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EDITORIAL

Contributions are invited on the Natural History, Antiquities, Prehistory, Geology or Industrial Archaeology of South West Scotland or the Solway Basin and preference is given to original work on local subjects. Intending contributors should, in the first instance, apply to the Editors for instructions, giving the nature and approximate size of their paper. Archaeological contributions may have to be published in microfiche with a printed summary, this to reduce expense and render the article more readable for the average member. 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.

In addition to this volume, as a result of publication economies and grants, the Society has been able to publish a 73 page monograph on the Excavations at Cruggleton Castle 1978-81 by Gordon Ewart, copies of which are being distributed to members. Additional copies may be obtained from the Hon. Librarian, 43 New Abbey Road, Dumfries — see rear cover. The publication of a second monograