her maiden name of Shiel, a practice said to have been far from uncommon among the humble population of the Border uplands.[22] A hundred and fifty years or more ago there were many variations in the spelling of a name and so it was with Tibbie. Spelt Sheal, Sheall, Sheil or Shiels the name was finally and officially recognised as Shiel, but there is ample evidence to show that in the middle of the last century she was sometimes referred to as Shiels. She herself once said that "folk a' ken me best as Tibbie Shiels, and I daresay, when I am dead and gone, this place here will still be ca'ed Tibbie Shiels's."[23]

The friendship of Tibbie, Hogg and Wilson to some extent inspired the professor's writings in **Blackwood's Magazine** of which he was editor. In 1828, in the March number of **Maga,** he contributed his first **Noctes Ambrosianae** which were continued, with occasional intervals, until the issue of February 1835. These articles enjoyed an amazing popularity, being read by all classes throughout the United Kingdom. They could be called conversation pieces in which the chief characters were Wilson himself as Christopher North, James Hogg as The Shepherd, and Robert Sym the author's uncle as Tickler. These characters and others were supposed to meet in Ambrose's Tavern in West Register Street in Edinburgh[24] and hence **Noctes Ambrosianae,** nights at Ambrose's, which were not orgies as some people might have thought. Indeed The Shepherd was at pains to point this out when he asked Christopher North to declare in **Maga** whether or not he ever saw him once the worse for drink.[25] Furthermore it seems that Hogg had had many pressing entreaties to admit ladies to the parties at Ambrose's which one can rest assured must have been well behaved.[26]

The **Noctes** have been too often reviewed to need any comment. However it must be said that Wilson's 'reproduction of the Selkirkshire dialect is perfect',[27] and when reading what The Shepherd has to say in his parts one can almost hear him speaking in the old broad Border Doric. Though Wilson was the author it seems that Blackwoods may have compensated Hogg for figuring in the articles, for in a letter to the publishers Hogg once wrote that he had 'received £10 for every **Noctes'** and then went on to say that "I am certain that Wilson writes these inimitable articles solely for the generous purpose of assisting in the support and education of my family."[28] There had been an occasion when Blackwoods had asked Hogg about sending something for the **Noctes** to which he replied in a

20. Letter Edinburgh 11 Feb. 1833. Hogg to Messrs Blackie & Co., Glasgow. National Library of Scotland. MS 807 f 19. [*MS*]
21. Stoddart, *Angling Songs* op cit., 39, 41.
22. *Scotsman,* Monday 29 July 1878.
23. Miss Helen Jane Russell, *Recollections of a Roxburghshire Woman* (c 1900), 16.
24. Cassell's *Old and New Edinburgh,* in 6 vols, (1883), ii, 171
25. Wilson, op. cit., 309.
26. Letter 25 May 1827. James Hogg, Mount Benger to Mm. Blackwood, Edinburgh, *MS* 4019. f. 191.
27. Miss Russell op. cit., 15.
28. Letter 28 Feb 1835, Altrive. Hogg to Blackwoods, *MS* 4040, A-K, f 287.

letter from Altrive Lake that 'there just is no man alive can write a genuine **Noctes** but Wilson,'[29] This was true, for Wilson's wit and brillance coupled with a love of the country is evident in his incomparable and beautiful stray descriptions of Yarrow and of life there 150 years ago. His often quoted **Tibbie's Cottage at St. Mary's Loch** is one of his gems.[30]

One of the professor's correspondents and an intimate friend of the Shepherd was Alexander Laidlaw of Bowerhope[31] who in January 1835 wrote this newsy letter to Wilson in Edinburgh.[32] 'Mrs Richardson has been almost dead but is now happily recovered[33] . . . Our friend the poet is very well this season . . . He got a prime **Grew**[34] frae Willie Aitchison but she is something like himself, fonder of sport than mischief, for she trys a race with the bares very readily and generally beats them, but she seems to think that this department of the sport is all she is bound to perform.' He adds that with the help of his collies Hogg managed to bag a few and Laidlaw ends with the suggestion that this story would do for one of his articles. It has a sad ending for though the Shepherd was able to shoot, course and fish his days were numbered and on 21 November the **Scotsman** announced that 'this celebrated Scottish poet lies dangerously ill at his residence at Altrive . . . and but small hope of his recovery.' He was nursed for four weeks by his old friend Tibbie Shiel and died on 21 November 1835, 'a genuine Scotsman and a man passionately attached to his country;'[35] and as his son James has told us, 'St. Mary's Loch above all others was the spot where he loved most to wander. Every day, summer and winter, he got a glimpse of it.'[36]

As soon as he had heard the news Professor Wilson and his two sons John and Blair came down from Edinburgh to Altrive and at the funeral in Ettrick kirkyard he and 'Wee Jamie,' Hogg's only son, 'laid the head in the grave.' Wilson never wrote another **Noctes.**[37]

It is said that in the early days of Tibbie Shiels Inn remarkable gatherings took place in that humble cottage of which no record was ever kept. Tibbie was of course providing sleeping accommodation for men and catered for parties like the one organised by Professor Wilson who asked some of his students to meet him at 'Tibby Shiels's' where they could wander the day with him 'to enjoy the first gentle embrace of spring in some solitary spot.'[38] It is puzzling how she managed but as time went on she made various improvements and additions to the but and ben so that by the 1860's the plan of the interior may have been something like this.

The room to the right of the front door was the kitchen where there was a huge fireplace with two swees, two double box beds with shutters, one of which

29. Letter 22 June 1834, Altrive Lake. Hogg to Blackwoods. *MS* 4039, H-Z, f 30.
30. Wilson, op. cit., 43.
31. See Rev. James Russell, *Reminiscences of Yarrow* (1894), 80.
32. *MS* 4041, f 1.
33. On another occasion Tibbie was again very ill. She said good-bye to all her friends and gave away all her clothes, She recovered and lived for another 15 years.
34. Grew, a greyhound. William Aitcheson, Esq., of Menzion — a loved friend of the Shepherd.
35. *Edinburgh Evening Courant*, Thursday 21 Nov. 1835.
36. Letter 7 Nov. 1860. Sydney, Australia, from James Hogg junior, in Alexander Laidlaw's book of newspaper cuttings. James had emigrated to Australia where he landed in 1860. *MS* 228.
37. Mrs Garden, *Memorials of James Hogg* (1885), 327 et seq. In a letter 12 Dec. 1835, Bowerhope, Alexander Laidlaw describes Hogg's last illness, his death and funeral.
38. Mrs Mary Gordon op. cit., 246.

with Tibbie's grandfather-clock and chair is shown in an illustration in William Steven's **Yarrow.**[39] The room to the left, which is now a public bar, was divided by two double box beds with curtains, the other part containing a double and a single box bed. A staircase in the space between the two downstairs rooms did away with the ladder and hatchway in the kitchen and this was certainly a great improvement. Above the kitchen an attic bedroom had been fitted up with two double box beds and three single box beds with surtains, while a small room above the bar had two single box beds, also with curtains. There were useful bits of furniture distributed around the house.

The kitchen by itself was quite inadequate to cope with an influx of visitors and Tibbie added an extension to the back of the cottage and at some later date she built an annex at the kitchen end of the house where she could cater for parties and functions such as the annual meeting of the St. Mary's Curling Club. Nine members foregathered there in March 1868 with Robert Mitchell of Kirkstead in the chair when they 'partook of a sumptious dinner'.[40]

This jigsaw puzzle provided sleeping quarters for 13 male guests and beds for Tibbie and her staff. For obvious reasons she would only take men but there was one occasion when a guest recorded that he had stayed in the inn for a week-end in June 1870 and had found a large company staying there. "Owing to a **young** lady occupying the upper flat of the house we had to sleep at Corse Cleuch. No less than sixteen of us sat down to breakfast (sic) on Saturday night and fourteen on Sunday." Nevertheless this was luxury compared to the occasions when Tibbie sometimes had as many as five-and-thirty in a night, and William Chambers the publisher asked her if that was true. "That's only about the twalt o' August when the shooters come up amang the hills. After a' the beds are filled they just lie on the floor or onygate. We do what we can to make them comfortable."[41]

"We" in this connection meant Tibbie herself, her son Wullie, a housekeeper, a cook and a scullery maid, one of whom was responsible for cooking the mutton chops which were a speciality of the house and another baked the scones which were often highly commended.[42] In addition there may have been occasional help from outside and there was a groom who slept in a small apartment off the harness room at the stables. How they coped is another matter and when one looks at the old cottage one cannot but marvel how 13 men were housed, fed and cared for, and how someone could say that "it was very comfortable and one of the cheapest places he had ever put up in."[43]

Tibbie was a notable woman and a very capable person about whom much has been written. She kept an orderly house and her friend Dr Russell, the minister of Yarrow, wrote that 'a quiet, almost queenly dignity of manner checked any flippancy and familiarity of speech or impropriety of conduct.'[44] One of her guests who had experienced most hospitable treatment at her hands recorded that 'Mrs Richardson is less a landlady than the lady of the house, and knowledge of her

39. Rev. William Steven, *Yarrow* (1916), 96.
40. Mrs Richardson's Visitors Book (*V.B.*)
41. *Scotsman* op. cit.
42. *V.B.* 21 July 1867, and see *V.B.* 9 Nov 1891 when Wullie Richardson was landlord.
43. *V.B.* 5 May 1879.
44. Rev. James Russell, op. cit., 203, 206.

tends much to remove the wonder with which we first hear that she was the friend as well as hostess of men like Professor Wilson and the Lord Provost of Edinboro.'[45] She had many friends and her visitors books provide copious proof.

West and East and South and North
As this little book reveals.
Yearly come the pilgrims forth
To the shrine of Tibbie Shiels.[46]

It would be a mammoth task listing all the names of distinguished and well-known men and women who were either guests or excursionists at St. Mary's Cottage, but mention may be made of Professor Aytoun from Edinburgh, one of the four students who were Tibbie's first guests, who stayed there for three nights with his wife in September 1851. Then there was the Rev. James Russell who was a regular visitor,[47] and on one fine day in August 1877 thirty two people on the Yarrow and Ettrick Picnic enjoyed themselves 'to their hearts content and afterwards adjourned to Tibbie's and had refreshment of tea and other substantials.'[48]

Many people with names well-known in Moffat made the pilgrimage and Anne J. Hope Johnstone from Raehills[49] and John J. Hope Johnstone from Moffat were there in 1848. Her signature appears in 1877 when in company with a friend, 'en route from Thirlestane Castle, they called to pay their respects to Mrs Richardson.'[50]

Anne's visit to Ettrick was at the invitation of her cousin Elizabeth who in 1816 had married William John, Lord Napier of Merchiston and a captain in the Royal Navy.[51] It was surely this Napier who used the Captain's Bridle Path when riding over from Thirlestane to enjoy a day's outing at St. Mary's Loch. He was not the only member of that family to do so and between 1849 and 1852 his daughter Ellinor, his son Francis, and Lady Anne his wife called to see Tibbie many times. Lord Francis was fishing for pike with some success and on one occasion netted one weighing 10 lbs.

Finally, a most important person was there at the Lochs on the important occasion of the Inauguration of the Hogg Monument in June 1860. Harriet, the Ettrick Shepherd's daughter, was staying in Moffat that summer and was able to attend the ceremony which she afterwards described.[52] 'On entering the little town on our way to St. Mary's we were amazed to find it like a Sabbath day. The shops were all shut and the place deserted while up the pass of Moffatdale streamed multitudes of people of all classes, every conveyance and every animal of whatever description that could be persuaded to go the length of St. Mary's

45. *V.B.* 11 Oct. 1866. This was William Chambers, the publisher, and brother of Robert. He stayed there 5 July 1868 with his wife and Robert junior.
46. *V.B.* July 1871.
47. *V.B.* July 1848, July 1849, Sept. 1850, April 1852 etc.
48. *V.B.* 10 Aug. 1877.
49. Anne was born in 1817, the daughter of John James Hope-Johnstone of Annandale (1796-1876). She died unmarried 15 Sept. 1896. Sir William Fraser, *The Annandale Book* . . . i, 410, and ii, CCCXXVIII, generation XXIV.
50. *V.B.* 17 Sept. 1877. She was then living in Marchbank Wood in Kirkpatrick-Juxta.
51. Elizabeth, b 1794, daughter of James, third Earl of Hopetoun. She died 1883, William, Lord Napier, b 1786 and d 1834. *Scots Peerage.*
52. Harriet's 'Answers to Mr Gibbons's queries' with information about the Shepherd's descendants. *MS* 1869 f 101-105.

near there, and every shepherd from far or near seemed to have left his flocks for a day to do honour to the memory of him they loved so well.'

This extraordinary demonstration by men and women from all parts of the country has since rarely been equalled but when Tibbie died in her ninety sixth year the loss of a great personality was felt by everyone. For over fifty years she had been mistress of **Tibbie Shiels** and one of the celebrities of the Forest. Elizabeth, now the Dowager Lady Napier, wrote on July 24th 1878 from Thirlestane to Wullie Richardson that 'it was indeed sorrowful news to hear last night that my dear old friend had passed away . . . Dear Tibbie, she was one of my earliest friends and I believe the only one that has survived to the present time . . .'[53]

The funeral took place on the following Saturday when the service at St. Mary's Cottage was taken by Tibbie's old friend Dr James Russell. The inn yard was crammed full with horses and traps and men on foot who followed the hearse up the Tushielaw road. The line of followers stretched all the way from the inn to past the Craggy Sike, a distance of fully half a mile, and when it reached the kirk many of the mourners had to stand outside. After it was all over Cuthbertson of the **Daily Review** was in the inn and there wrote in the visitor's book this **in memoriam.**

'The old tenant of this cottage "Tibbie Shiel" now rests in the secluded churchyard at Ettrick. The deceased was followed to her grave by all the farmers and shepherds for many miles araund, a worthy tribute to the memory of a true Scotchwoman.'[54]

For photographs of Tibbie Shiel and of St. Mary's Cottage see plates numbered XV and XVI.

Over the door of the cottage "Wm. Richardson" is "Licensed to sell Ales, Porter and Beer". Isabella is seated on a chair and standing behind her is Annie Henderson, cook. On the extreme right can be seen the annexe built by Tibbie.

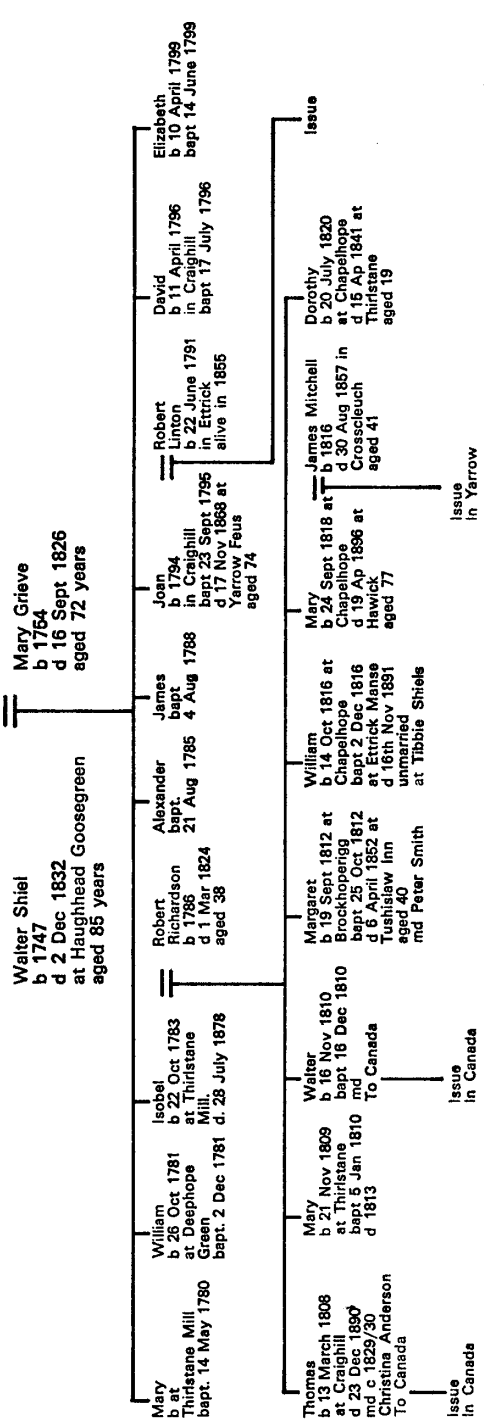
Appendix with pedigree chart.

A glance at the pedigree chart will show that Thomas and Walter of the third generation emigrated to Canada. Contact has been lost with the descendants of Walter but there is now living at 696 Golden Avenue, Ottawa, a great-grandson of Thomas, Dr Horace J. Richardson, M.D., who has now retired. He has done considerable research on the Canadian descendants of Tibbie Shiel.

Descendants of Mary who married James Mitchell in Crosscleuch are still in Yarrow. Their great-grandson James (b 1924) is a well-known sheep farmer in Henderland which he works with his son James Mitchell junior.

Finally, descendants of Joan, Tibbie's sister who on 21 August 1827 married Robert Linton, continued the association of the family with **Tibbie Shiels.** Her grand-daughter Helen Linton from Walkerburn had been housekeeper for a time to Tibbie and Wullie. She married James Scott (1854-1932) and when Wullie died the Scotts decided to carry on the business. An entry in the visitor's book of 3 April 1892 shows that the inn was then functioning and another entry for 4 June that same year refers to "our first tea with Mrs Scott." The connection of the Scotts with the place came to an end in 1945. Christina Combe (1881-1970), the widow of Adam Scott (1884-1922), took over the place in 1922, assisted by her daughter Tibbie, now Mrs Isabella Shaw of Pentlands, Drummore, in the Mull of Galloway.

53. Letter in possession of James Mitchell of Henderland.
54. *V.B.* 28 July 1878. Tibbie died 23 July 1878. The day after the funeral was the fourth Sunday in the month [July] when Dr Russell preached the funeral sermon at St. Mary's churchyard on the occasion of the Blanket Preaching. See his *Reminiscences,* 201-208.



Pedigree chart of Tibbie Shiel

ACKNOWLEDGMENTS

My thanks are due to Mrs Isabella Shaw whose help in writing this story about **Tibbie Shiels** was invaluable. I am also grateful to Mrs Jardine, now in **Tibbie Shiels,** for permission to search the 'Mrs Richardson's Visitors Books' in her possession; and to Mr and Mrs James Mitchell of Henderland for certain useful information.

Plate No. XV
Tibbie Shiel

(photo A. R. Edwards, Selkirk)

Plate No. XVI
'Saint Mary's Cottage' c. 1890 — see p. 178

(photo Weir of Moffat)

A NEOLITHIC AXE ROUGHOUT FROM ROADSIDE NEAR NEW ABBEY

by A. E. Truckell

In late June 1977 Mr McKenna of Overton farm cottages was removing stones from the bottom of a trench across the silted site of the former small reservoir shown on the 6" Ordnance maps a hundred yards or so behind the site of Roadside Smithy, to avoid damage to the pipe to be laid in the trench, when he noticed just protruding from the soil, and lifted up, what proved to be an exceptionally fine roughout Neolithic stone axe : though not yet sectioned there seems little doubt that it will prove to be (like almost all the Neolithic axes from Dumfries and Galloway) a Group VI Westmoreland stone : from a hundred yards from its findspot the Cumberland coast can be seen only some six miles away as the crow flies, with the Cumberland-Westmorland mountains looming behind. The axe lay on the old soil surface and could well relate to a settlement of the people who built the great Neolithic long cairn at Lochhill half a mile away (see Masters, Antiquity XLVII p. 96). The map reference is NX 981639. The roughout is 29 cms. long and 9.2 cms. wide.

A NEOLITHIC SCRAPER FROM UPPER ANNANDALE

by S. E. Bird

During an examination of the south embankment of the B719 above Moffat in Upper Annandale for the section of a Roman road (Nat. Grid. Ref. NT062088) a tanged scraper of grey flint (Fig. 1) was found, unstratified, in loose soil about three feet below ground level near the top of the slope. At its greatest extremities the scraper measures 4.5 cms long by 3.2 cms. wide. It is well formed with a nicely tooled working edge and a longer tang than is found on many similar scrapers. Dating the object is uncertain: possibly it is Mesolithic, but it has closer parallels amongst later flints and the more accomplished tooling suggests a date in the Neolithic. There were no other objects visible that could be associated with this scraper; so far very few flints have been found in Upper Annandale. The Roman road, although discernable on the moor, did not appear in section.

The flint is now retained in the Society's collections at the Dumfries Museum.

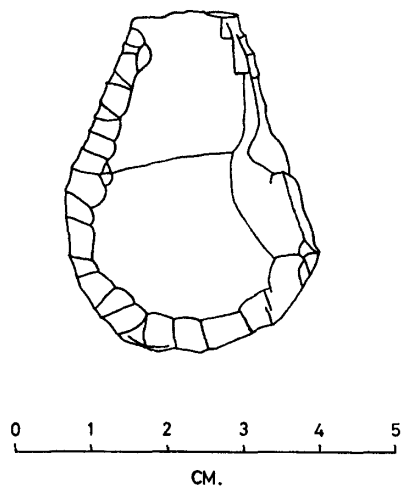


Fig. 1: Neolithic Scraper from Upper Annandale.

A CELTIC HEAD FROM ROSE HALL, TROHOUGHTON, DUMFRIES.

by W. Dodds

Early in 1977 a carved stone was turned up in the Pig Park, on Camp Hill at Rose Hall, Crichton Royal, Trohoughton, Dumfries. On being submitted to Dumfries Museum it was recognised as one of the now familiar Celtic heads. (Fig. 2).

The carving is of Sandstone, sculpted complete in the round and stands 10¾ ins. high (26 cm). The head being approximately 5½ ins. (13.50 cm) diam., well finished and complete apart from one or two minor blemishes.

The neck is a cylindrical column with a definite bias to its right, its base is smooth and there is no indication that it was ever attached to a body. The face is comparatively short and well formed. The eyebrows being almost at rightangles to the straight angular nose in the typical Celtic manner. The eyes are most prominent having almost a half inch relief and are almost truncated cones trailed off at the outer edges, the left one looking straight forward and the right, down and inward. The mouth, lips, moustache are represented by a slightly upward curved keel shape immediately under the nose. There is no indication of any ears.

The hair is dressed in broad rolls that descend from the top of the head, with a number gathered together in a bun on the top. In life these rolls would be about two fingers broad

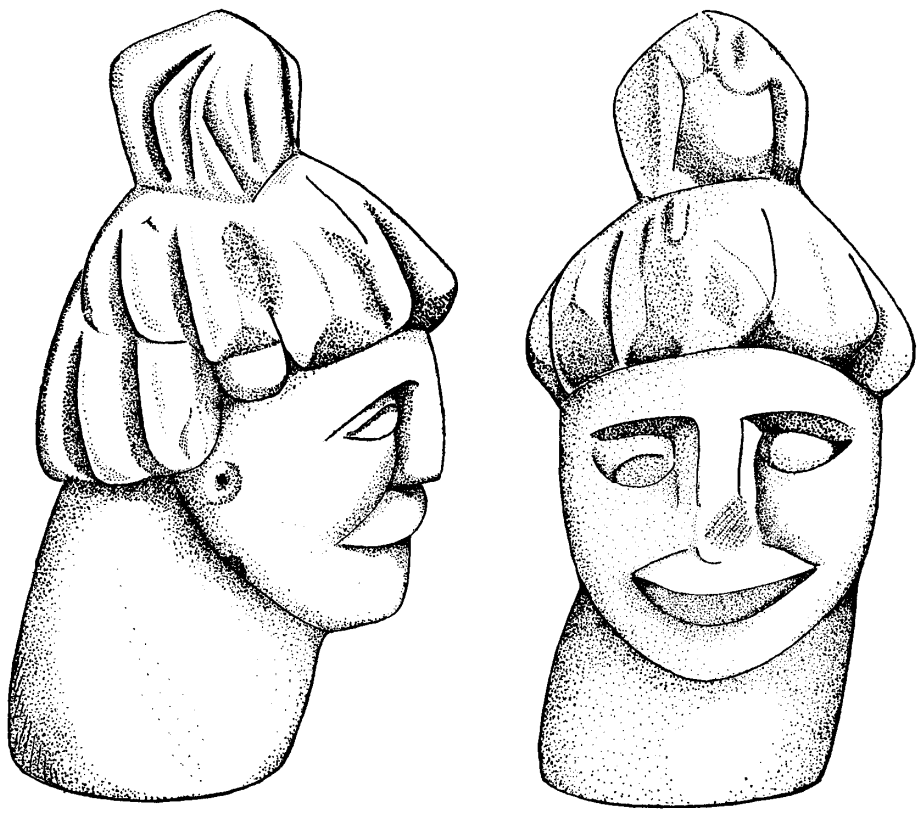


Fig. 2: Celtic Head from Trohoughton. Scale two-fifths.

The only other example of hair dressed in a similar size rolls but not in a similar manner is that from Bearsden, on the Antonine Wall. The only one with a 'bun' is that from Derwent Cote, Ebchester and that is a different type of bun.

There is no question of the sculpture being anything other than Celtic as the treatment of the hair and features is typical of so much similar Celtic material.

THE BATTLE OF BRUNANBURH

by A. E. Truckell

Dr. George Neilson's scholarly paper in the Scottish Historical Review for 1909 sums up the evidence from many sources, including for the first time the reference in Egil's Saga, on the Battle of Brunanburh and shows from the topographical evidence in these sources that Brunanburh must be Burnswark in Annandale.

The stirring poem incorporated in the Anglo-Saxon Chronicle under 937 A.D. is therefore the earliest substantial piece of local history : it is a hotch-potch of every cliche known to the singer but makes interesting reading nevertheless. The facts behind the poem are that King Ethelstan of the West Saxons and his brother, Edmund, fought Olaf Sitricson, pagan Norse King of Dublin, and his father-in-law, Constantine, King of Scots : the King of Scots' son, said to have been baptised in 927 by Ethelstan, was killed in the action. Olaf sailed back to Dublin, and Constantine withdrew northwards. The battle was the final episode in a struggle by the Norsemen and Scots to wrest Northumbria from the English.

Anglo-Saxon Chronicle, Verse Passage, MSS. A,B,C,D, S.A. 937.

In this year King Ethelstan, lord of earls, ring-giver to men, and his brother also prince Edmund won life-glory in conflict with the sword's edges around Brunnanburgh. They clove the shield-wall, hewed the war-lindens with hammered blades; so was it natural to them, the sons of Edward, from their ancestors that against every foe they defended their land, hoard and homes.

The foe gave way; the folk of the Scots and the ship-fleet fell death-doomed. The fields was slippery with the blood of warriors, from the time when the sun, glorious star, glided up in morning tide over the world, the eternal Lord God's candle bright, till the noble creature sank to rest.

There lay many a warrior by darts laid low; many a northern man over the shield shot, and many a Scot beside, weary, war-sated. The West Saxons in companies continuously all the day long pressed after the hostile peoples, hewed the fugitives from behind cruelly with swords, mill sharpened. The Mercians refused not the hard hand-play to any of the heroes who for battle, death-doomed, sought land in ship's bosom, over the mingling waves, with Olaf.

There lay on the battle-field five young kings, by the swords put to sleep; and also seven earls of Olaf : of the army untold numbers, of the fleet and of Scots.

There was put toflight the Northmen's lord, driven by need to his ship's prow, with a small band : the boat drove afloat; the king fled out upon the fallow flood; he saved his life.

So there also the aged Constantin came north to his country by flight, hoary warrior. No need had he to exult in the intercourse of swords. He was bereft of his kinsmen, deprived of his friends on the meeting-place, bereaved in the battle. And he left his son in the slaughter-place, mangled with wounds, young in warfare.

He had no need to boast, the grizzly-haired man, of the bill-clashing, the old malignant; nor Olaf the more, with their remnants of armies. They had no cause to laugh, that they in works of war were the better, on the battle-field of the conflict of banners,

of the meeting of spears, of the assemblage of men, of the contest of weapons; that on the slaughter-field they played with Edward's sons.

The Northmen retired, bloody remnant from the spears, in their nailed boats on the sounding sea. Over deep water they sought Dublin and Ireland again, with minds cast down.

So too the brothers, both together — king and prince — sought their country, the West Saxons' land, rejoicing in the war.

They left behind them to share the carrion the dusky-coated, the swart raven, of horny beak; and the grey-coated, the white-tailed eagle : to enjoy the meat the greedy war-hawk, and the grey beast, wolf in the weald.

Before this, greater slaughter of folk was never yet made in this island by the sword's edges; in so far as books tell us, old sages, since hither from the east came Angles and Saxons to land, over the broad waves : since the proud warsmiths sought Britain, and the glory-seeking earls overcame the Welsh and obtained the land.

THE JOHN ALEXANDER STONE AT HODDAM

by A. E. Truckell

When arrangements were being made in early 1976 for the removal of the COHORS I NERVANA stone from the burnt-out shell of Hoddam Church it was noticed that the other stone of interest had been removed from its place on the vestry wall : this was a memorial slab in Roman style which had for a short while been taken to be Roman.

Enquiries were made but nothing could be discovered until in July 1977, more than a year and a half later, Mr Alan Cunningham, F.S.A. Scot., of Ecclefechan, a long-time friend of the Society, told the writer that he had just found it in a local scrap-merchant's yard, and offered to bring it in to the Museum. It duly arrived in early September, still blackened with the soot of the fire, and was promptly labelled and put on display.

The Latin inscription, in a good imitation of Roman style [the sculptor has forgotten himself only twice, with a mediaeval A with angled cross- bar, and with an ampersand (a form of this existed in Roman times but rarely figures on carved stones)] : it bears that Dominus John Alexander, Minister, and restorer of this church and its buildings, has chosen a tomb, for himself and his, here — the word translated as **restorer, conditor** literally means **founder** but the word is used in restoration inscriptions of the Roman period along Hadrian's as **restorer, rebuilder,** and as Hoddam had a long history from the first stone building of around 700 A.D. through the 13th-century mediaeval church, this is evidently the sense here. A fairly sweeping restoration at this period would tie in well with other restorations in our district of mediaeval churches rendered ruinous by centuries of war and neglect : the late 15th-century pillar-head from Hoddam church with an inscription mentioning the Carlyle family shows how fine it must have been in its prime.

An important point in this instance is that the Anglo-Saxon church was largely built of Roman stone from Birrens and incorporated several inscribed stones from that fort (and it is at least possible that the GAMIDIAHVS and VIRADECTHIS stones, which were seen at Hoddam Castle by Pennant in 1772, and listed by him as "from Birrens", came from Hoddam Church) : and it is the presence of these, and of the many inscriptions still visible at Birrens in the 17th century, which must account for the Romanising character of this stone, evidently built into the wall of old Hoddam Church, and like the COHORS I NERVANA STONE transferred to and built into the wall of the new Hoddam Church half a mile away when it was built in 1815, 160 years before its final destruction by fire in April 1975.

The inscription, in 5.5-6cm high lettering (the mason's guide-lines are just visible in a few places), is well and clearly cut upon a rectangular slab of typical red-Annandale sandstone measuring 63 cms x 49.5 cms x 8-10 cms — no doubt obtained from one of the many

reefs of such stone exposed in the adjacent river bed. The stone is illustrated in fig. 3 and the inscription reads :

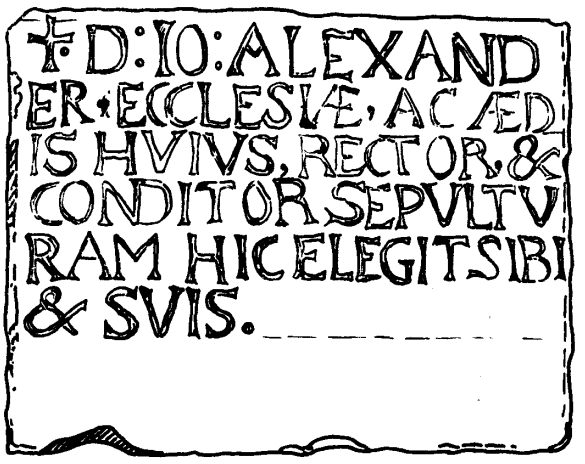


Fig. 3

D: IO: ALEXAND
ER ECCLESIAE AC AED
IS HVIVS RECTOR &
CONDITOR SEPVLTV
RAM HIC ELEGIT SIBI
& SVIS.

Who was the Reverend John Alexander? The **Fasti**[1] show him to have been born in 1589 : he graduated M.A. at St. Andrews in 1603 at the age of 14 and was admitted to Hoddam in 1610 : he signed the protest on behalf of the liberties of the Kirk on 27th June 1617 : he was a member of the Commission for Maintenance of Church Discipline (21st October 1634). He died on 14th July 1666 aged 77. He married (contract 28th July 1620)[2] Isabella (died 2nd July 1682, aged 82), daughter of William Barclay of Innergellie and had by her children William, James, John, Margaret and Barbara : Barbara married Herbert Irving of Bonshaw, James became Sheriff Depute of Dumfriesshire, and John, born in 1638, was minister of Durrisdeer from 1683 to 1689 when he was outed : he died at Edinburgh on on 16th July 1716 : his first wife was Isobell, third daughter of James Hamilton, Bishop of Galloway his second Margaret Angus who died in the Canongate in 1723 : his daughter Agnes married in 1705 James Black, glazier, Musselburgh. Nothing is known of the marriages or children of the others of John senior's family, nor is anything more heard of the family in Dumfriesshire : they seem in fact to have been of Edinburgh district origin. John senior might be some relation of that Schir John Alexander who held the vicariate pensionary of Carluke in 1537.

As the stone does not give a death date it may well have been cut and built into the wall during his lifetime : either he cut the lettering himself or had examples — probably prints — for the mason to work from : an odd thing for a part of the country still very wild and lawless at that time.

Sir William Fraser's **Book of the Johnstones** refers to Alexander (Letter 384, pages 291 and 292, volume II) : the letter is from James Carlyle, Lord Torthorwald, to James, Lord

1. *Fasti Ecclesiae Scoticanae*, Hew Scott D.D., (1917), Vol. 2, p.248 & p.313.
2. *Register of Deeds*. cccxcix, 415.

Johnstone, "his much honored good lord and his lowing cusinge", and dated 25th August 1636, and asks for a loan of 600 merks.

"My lord, pleis your lordschip my sone being wrgit to end with Mr. Alexander in respect the schipe whairin he was to mak woyage wes in redynes to tak saill, is notwithstanding at my desyre to remake heir to I heir fra your lordschip : and therfor my humble requeist is that your lordship will pardone if he did not end with Mr Alexander as your lordship's benevolence and former kyndness, or my deutie towards your lordship as your lordship dois requyre — My lord, therfor I earnstly intreit your lordschip that you will ether send in the some of sax hundrethe marks, as we war agriit wpon, be Mr. Alexander, or ane warrand to resawe it heir : and my sone Williame sall be bund as cationer for me" ——

It is evident that Lord Torthorwald's son was being educated by the Rev. Alexander, and this would tie in with Alexander being a good classicist — like his younger contemporary the Rev. Andrew Symson, author of **The Large Description of Galloway.** Ministers often augmented their stipend by teaching : many had supported themselves by teaching on their way to the Ministry. Do we see here also a memory of the long connection between the de Carleil family and Hoddam Church, starting as early as the 12th century?

The Inventory of the Rev. Alexander's debts[3], drawn up by his son James the Sheriff Depute, strangely enough gives his death date as in December 1674 it refers to him as "sometyme minister at Hoddame" : he is shown to have loaned James Murray, Earl of Annandale, £1,000 Scots on 5th October 1640 and 1,000 merks on 19th June 1648 : by December 1687 there was little hope that these sums would ever be repaid. Alexander had himself borrowed on 19th February 1654 from James Somervell, tailor in Edinburgh, £500 Scots : on 27th October 1658 he borrowed 3,000 merks from Mr William Graham minister at Kirkpatrick Fleming : on 2nd February 1659 he borrowed 1,000 merks from Mr Allexr. Forrester, Minister of St. Mungo's, and on 29th June 1660 £126:13:4d from George Bell in Holmhead.

James, the Sheriff Depute, styles himself as "of Knockhill", and it seems likely that his father was at the time of his death owner of this property less than a mile from Hoddam Church (it was in the summer-house at Knockhill that the sculptured stones from Hoddam, Birrens and Dumfries were so long preserved). The Inventory of his father's debts showed that James had all the outstanding debts mentioned in it transferred to himself. Strangely, the Inventory at no point mentions the relationship of the Sheriff Depute to the deceased, though as "James" he is mentioned repeatedly in the Inventory as co-signator with, or surety for, his father, along with his brother William.

Reference to the Dumfries Register of Sasines gives a little more information on our man : by a sasine of 2nd November 1632 he acquired from Sir Richard Murray of Cockpool, by the hands ofRichard Irving of Knockhill, the lands of Cockpool Rivell tenement, with tower and fortalice of Comlongan, Cocklicks, Pyhills, Slaithwat (Slethat) and Howaeside — these farms near the Annan low road some 9 miles S.E. of Dumfries. Another sasine, by James Johnstone of Daldurran in Westerkirk, dated 4th July 1634 and registered on 20th November 1642 and 31st January 1643, through Richard Irving of Knockhill, Daldurran's baillie, gives John Alexander sasine to Over Effgill in Westerkirk : among the witnesses is John Nicoll in Over Effgill and Thom. Nicoll his servant. Finally a sasine, contained in a contract of wadset of 5th July 1657 and registered on 31st July, by James, Earl of Hartfell, through Herbert Irving of Bonshaw his baillie (husband of Alexander's daughter Margaret) grants Alexander the three pound land of Calvertsholm and the five pound land of Redhall, both in Kirkpatrick Fleming, tenanted by John Johnston called of Miltoun, Robert Edgar and William Johnston with the miln of Kirtle, its kiln, miln lands, multures, sucken, sequels and knaveships, and the teinds of the said lands. Alexander therefore held lands in South-Western, Central (if as seems likely he latterly owned Knockhill), North-Eastern and South-Eastern Dumfriesshire.

3. *Dumfries Testaments.*

FURTHER NOTES ON MEDIAEVAL POTTERY

by A. E. Truckell & J. Williams

This brief note covers the major mediaeval pottery finds since the paper by the joint authors in T. D. G. N. H. A. S. IIIrd Series XLIV (1967).

Dumfries (see Fig. 4)

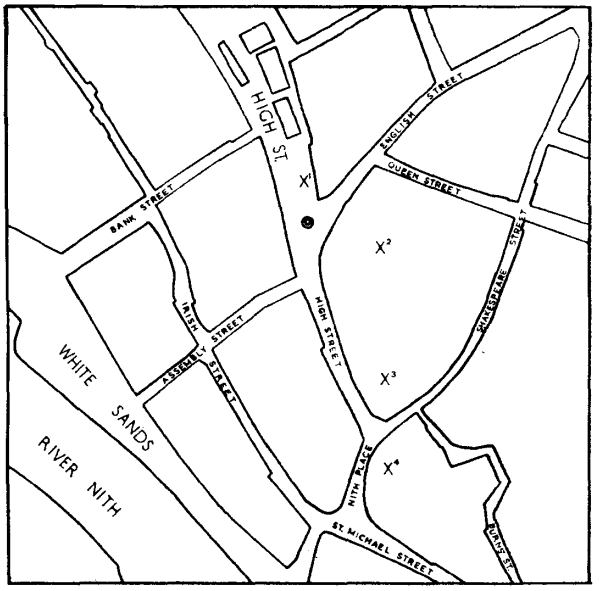


Fig. 4 Sketch-plan of Lower High Street area DUMFRIES, based on O.S. sheets, showing find-spots of Pottery & Excavation sites : X1, Cruet or Juglet, High Street X2, Gashouse Close (King's Arms Hotel); X3, Lower High Street & 4, "Mill-hole".

The largest single group of material came from a section in the demolition area between Lower High Street (Soutergate) and Shakespeare Street (Under the Yairds or West Barnraws) (Map Ref. NX.975759) on the edge of the Mill Hole zone of mediaeval and more recent industrial activity where there were the town watermill, barkholes, tanneries, corn-drying kilns and, later at least, candle and basket making. The section was opened in April 1973 and work there continued until early 1976, in the causewaying of a cobbled close (alley-way).

All the material had been shovelled in from somewhere nearby (neighbouring title deeds go back to 1532) around 1820 to form the causeway so that such stratification as there was was reversed, with a tendency for the earliest pieces to be nearest the surface. The material came from a band of greasy black soil, with high organic content, half a metre thick, from half a metre to a metre below the surface. There was almost a metre of disturbed soil with flecks of charcoal, below this, but this yielded no pottery or other small finds. The top half-metre was rubble of the demolition plus the cobbling of the lane. Typologically earliest were a few pieces of cubical rim, with scanty patchy glaze : these are probably late 12th century — the nearby mill is mentioned c.1200 and probably existed from c.1185. Thereafter there is a reasonable spread up to the late 16th and early 17th century, with the 14th-15th centuries dominant. Some representative pieces have been selected for drawing. (Fig. 6).

While this excavation was in progress a cruet-type juglet (Fig. 5) probably 14th century was found at NX975761 in the central space of the town, opposite Messrs Binns, about 50 feet from the fountain and some 20feet off the Midsteeple end of Messrs Young's shop, during

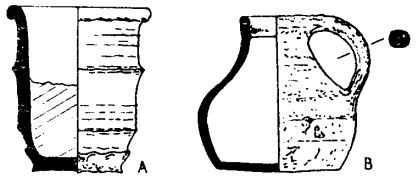


Fig. 5 Mediaeval Pottery from (A) Starr, Loch Doon, and (B) Trenching operations Dumfries High Street (X¼).

the search for a gas leak. It was at about a metre down : near it was a fragment of horse jawbone with teeth. The next finds within the town came from a cut made in the Mill Hole area (NX975759) just behind the S.E. corner of the Hastie & Brodie's building, now the Labour Club, made as part of the survey of mediaeval layers in Scottish towns at the desire of Mr Gourlay of Glasgow University Department of Archaeology. The section was opened on 22nd-23rd December 1976 and again, to more closely define the pottery-yielding area, in late March 1977. An area covering 4 metres by 4 metres was excavated down to the water table at 3½ metres and a lens of mediaeval material, the lower part waterlogged, was found from 2 metres depth downwards. Overlying this was rubble containing 17th-early 18th century material and, over this again, the rubble of the 19th-century tenements recently demolished. The mediaeval material lay in a pit : most of it was 15th-16th century material but one piece was of 13th-century type. The spot was chosen as it was in a hollow where deposition rather than erosion was likely, and where waterlogging was known to exist : in fact, the deeper part of the section yielded a small amount of leather, wood and horn, besides animal bone. The spot lay just downstream from the Mill Hole dam in an area of intense industrial activity in mediaeval and recent times. The rubbish-pit seems to have been elongated with only its 'toe' projecting into the area excavated. Two culverts were found : one at 1 metre depth was of dressed mortared stone covered and floored by flags of Locharbriggs sandstone and so 19th-century in date : it was dry.

Another culvert crossed the cut at 1½ metres depth on a different alignment lying diagonally to the first : this was roughly built of small undressed pieces of Castledykes sandstone from the old town quarry, luted with clay, and carried a good flow of water : a date in the late 17th or early 18th century seemed likely for it. Several other cuts were made in late March 1977 as part of the same survey : those at NX976761, behind Dickie's Bar in English Street, opposite the opening of Loreburn Street, and NX975760, off Shakespeare Street, and behind the King's Arms Hotel at the junction of English Street and High Street — all within a few hundred feet — showed only natural subsoil beneath recent demolition rubble : that behind the S.W. end of the King's Arms yielded a metre of late 17th-early 18th occupation soil full of wine-bottle bases.

Loch Doon

The little unglazed jar (Fig. 5) found by Michael Ansell, Hydro Board Engineer at Dalry, when Loch Doon was lowered, at a spot where a thick peat cover had been partly stripped by water action, a hundred feet or so towards the loch from Starr cottage (NX482937). It contained animal fat. A late thirteenth or early fourteenth century date seems stylistically likely : the presence of pottery at such a remote spot might relate to the existence of Loch Doon Castle on its island a short distance away. From the shore of Loch Doon Castle Island (NX48894) at the same time of lowered water level, came the jug with broad strap-handle (Fig. 6) which seems likeliest to be of 15th century date.

Buittle Castle

For some years Mr Wykes of Dalbeattie has collected from the bed of the stream which runs along one side of Buittle Castle (NX819617) and in the adjoining fields when in plough : this has yielded Edwardian coins and two jettons, (these Transactions IIIrd series, xlix

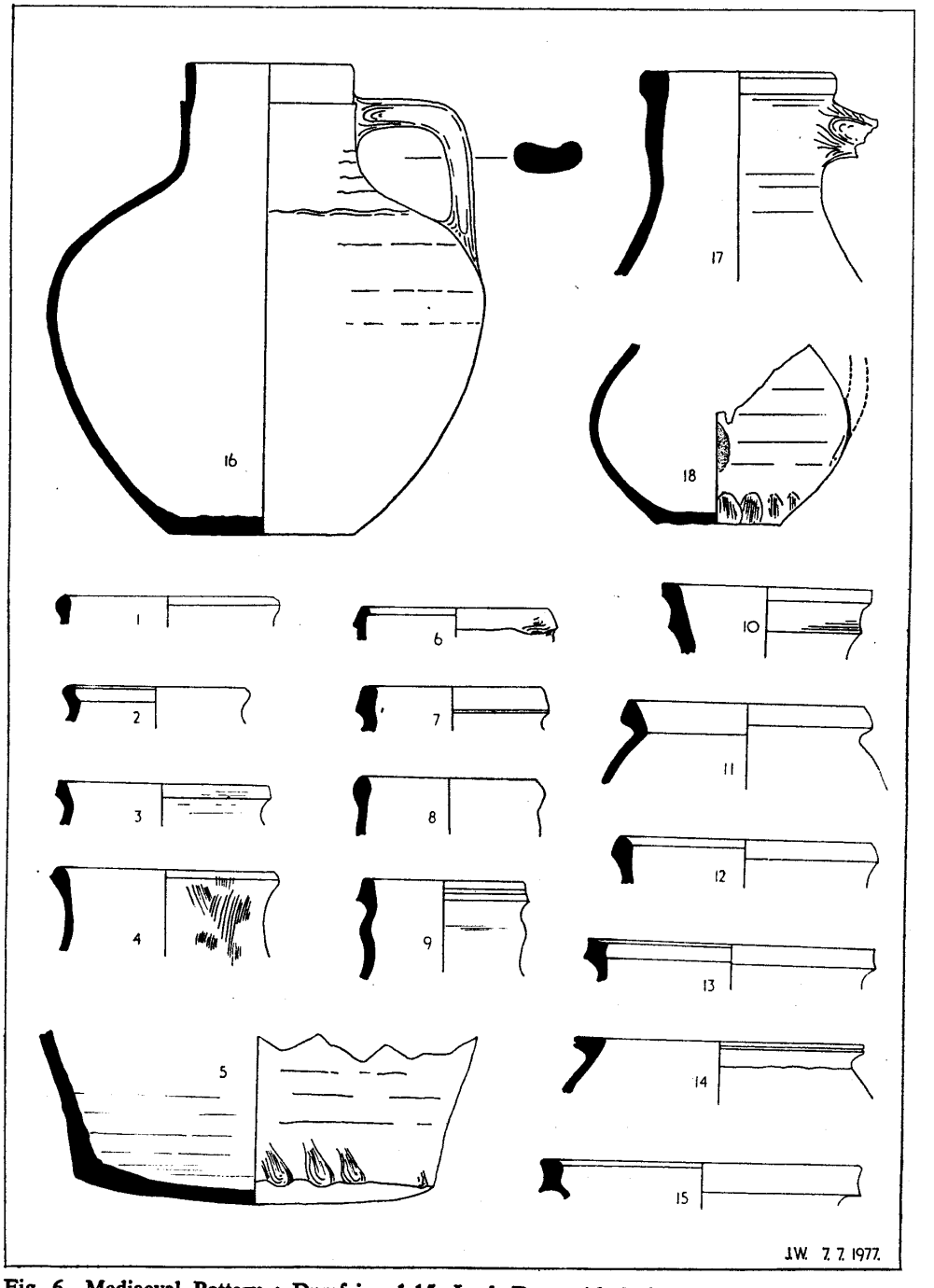


Fig. 6 Mediaeval Pottery : Dumfries, 1-15; Loch Doon, 16; Buittle Castle, 17; and Brow Well, 18 (All x ½).

(1972) p. 118) a good deal of metal scraps, some of which may relate to the adjoining 16th-century tower-house, and a few pieces of pottery. The handsome late 13th early 14th century jug or jar neck shown here (Fig. 6) is the finest of these finds : most of the other pottery is 16th centuryand probably relates to the tower-house : for, by c. 1560, the large courtyard castle, last mentioned as in occupation (by King Edward Balliol) in the 1350's, must have been ruinous enough to be quarried for the tower, which as a late 18th-century print shows, was — by the 1780's — itself ruinous and robbed to build ramshackle cottages.

Brow-well, Ruthwell

The major portion of a neat 15th-16th century green-glazed jug (Fig. 6), minus the neck and strap-handle, turned up several feet of peat during ditching operations at Brow Well (NY082675) not far from the site of Cockpool Castle.

ROBERT RAE AND THE DRUMFRIES MERCURY

by W. A. J. Prevost

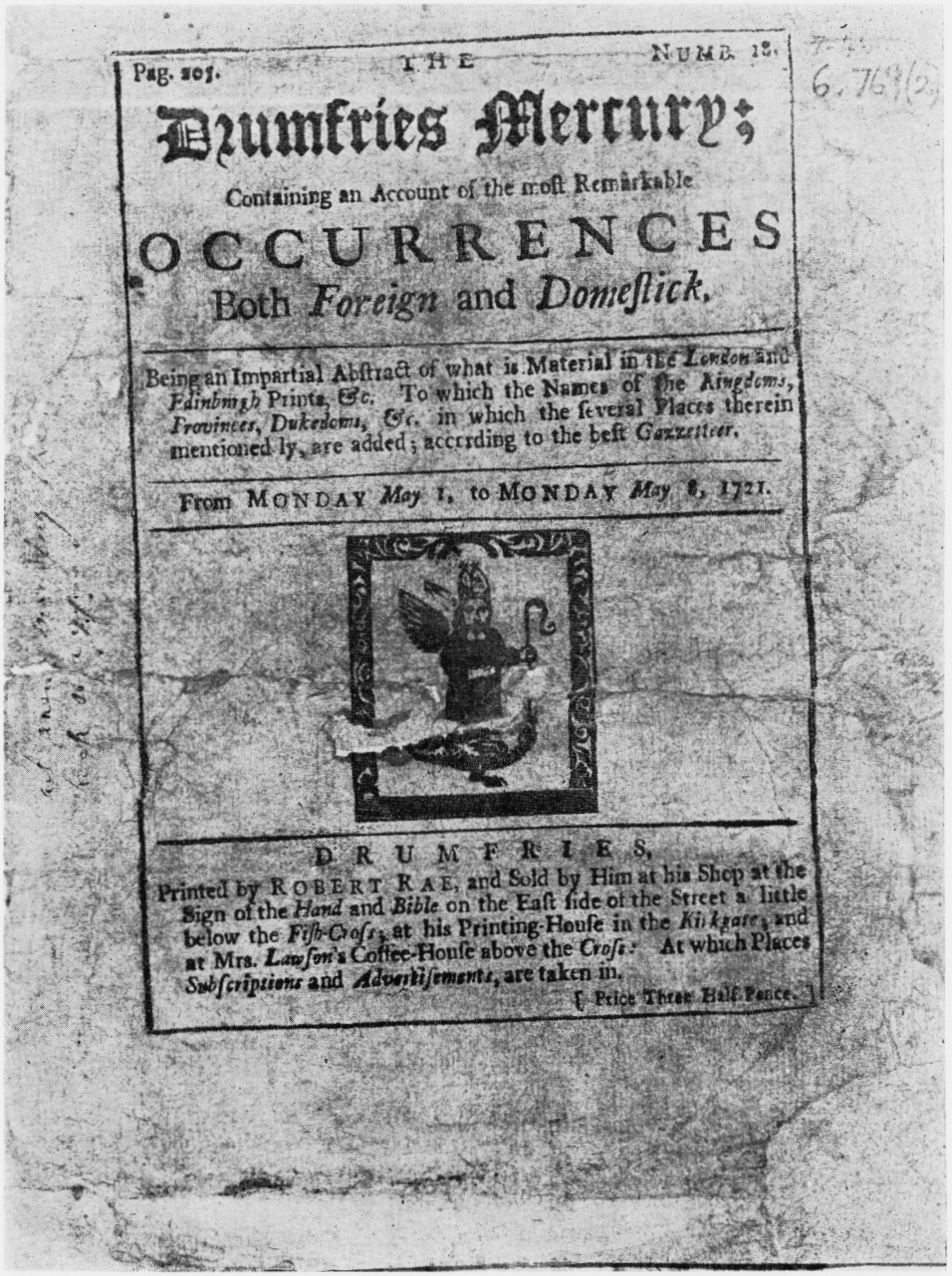
In his paper entitled 'The Rae Press at Kirkbride and Dumfries' read on 13 March 1902 in Edinburgh,[1] William Stewart refers to a Mr Macmath who had long in his possession a fragment of the title-page of a copy of **The Dumfries (sic) Mercury, Numb 12.** He had found it in 1878 pasted by way of repair in a volume of pamphlets. Mr Macmath thought that the date of the newspaper might have been between 1712-1718.

It was only natural that G. W. Shirley, at one time President, Secretary and Hon. Librarian of the Dumfriesshire and Galloway Antiquarian Society, should have been interested in Macmath's find, and he referred to it in the account of Peter Rae which he read before the Glasgow Bibliographical Society in March 1913.[2] He described the only fragment of the journal known to him to have survived, being a small portion of the first leaf of copy No. 12. He said that 'this scrap of paper gives a distinct though unprovable claim to Dumfries being the first town, apart from Edinburgh to print a newspaper in Scotland.'

On 18 January 1915 the Rev. W. J. Couper read a paper in Glasgow entitled 'The Date of the Drumfries Mercury'[3] when he discussed Mr Shirley's theories and the various guesses as to the date of Robert Rae's newspaper. He then went on to say that the date seemed to be finally set at rest by the following quotation from the sale catalogue of Dr David Laing's library in 1880 which reads 'Dumfries (sic) Mercury, an Account of the Remarkable Occurrencies . . . No. 13, May 1 to May 8, 1721.' At the time of writing Mr Couper said that it had been impossible to trace its present owner, nor were Messrs Sotheby able to help him in any way.

Read in April 1932, a paper by Mr Shirley on the 'Dumfries Printers in the Eighteenth century . . .' appeared in **TDGAS** in 1934.[4] He referred to what had already been conjectured about the newspaper, the date of copy No. 13 as discovered by Mr W. J. Couper, and assuming that the **Dumfries Mercury** was regularly issued it would commence publication on 6 February 1721. He included a photograph of the fragment opposite page 139 and he hoped that one day the complete copy would turn up and be acquired by the town which produced it. Mr Shirley did not live to see his wish fulfilled but in 1949 the National Library of Scotland managed to purchase from John Grant, Booksellers in Edinburgh the lost copy of the **Mercury** which they included in an exhibition of manuscripts and rare books which were on show during an Edinburgh Festival. (See plate XVII). The newspaper is now

1. *Papers of the Edinburgh Bibliographical Society* 1901-1904 (1906), 112.
2. G. W. Shirley, 'Mr Peter Rae, V.D.M., Printer.' *Records of the Glasgow Bibliographical Society* 1912-1913 (1914), i, 226.
3. Ibid. Session 1914-1915 (1918), iv, 61-64.
4. *TDGAS* 1931-1933, Third Series, xviii (1934), 139.



Pag. 205. THE NUMB. 18.

Dumfries Mercury;

Containing an Account of the moſt Remarkable

OCCURRENCES

Both *Foreign* and *Domeſtick*,

Being an Impartial Abſtract of what is Material in the *London* and *Edinburgh* Prints, &c. To which the Names of the *Kingdoms*, *Provinces*, *Dukedoms*, &c. in which the ſeveral Places therein mentioned ly, are added; according to the beſt *Gazetteer*.

From MONDAY *May* 1, to MONDAY *May* 8, 1721.

DRUMFRIES,

Printed by ROBERT RAE, and Sold by Him at his Shop at the Sign of the *Hand* and *Bible* on the Eaſt ſide of the Street a little below the *Fiſh-Croſs*; at his Printing-Houſe in the *Kirkgate*, and at Mrs. *Lawſon*'s Coffee-Houſe above the *Croſs*: At which Places *Subſcriptions* and *Advertiſements*, are taken in.

Price Three Half Pence.

Plate No. XVII

Title page of No. 18 of the **Drumfries Mercury** — see Addenda.

"This scrap of paper (No. 12) gives a distinct . . . claim to Dumfries being the first town, apart from Edinburgh,to print a newspaper in Scotland". Published by permission of trustees of National Library of Scotland.

available for readers to scrutinise. There is no doubt that **No. 13** as advertised in Sotheby's catalogue is wrong. It should read **No. 18** which makes a little difference to Mr Shirley's calculations. A photo-stat copy is in the Ewart Library.

SOME COMMUNION PLATE IN ST. MICHAEL'S & GREYFRIARS' CHURCHES

by K. H. Dobie F.S.A.(Scot.)

Among the communion plate belonging to St. Michael's church Dumfries are a pair of cups, (Plate xviii) noted in the Rev. J. Paton's book of St. Michael's as silver plated (EPNS). They are 'Solid' silver and predate the 'Veitch' cups, which were thought to be the earliest in the church's possession.

The cups were remade by David Coutts, a Dumfries silversmith, in 1753 on the instructions of a committee made up of members of the kirk session and the town council. The kirk session minutes record on the 28th March 1751 'It was recommended to the minister that Mr Stoddart and Mr Dickson to speak to the magistrates to get the communion cups cast again in regard they are rent and much decayed'. On the 1st May 1753 Mr R. Wright, Provost Bell and Mr Stoddart opt to speak to the magistrates to get the two sacramental cup belonging to the auld church cast anew or charged'. On the 12th October, Baillie McMurdo was added to the committee and on 25th Mr R. Wight moderator, and Mr Scott were appointed to continue upon the committee to get the sacramental cups cast.

Then on the 1st November, the committee reported that they had given the sacramental cups to be cast, and were to continue until the cups were finished.

There is no further mention in the kirk session records of these cups, but in the Town Council records on 26th November 1753, payment of £3.6.5 is made to David Coutts, who became a burgess in the same year. The payment is most likely for remaking the cups that bear his mark.

Finally in July 1849, the kirk session records state, "It was reported that two of the communion cups belonging to St. Michael's church have no inscription' The treasurer was instructed to have the words 'St. Michael's Church Dumfries' engraved upon them.

Greyfriars' church Dumfries, the 'New Church' was presented with a baptism laver in 1772 by the then minister Mr J. Hunter and the engraved inscription states this. The engraving being paid by the town council who acknowledged the gift in the council minutes. The laver is in the form of a two handled cup and was made in Newcastle in 1772 by John Langlands, probably the most famous of all Newcastle silversmiths. It continued in use until 1870 when the present font was gifted. Then in 1876 the Kirk Session agreed to let the moderator, the Rev. R. W. Weir, 'make enquirey as to the expense of making the siver baptism cup belonging to Greyfriars' church into two communion cups'. The result is not known, but no action was taken until November 1877, when in the kirk session records is the following entry. 'It was also agreed to have the silver baptism cup, belonging to Greyfriars' church made into a wine flagon to be used at communion, there being much want felt by not having a suitable one for the purpose, and it was remitted to the moderator and clerk to get it done and supplied with a silver top so as to correspond with the cups.' (Plate xix).

There is no further mention in the kirk session records of this piece of plate but the work was carried out by removing one handle and adding a spout. The top was also provided and hinge to the body. It is not known who carried out the work, but his mark is to be seen on the base along with the assay marks and that of the maker, John Langlands. The finial on the flagon was cast by George Adams and has his mark.

I wish to thank the kirk session of Greyfriars' and St. Michael's churches for permission to publish photographs and to the Scottish records Office for their help, also National Museum of Antiquities for supplying photographs.

Plate xviii — One of a pair of communion cups belong to St. Michael's Church, Dumfries — see Addenda. Photo: Nat. Museum of Antiquities of Scotland.

Plate xix — Wine flagon belonging to Greyfriars' Church, Dumfries — see Addenda. Photo: Nat. Museum of Antiquities of Scotland.

THREE EIGHTEENTH CENTURY LETTERS

by Dr J. B. Wilson

In the course of research into the careers of Dr James Mounsey of Rammerscales and Dr. John Rogerson of Dumcrieff[1, 2] three interesting letters have come to light. Each comments on affairs and characters from nearly two hundred years ago. Each letter is quite different in style and subject. Two directly concern Dr. Mounsey and Dr. Rogerson, while the third deals with Lochmaben's unruly past.

I

Letter from Dr. James Mounsey, from Russia, dated December, 1762, to an unidentified correspondent in Scotland.

This four page letter[3] was written from near St. Petersburg a few months before Dr. Mounsey's return home from service there. Mounsey was then at the very pinnacle of his career, having recently been appointed Chief of all the Medical Services in Russia. Shortly after this letter was written the Emperor Peter was deposed by his wife, Catherine and Mounsey returned home, ostensibly for reasons of health.

Though the letter was found amongst the papers of George Drummond, Lord Provost of Edinburgh, its recipient must have been some boyhood acquaintance of Mounsey's for on the first page the Doctor writes "I often reflect with Pleasure on the friendship and familiarity of our youth"; later he continues "I have not quit thoughts nor hopes of taking a walk with you on the Kirk or Castle Lochside."

Dr. Mounsey refers to several contemporaries, notably Charles Erskine the Lord Justice Clerk who was Provost of Lochmaben 1732-34 and from whom Mounsey had recently received a letter. Apparently too Sir Alexander Dick, President of the Royal College of Physicians in Edinburgh, had recently offered Mounsey his friendship, probably in exchange for the seeds of the Rhubarb Palmatum. Other acquaintances mentioned are Sony Linsay writer in the Justice Clerk's office and bony John Henderson, from Hitae, of the same office — old comrades both.

Perhaps, however, the most interesting part of this letter lies in Mounsey's remarks on his position in the Russian Court where he was First Physician to the Empress Elizabeth and subsequently Chief Director of the Medical Chancery and of the whole Medical Faculty throughout the Russian Empire.

> "I was settled in Moscow where I had great reputation and no ungrateful Practice. But I was called to Court without any desire or inclination and appointed first Physician and Counsellor of State to the late Empress (which gave me the rank of General Major) I had the good luck to have her confidence and Grace and if she had lived I am persuaded she would have made the fortune of my Family considerable My conduct during her illness the success I had in the attempts I made to help her, and the justness of all my Prognostick increased my reputation. So I found after her death I had even gained credit both with the Ministry and Publick. The Present Emperor (Peter) who had long known and esteemed me, on his accession, made me Privy Counsellor, first Physician and Archeater the two last seem synonymous but you must know it is not allways the Same Person who is in fact both for Archeater in this Country is the Chief Director of the Medicine Chancery and of the whole Faculty, and of all medical affairs throughout the whole Empire, in a way you can have no idea off First Physicians of other Monarchs may be great as to themselves by personal merits but the greatness of their office and Power bears no manner of comparison with mine and thank God I am not only esteemed and beloved by my Master but I have the confidence and friendship of the nation

1. "Three Scots in the Service of the Czars". J. B. Wilson (1973) Practitioner, Vol. 210 pages 569-574, 707-708.
2. "Three Medical Men from Lochmaben" Transactions (1975) 3rd Series, Vol. L.
3. Register House, Edinburgh, Ref. 9D 24/1/846.

also nevertheless I can assure you all this grandure has been forced upon me, nor can I say I feel that pleasure the world may think, indeed I am a little flattered as I can do more good to those under me than any of my Predecessors ever could."

After these descriptions of his fame and position at the Imperial Court, Mounsey continues prophetically

"My health is but invalitudinary and my offices will be too heavy for me long to bear ..... I have long ago been much troubled with hame-wae" —

a lovely and expressive word.

II

Letter from Samuel Rogerson in Fingland to Dr. John Rogerson at St. Petersburg, December 22nd, 1770

In spite of the difficulties then inherent in carrying on a correspondence over these distances Dr. Rogerson's father three years previously had received a letter announcing his son's arrival in Russia and two other letters, one by Dr. Mounsey and one by a Mr Clerk. Dr. John Rogerson had in 1776 obtained a medical appointment in Russia. Three years later he was promoted Court Doctor and in 1786 Physician to the Empress Catherine with the rank of Counsillor of State.

Mr Rogerson senior was too ill to write the letter, which was written for him by the Rev. John Nimmo, Parish Minister of Johnstone.

"I write at the desire of your worthy father and you must consider what I have to say as his words which I am ordered to tell you. He received your letter of October last and rejoiced in yourprosperity but is afraid the gay and grand scenes constantly before your eyes may lead you to forget God and the precious interests of your immortal soul. He feels tenderly for all his children and is more concerned infinitely more so for their being truely good than rich or great in this world and commands you by all the Authority of a Parent to seek first the Kingdom of God and his righteousness. He feels more for you than his other children because you are more exposed to temptation than they and knows well the fatal influence of grandure and riches even upon the wise Solomon and anxiously wishes you to avoid the rocks upon which he was nigh eternally shipwrecked."

Thereafter he goes on to inform Dr. Rogerson that his father's "asthmatic disorder grows upon him fast and (he) is anxious he has not long to live."

Though written by the Minister the sentiments contained in the letter reflect the religious philosophy of the day and the literal way in which Biblical teaching was accepted. Had the worthy old man known that part of his son's duties at the Imperial Court were to be the medical examination of Catherine's many lovers his concern for the soul of his son would have been even greater.

Samuel Rogerson died a few days after this letter was written and is interred in Johnstone Cemetery.

III

Letter written by Robert Rogerson in Fourmerkland to his brother William Rogerson at St. Petersburg, 18th December, 1789

The main portion of this letter consists of family and local farming news, of considerable interest to the student of rural economy but the portion of the letter of greatest historical interest is found on the last page where a description is given of some events in Lochmaben at the time of the Election of the Member of Parliament for the Dumfries Burghs. Some account of the stirring events associated with these elections during the subsequent year has already been given[4] but the description contained in the letter is the only contemporary account so far available to us of a disturbance usually referred to at that time as a 'Ryot'.

The main protagonists in the Elections were Sir James Johnstone, Bart, of Westerhall, a

4. Lochmaben Burgh Politics (1973), J. B. Wilson, Transactions 3rd Series, Vol. L.

Tory, who was supported by Lord Hopetoun, factor to the Marquis of Annandale, and Captain Patrick Miller, a Whig, who was supported by the powerful Duke of Queensberry.

> "There has been such drinking and pudring (tippling) at Lochmaben as never was seen. Sir James of Westera has been there and sent his servants many a time to meet him at Brumelmuir. Above a 100 people had lowsed the horses out of the coach and drew him into town and three times round the Cross. Lord Hoptoun came into the town and they met him likewise and drew him into the town then gave all drink that would drink his health. They have spent many a hundred pound and it not ended yet. The Duck (Duke) came to the town I think he had very little Pleasure. The Boise (Boys) threw stones at him and had almost broke his coach and said they had plenty of Duces in town already. He is wanting the votes for Miller of Dalswinton. Miller came and they cut the leathers of his coach that he was to tie it with cords to carry him home."

Obviously Westerhall's local support backed by "many a hundred pound" formed the more vocal, if not the larger, part of the community.

Comment

All three of these letters consisted of several pages and, like most letters, contained a good deal of family and local news, of interest because of the way in which they illumine conditions in these faroff days, 200 years ago. Of wilder interest however are the parts which have been abstracted in considerable detail. These speak for themselves so well that little explanation is required apart from a short introduction to supply background information. Certainly not one of the letter writers would dream that what they wrote would be reread and commented upon nearly 200 years later.

To the student of European History Dr. Mounsey's letter with its reference to Emperors and Empresses may be the most interesting; to the student of local history the description of the 'ryot' has a fascination all of its own, but to the student of human nature the father's heartfelt advice to his son will probably strike the same sympathetic chord today as it did 200 years ago.

All three letters are now deposited in Register House in Edinburgh, the latter two through the generosity and foresight of Mrs Isabel Rogerson.

OBITUARIES

Mrs M. D. McLean

On 13th June 1976 the Dumfriesshire & Galloway Natural History & Antiquarian Society lost one of its most valued members by the death of Mrs Mary McLean ("Molly"). She had served the town for many years on committees including those for Social Work, Health, Roads and Drainage, Cleansing & Parks and bodies concerned with Old People's Welfare & Children's Homes as well as being a member of the Museum Committee from 1954. From 1949 she served the Museum as a Council member and was deeply involved in the establishment of the substantial Period Costume & Dress Collection. It would be difficult to find any worth-while project that did not benefit from her suggestions backed by real hard work. Through her professional contacts as County Librarian and as a member of the Scottish Library Association she had a wide and accurate knowledge of places and people with antiquarian interests. It was a fitting tribute to her general attributes that she was elected President of this Society — the only woman so honoured in 100 years — and she held that post during the Centenary Celebrations. She discharged all her many obligations with an effortless pleasantless that concealed the many hours of work that were involved. Those who knew her will not easily forget her capacity for service and her talent for friendship.

A.F.H.

John Gladstone of Capenoch

John Gládstone of Capenoch, one of our longest serving members, died upon the 29th of May, 1977 at the age of 69 years. He was a much-liked and respected figure locally in his official capacities as Justice of the Peace, County (and later District) Councillor, Member of the Board of Management of the Crichton Royal and a Committee Member of the Cheshire Home at Carnsalloch. In Church work also he was much respected and his extensive architectural knowledge of conservation and restoration made him a valued member of the local Synod's Artistic Questions Committee. Mr Gladstone was educated at Eton and Magdalene College, Cambridge. As a volunteer officer in the Territorial Battalion of the K.O.S.B. he saw active service in World War II and also served in the Intelligence Corps. Perhaps his greatest love was his lairdship of the Capenoch Estates : He was a firm believer in the right of family ownership to landed property and in this respect very much regarded himself as a trustee for future generations. Although a keen sportsman his main interests lay in the spheres of Forestry, Local and Family History. The former subject was one in which he was particularly interested both in regard to the management of his own estates but also to the history and development of the natural woodlands in Galloway and Nithsdale. An interest in Ornithology, no doubt nurtured by his father's deep knowledge and pre-eminence in the subject, led him to maintain and extend the Capenoch Library which remains one of the finest specialist collections in private hands. Mr Gladstone became a member of this Society in 1926 and although he neither held office nor was ever a Member of Council its interests and well-being were close to his heart and he gave unstintingly of both time and experience to the advancement of its aims. His contributions to the **Transactions**, on a variety of subjects, will for long be works of reference and a joy to kindred spirits.

J.W.

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1. Four days on Ben Lawers (August 9th-13th, 1924). **Trans. Perth Soc. Nat. Sciences,** 1926.
2. Notes on the Flora of Mid-Nithsdale. (Co-Author with W. A. Scott). These **Transactions** IIIrd Series, Volume XIII, pp. 79-81.
3. The Dovecote at Blackwood, Dumfriesshire. These **Transactions** IIIrd Series, Volume XV, pp. 78-84.
4. The Kirkpatricks of Capenoch (1727-1846). These **Transactions** IIIrd Series, Volume XV. pp. 85-94.

5. Letter from Robert Burns to Samuel Clarke, jr. Esqr. **Gallovidian Annual.** 1949.
6. Capenoch. These **Transactions** IIIrd Series, Volume XXXV, pp. 136-8.
7. The Barlochan Falconry Heirlooms. These **Transactions** IIIrd Series, Volume XXXVIII, pp. 199-202.
8. The Natural Woodlands of Galloway and Nithsdale. **Forestry,** Volume XXXIV, No. 2 (1961), pp. 173-80.
9. MS Pedigree Table of the Carlyle and Gladstone Families. **Ewart Library Reference Collection, Dumfries.** (Dd.33(8CAR)).

Mr Henry McA. Russell

The Society lost one of its most active members on the death of Mr Henry McA. Russell on 24th April, 1978.

Born in 1898 in London, Mr Russell on leaving school entered the Civil Service as a boy clerk and quickly earned promotion through various posts by his efficiency and high examination passes, until eventually in 1920 he joined the Inland Revenue Service as Assistant Inspector of Taxes in Ripon. In the meantime he had enlisted in the Army on his 18th birthday and served from 1916 to the end of the War in 1918, by which time he was in action in France with the Seaforth Highlanders. His career in the Inland Revenue service took him to a variety of places in the London district, then to Northern Ireland, and eventually to Dunoon, from where he finally moved to Dumfries as H.M. Inspector of Taxes, the post from which he retired in 1961.

Among Mr Russell's diverse interests was a great love of the countryside and of Natural History, particularly ornithology, as is demonstrated by the fact that in 1960 he became a founder member and the first Secretary of the Dumfries and Galloway Branch of the Scottish Ornithologist's Club.

It was just after he came to Dumfries that he joined our Society in 1953, and immediately began to participate in its activities with the same earnestness and drive as he had had shown in his professional career. Elected to Council in 1955 he was made a vice-president from 1956 to 1960. From 1962 to 1966 he served as Honorary Treasurer, an office in which he devoted his administrative experience and his high standard of precision to organising the finances of the Society. Thereafter he continued as member of Council, until in 1970 he again became vice-president. Although he was prevented by ill-health from accepting the office of President, he was honoured in 1975 for his services to the Society by being made a Fellow of the Society.

Our sympathy is extended to his widow, Mrs Russell and to his son and daughter.

A.R.

PROCEEDINGS 1977-78

October 7th 1977

At the Annual General Meeting the retiring president, Mr A. E. Truckell, discussed some early records of the town, in particular a recently discovered rental of about 1674. The rental gave a great deal of information about people and places in the town, so that it would be possible to reconstruct a detailed property map for the period. Mr Truckell was succeeded as president by Mr Alex Robertson.

October 21st 1977

Mr Duncan Adamson discussed Dumfries in the reign of William of Orange. Overseas trade had been hit by the French wars, but there had been considerable local trade in leather, textiles and cattle (for the English market). The end of the century was a grim time, with widespread famine, disease, and many townspeople unable to pay their debts. Had it not been for imports of foreign grain, and a comparatively good harvest in 1701, there might have been a total disaster.

November 4th, 1977

Mr Stuart Martin deputised at short notice for Mr Robertson, who was ill. He gave a beautifully illustrated talk on woodland plants. During the interval specimens of grasses and ferns were on display.

November 18th, 1977

More than eighty members and friends heard Miss Milroy give an illustrated lecture on her recent visit to Ladakh, on the border of Tibet. Many aspects of the country's life were shown — the striking headgear of many of the women, religious festivals, markets, agriculture. A great deal of money had recently come into the country because of the interest taken in it by the Indian army (for the country occupies an important strategic position). Communications had been much improved, and it was likely that the traditional way of life would be altered.

December 2nd, 1977

Mr Michael Yates gave an illustrated talk on his excavations at the village of Polmaddie. (See article in this volume). He described traditional farming methods, how the kilns worked, and what the houses must have looked like.

January 13th, 1978

Mr Ronald Rose, wildlife manager for Economic Forestry (Scotland) at Eskdalemuir said that there were now eighty two species in the area, as against thirty-five when he took over. Roe deer, plovers, wrens, curlews, thrushes and chaffinches had all been attracted. Problem animals were water-voles and foxes, both capable of doing immense damage. It was important not to plant trees too closely, or little wild life would survive.

January 27th, 1978

Members Night. Mr J. E. Chinnock showed a number of slides on the antiquities of Cyprus, from the Stone Ages to the late Middle Ages. Mr Truckell discussed Beachcombing at Carsethorn. Finds ranged from an Argentinian wine bottle to a number of flowers which now grew in his garden. Mr A. Tyers spoke about the Dutch elm disease, which was likely to strike the Dumfries area soon. So far no economic way to stop the spread of the disease had been found. Tea was served by Miss Gerdes, Miss Donald and Miss Matheson.

February 10th, 1978

Dr Peter Hopkins, of the Wildlife Trust for Scotland discussed conservation in the area. Industrial waste from the Midlands, dumped in the Irish Sea, was in danger of polluting the Solway. Outstanding assets in the region included the salt marshes of the Cree estuary and the beach at Port William.

February 24th 1978

Professor John McQueen gave a lecture on Scottish place names. At one time both Pictland and Strathclyde had spoken a P Celtic language, but 'pit' was very much an element of the north east, and 'tref' belonged to the south west. The former, meaning 'piece' or 'share', presumably marked a development in administration of land tenure among the Picts. 'ingham' endings reflected early English settlements, and 'bal' was the key Gaelic element.

March 10th, 1978

At the special general meeting it was decided to make no alteration in the subscription for the ensuing year. It was agreed that the Society should make efforts to ensure that Lincluden College had a full time custodian. Professor Barri Jones discussed his recent aerial surveys of the Solway, from which it had been possible to build a very detailed picture of life in West Cumbria in Roman times.

During the session 36 new adult members were elected. All meetings were held in the Education Offices, starting at 7.30 p.m. The earlier start made it possible to have a short interval. The average attendance was 57.

Membership List as at May 1978.

Fellows of the Society are indicated thus •
Members are requested to notify the Hon. Secretary of any errors.

LIFE MEMBERS

Ardern, L. I. 5 Rossway Road, Kirkcudbright 1975
Baguley, Dr Rodney, 48 Albert Road, Grappenhall, near Warrington 1978
Birley, Eric, Sele Cottage, Hexham 1935
Blackwell, Lt.-Commander Phillip, Ramshill, Upper Easebourne, Midhurst, Sussex 1946
Breay, Rev. J., The Vicarage, Great Chesterford, Saffron Walden, Essex 1950
Buccleuch, His Grace the Duke of, Drumlanrig Castle, Thornhill 1975
Burnand, Miss K. E., 36 Hill Street, Dumfries (Ordinary member 1941) 1943
•Cunningham, David, Lamorna, Georgetown Road, Dumfries (President 1953-1956) 1945
Cunningham-Jardine, Mrs R., Jardine Hall, Lockerbie (Ordinary member 1926) 1943
Floyd, Dr James D., Institute of Geological Sciences, Murchison House, W. Mains Rd., Edinburgh 1970
Gaskell, D. R. Auchenbreck Farm, Tynron, Moniaive 1975
Geddes, Nathan, Broomiebrae, Buittle, Castle Douglas 1955
Gordon, James, Selkirk Arms Hotel, Kirkcudbright (Ordinary member 1969) 1977
Johnston, James J., P.O. Box 65, Marshall 72650, Arkansas, U.S.A. 1972
Kennedy, Alex., Craigmullen, Dundrennan, Kirkcudbright (Ordinary member 1934) 1943
Kennedy, Thomas H., Blackwood, Auldgirth 1946
McCulloch, Walter, Ardwall, Gatehouse 1946
Perkins, Dr E. J., Biology Annexe, University of Strathclyde 1964
Phinn, Mrs E. M., Imrie Bell, Castle Douglas (Ordinary member 1938) 1943
Porteous, Miss M. Lincluden House, Dumfries (Ordinary member 1953) 1954
Rainsford-Hannay, Dr D., 26 Colquhoun Drive, Bearsden 1969
Runciman, the Hon. Sir Steven, Elsieshields, Lockerbie 1967
Rynne, Etienne, University College Galway 1964
Skinner, James S., The Corner House, Closeburn 1950
Thomas, Mr and Mrs C. H., Southwick House, Southwick 1950
Thomson, John, Summerhill House, Annan ... 1977
Welsh, Adam, Dinwoodie, 1 Greenway Close, Weymouth 1959

ORDINARY MEMBERS

Adamson, Mr and Mrs David, 35 Albert Road, Dumfries 1958
Adamson, Mr and Mrs Duncan, 39 Roberts Crescent, Dumfries ..... 1972 & 1974
Aitkenhead, John, Kilquhanity House, Castle Douglas 1969
Alexander, Robert S. L., 30 Port St., Annan 1972
Anderson, Mr and Mrs A. D., 22 St. Anne's Rd., Dumfries ..... 1962 & 1972
Anderson, Mrs E., 3 River Park, The Howes, Annan 1960
Angus, the Rev. and Mrs J. A. K., 90 Albert Rd., Gourock 1956
Ansell, M. L., Rannoch, Glenlee, New Galloway 1965
Archibald, Mr and Mrs A., Eriskay, St. Anne's Road, Dumfries 1970
Armstrong, David G., 3 Glenkiln Walk, Dumfries 1976
Armstrong, William, 36 Primrose St., Dumfries 1946
Austin, William, Glaston, Albert Rd., Dumfries 1977
Bacon, Mrs M., 12 West Park Cottages, Dumfries 1976
Badrock, S. H. Nutwood, Auchencairn 1972
Ballantyne, R. M., Apt 21-485 West, 14th Avenue, Vancouver, B.C. 1977
•Banks, James, Scarknowe, St. Annes Rd., Dumfries (President 1971-74) 1960
Barnes, F. C. 55 Jesmond Park West, Newcastle on Tyne 1971
Barnicott, E. L., 1 St. Andrews Place, Gretna 1978
Beard, Timothy F., 38 Barrow St., New York, N. York 10014 1970
Bell, Mrs Anne, 12 Castle Douglas Road, Dumfries 1967
Bell, M. J., Box 226, Milson's Pt., Sydney, New South Wales 1970
Beresford-Cooke, Miss K. M., Castle Cottage, Glencaple Road, Dumfries 1962
Birbeck, E. H. Kinmount, Annan 1978
Black, Miss Amy G., c/o Bank of Scotland, P.O. Box 5, The Mound, Edinburgh 1947
Blackett, Major C. W. S., Old Manse of Borgie, Bettyhill, Sutherland 1960
Blair, J. B., 49 Whinhall Ave., Airdrie 1973
Blake, Brian, Silver Becks, Silverhouse, Grasmere, Westmorland 1953
Blyth, W., Blowplain, Balmaclellan 1977
Bonnar, M. K., 1 Dubbs Rd., Port Glasgow 1975
Bown, Mr and Mrs Cyril J., 62 Georgetown Crescent, Dumfries 1967
Boyes, Miss Elizabeth, 45 Greenlea Crescent, Collin 1969
Brewis, Mrs F. A. D. M. and Mrs R. D. D. M., Ardwell, Stranraer 1958
Brown, A. J. M. B., Roberton, Borgue 1972
Brown, Miss Mary, 29 Dunmore Road, Castle Douglas 1973
Brown, Mr and Mrs William, Taynford, St. Georges, Castle Douglas ..... 1970 & 1968
Bruce, Mr and Mrs J.M., 53 Gillbrae Crescent, Dumfries 1978
Bryden, Thomas, 5 Woodlands Crescent, Newbridge, Dumfries 1968
Bryson, Mrs Marjory, Kirkbrae, New Galloway 1966
Bryson, Dr I., Alma Bank, Lovers Walk, Dumfries 1977
Burwell, Mr and Mrs A. J., 3 Lovers Walk, Dumfries 1964
Campbell, Mr and Mrs Eoin, St. Nicolas, Ballplay Road, Moffat 1960
Campbell, Mrs J. L., 52 Rotchell Rd., Dumfries 1976
Campbell, Joseph, Norwood, Campbeltown ... 1973
Carroll, Miss Kathleen, Meadowside, 14 Summergate Road, Annan 1961
Carruthers, Miss D. Joy, Mosside, Troqueer, Dumfries 1967
Carruthers, Mr and Mrs J. D,. 5 Victoria Road, Dumfries 1968
Carruthers, Oliver, Dormont Brae, Shillong 793005, Neghalaya, India 1977
Cessford, G. A., 10 Almond Court East, Braehead Park, Edinburgh 1956
Chalmers, Miss Pamela, Sutharg, Back of the Hill, Annan 1978
Cheshire, Bernard, 21 Etterby Street, Carlisle 1966
Chinnock, J. E., 63 Albert Road, Dumfries 1968
Clark, John D., 26 Catherinefield Crescent, Dumfries 1971
Clavering, Miss Molly, Clover Cottage, Moffat 1949
Clay, Mr and Mrs James, 6 Marjoriebanks, Lochmaben 1976
Clayson, Dr Christopher, Cockiesknowe, Lochmaben 1965
Clydesdale, Miss, 36 Georgetown Road, Dumfries 1975
Cochrane, Miss M. S., 119 Lockerbie Road, Dumfries 1946
Coles, Dr J. M., 89 Long Road, Cambridge 1964
Collin, T. R., Oakley Bank Kirkcudbright ... 1973

Condry, Mr and Mrs J. M., 38 Main Street, Crossmichael 1973
Cormack, W. F., Starney, Dryfe Road, Lockerbie 1951
Corrie, Miss Margaret, Gargowan, Mile House Crescent, Dumfries 1971
Corsan, John C., 110 College Street, Dulwich, London S.E. 21 1961
Cowan, Dr Ian, 119 Balshagray Avenue, Glasgow W. 1 1962
Croall, M. L., Upper Balmore, 15 Dalbeatetie Rd., Dumfries 1964
Cunningham, Mrs Beatrice, Wamphray Schoolhouse, Moffat 1976
Currah, Dr Joan, Crichton Royal Hall, Dumfries 1970
Dalziel, Mr and Mrs F. H., Girthon Kirk Cotetage, Gatehouse 1972
Daniels, Charles, Museum of Antiquities, University, Newcastle on Tyne 1961
Darke, Mrs Helen, 12 Lake View, Powfoot ... 1963
Davidson, Dr James, Linton Muir, West Linton 1938
Davies, E. J. M., Grove House, Thornhill ... 1973
Desbrulais, Mrs E. L., Riding Hill, 62 North St., Annan 1965
Dinwiddie, Noel, 27 Newall Terrace, Dumfries 1937
Dixon, Mrs Jill, 31 Maryville Park, Belfast 1976
Dobbie, Alex, 1 Georgetown Crescent, Dumfries 1977
Dobie, Mr and Mrs K. H., Glenfiddich, 2 Corbelly Hill, Dumfries 1973
Donald, Miss Morag, 26 Mosspark Avenue, Dumfries 1971
Donald, Mrs M. P. and Miss Eileen, 1 Suffolkhill Avenue, Dumfries 1975
Donaldson, Desmond, Ewart Library, Dumfries 1968
Donaldson, Miss W. S. M., 27 Roberts Crescent Dumfries 1976
Douglas, Miss Madge and Miss May, Uplands, Edinburgh Road, Dumfries 1968
Downey, Mrs George, Eskdale Farm, Tiverton, Ontario, Canada 1973
Drew, Dr R. L. 1959
Dumville, David, University of Pennsylvania, Philadelphia 1969
Dunbar-Lidderdale, John, 21 Withyholt Park, Charlton Kings, Cheltenham 1966
Duncan, Walter, Quarrelwood, Duncow, Dumfries 1926
Dundas, Miss Ruth, Kinnaniel, Kirriemuir ... 1966
Edgar, Miss E. T., Laigh Glenling, Port William 1970
Fazakerley, G., Coniston, Carsethorn 1970
Farries, T. C., 3 Nunholm Park, Dumfries ... 1948
Ferguson, Miss Elizabeth, 14 Gordon St., Dumfries 1968
Ferguson, Lt.-Col. G. S. and Miss Sheila, Laggan, Dunscore 1977
Ferguson, Ronald, Woodlea House, High Bonnybridge, Stirlingshire 1953
Fleming, Mr and Mrs A., Woodford, Nunholm Road, Dumfries 1970
Fleming, Mrs Mary, Bonshaw, 7 Charnwood Road, Dumfries 1968
Frain-Bell, Dr and Mrs Lockhart, Highfield, Netherwood, Glencaple Road, Dumfries 1967
Fraser, Dr and Mrs I. A. M., Windrush, 42 Rotchell Park, Dumfries 1963
Fullen, Miss Anne, Carlyle Cottage, Hightae, Lockerbie 1961
Gair, Mrs C. M., Dorland, 42 Pleasance Avenue, Dumfries 1960
Gair, John, Claremont, 16 Dumfries Road, Lockerbie 1945
Gemmell, Mr and Mrs A., 106 Loreburn Street, Dumfries 1966
Gerdes, Miss Bridget, 27 Ardwall Road, Dumfries 1967
Gibbs, Allan D., 88 High Street, Ashwell, Baldock, Herts 1968
Gibson, Dr John A., Foremount House, Kilbarchan, Renfrewshire 1968
Gilchrist, George, 6 Station Road, Annan ... 1964
Gillam, J. P., Lloyds Bank House, Middle Street, Corbridge 1953
Gillies, Dr John, The Haining, Whillyhill, New Abbey 1975
Glendinning, Mrs Mary, 26 Brooke Street, Dumfries 1957
Grant, Mr and Mrs G. D., 7 St. Annes Road, Dumfries 1962
Graham, Mrs E. H., Mossknowe, Kirkpatrick Fleming 1947
Grant, Mrs J., West View, Springholm 1976
Gray, Dudley H., Glen Helen, Templand Road, Lochmaben 1970
Greeves, Lt.-Col. J. R. H., Altona, Strandtown, Belfast 1947
Greig, Miss C., Strathdon, Nelson Street, Dumfries 1977
Haggarty, George, Dept. of Environment, Argyll House, Lady Lawson Street, Edinburgh ... 1977
Halbert, William, 8 Stanley Drive, Ardrossan 1965
*Harper, Dr James (President 1956-59) and Mrs M., Waterside House, Keir, Thornhill 1947 & 1977
Harris, Mrs A. F., 30 St. Annes R.d, Dumfries 1969
Hatvany, Mrs D. M., 4 Nithbank Road, Thornhill 1971
Hawley, H. N., Tumby Lawn, Boston, Lincolnshire 1962
Henderson, Mrs Doreen, Braeside, 54 Moffat Road, Dumfries 1964
Henderson, I. G., The Hermitage, St. Brydes Ter., Lockerbie 1951
Henderson, Miss J. M., Ardgowan, 5 Lockerbie Road, Dumfries 1945
Higgs, Mr and Mrs G. R., The Cleugh, Kirkcudbright ..... 1970 & 1967
Hill, D. M., 23 The Rand, Eastriggs 1970
Hogg, Mrs Helen, Ercildoune, Robb Place, Castle Douglas 1972
Hughes, Miss Nan, 4 Observatory Terrace, Dumfries 1973
Hughes, Mrs M., Rambler Cottage, Racks Road, Glenlea, Collin 1977
Hunter, Miss D. M., 74 Trinity Road, Edinburgh 1967
Hunter-Blair, E. T., Parton House, Castle Douglas 1965
Huntly, Mrs Margaret, 11 The Grove, Edinburgh Road, Dumfries 1966
Inglis, Charles, 15 New Station Road, Dalbeattie 1978
Irvine, Mrs I. C., 4a Johnstone Park, Dumfries 1973
Irving, Miss J. P., 14 Rotchell Park, Dumfries 1962
Irving, J. Wyllie, Kirkbrae, Lochrutton 1957
Jameson, Mrs Winifred, Ardmor, Gatehouse 1946
Jardine, Dr W. Graham, 22 Bute Crescent, Bearsden 1966
Jobey, G., 44 Parkside Cres., Tynemouth ... 1965
Johnston, Alex., 43 Moffat Road, Dumfries 1968
Johnston, Lt.-Col. Patrick J., Bury Hall, Therfield, Royston, Herts 1956
Johnston, William, Trevia, Croftmaggot Road, Dumfries 1970
Kelly, Miss J., 1 Greystone Avenue, Dumfries 1977
Kerr, William B., Northern Ireland 1971
Kingan, Mr and Mrs James, Laneside, Troqueer, Dumfries 1971
Kirkpatrick, H. S., 29 Betley Hall Gardens, Betley, Crewe 1964
Knott, Miss Hilda, The Lymes, Nelson Street, Dumfries 1964
Koller, Mrs C., 2631 Woolsey Street, Berkeley, California 1969
Laurie, Mrs W., Uplands, Edinburgh Road, Dumfries 1975
Levitt, Mr and Mrs B. G., Cherry Tree, Moss Road, Dalbeattie 1973
Little, Dr and Mrs J. L., Fearnhill, Bankend Road, Dumfries 1973
Little, Robert, East Hayrigg, Lockerbie 1961
Loxam, Miss June, Sydney House, Greenbrae Loaning, Dumfries 1971
Lockwood, David, 78 Church Street, Dumfries 1977
Low, Mr and Mrs A. P., Riverside, Bladnoch, Newton Stewart 1978
McAdam, Dr and Mrs W., Flat 1, 434 Upper Newtonairds Road, Belfast 1952
McCall, Peter J. D., Crawford Villa, Johnstone Park, Dumfries 1970
McCracken, Alex., 3 Alexandra Place, Annan 1961
McCulloch, A. J., Gaitgil, Twynholm 1963
MacDonald, James, 9 Cardoness St., Dumfries 1968
MacDonald, Mr and Mrs N. H., Hazelwood, N. Laurieknowe, Dumfries 1952
McDouall, J. C., The Old School, Souldern, Bicester, Oxfordshire 1971

McDowall, Miss Pearl, Meadow Park, Dalswinton Road, Kirkton 1957
McEwen, Mr and Mrs Robert H., Seaforth, Douglas Terrace, Lockerbie 1969
McFadden, Mr and Mrs John A. C., 20 Moffat Road, Dumfries 1969
McGarrigle, B. E., 14 Taynish Drive, Simshill, Glasgow 1972
McGhie, Miss Mary, Fairleigh, Dunmuir Road, Castle Douglas 1957
McJannet, Mr and Mrs W. I., 4 Albany Place, Dumfries 1969
McKean, Mr and Mrs Gordon, 39 Pleasance Avenue, Dumfries 1975
McKerrow, H. George, Whiterne, 61 Albert Road, Dumfries 1953
MacLaren, Alastair, Royal Commission on Ancient and Historical Monuments of Scotland, Melville Street, Edinburgh 1965
McLaren, W. G., Forita, Sherwood Crescent, Lockerbie 1964
McLellan, James, Orchard Knowes, Kippford 1971
McLennan, Miss Mary, 11 Great King Street, Dumfries 1968
MacLeod, Innes, 57/59 Oakfield Ave., Glasgow 1963
MacMillan, Mrs Mary, Abbeyville, New Abbey 1963
McNab, Mrs Caroline, 3 Blair St,. Dumbarton 1977
McNaught, David, 3 Verdun Place Dumfries 1975
McNaught, Mr and Mrs J., Kilneiss, Moniaive 1965
McNicol, Dr Martin, 31 Amherst Avenue, London 1977
McNulty, Mrs Grace, 3 Greystone Loaning, Dumfries 1977
McQueen, John, 9 Learmonth Gardens, Edinburgh 1952
MacRae, K., 29 Drive Road, Linthouse, Glasgow 1970
McRobert, Mrs F. M., Whistlebare, Closeburn 1948
Mackie, Alistair R. D., Viewfield, Mauchline 1976
Mackie, Miss Margaret, Tientsin, 42 Hardthorn Crescent, Dumfries 1971
Marshall, Mr and Mrs David, 6 Noblehill Drive, Dumfries 1975
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‡Edinburgh. Geological Society of- (*Scottish Journal of Geology*), per the Librarian, Grant Institute of Geology, Kings Buildings, West Mains Road, EDINBURGH 9.

*Glasgow. Archaeological Society of-, (*Transactions*). per J. G. Scott, Art Galleries & Museum, Kelvingrove, GLASGOW.

‡Glasgow. Geological Society of- (*Scottish Journal of Geology*), c/o Mitchell Library, North Site, GLASGOW C3.

*Hawick Archaeological Society (*Transactions*), per H. K. MacKay, North Bridge Street, HAWICK.

‡Renfrewshire Natural History Society, (*The Western Naturalist*), per Dr John Gibson, Foremount House, KILBARCHAN, Renfrewshire.

ENGLAND

‡Antiquaries of London. Society of- (*Antiquaries Journal*), Burlington House, LONDON.

*Cumberland & Westmorland Antiquarian Society. (*Transactions*), Tullie House, CARLISLE.

‡Durham & Northumberland. Architectural & Archaeological Society of- (*Transactions*), Prebend's Gate, DURHAM DH1 3DZ.

‡Institute of Archaeology, University of London, (*Bulletin*), 31-34 Gordon Square, LONDON WC 1

‡Nature. Council for- (*Habitat*), per the Secretary, Zoological Gardens, Regent's Park, LONDON NW1 4RY.

‡Oxford Architectural & Historical Society (*Oxoniensia*), Aschmolean Museum, OXFORD.

‡Surrey Archaeological Society (*Archaeological Collections & Research Volumes*), Castle Arch GUILFORD.

‡Yorkshire Archaeological Society (*Journal*), Claremont, Clarendon Road, LEEDS LS2 9NZ.

IRELAND

‡Royal Irish Academy (*Proceedings*), 19 Dawson Street, DUBLIN 2.

‡Ulster Archaeological Society (*Journal*), per the Librarian, Queen's University of Belfast, BELFAST BT7 1LS.

ISLE OF MAN

‡Isle of Man Natural History & Antiquarian Society (*Proceedings*), Manx Museum, DOUGLAS, Isle of Man.

FRANCE

‡Musee Antiquitites National (*Bulletin—Antiquitites Nationales*), SAINT GERMAIN EN LAYE, France.

HOLLAND

‡Rijksdienst voor het Oudheidkundig Bodemonderzoek (*R.O.B.*), AMERSFOORT, Kleine Haag, Holland.

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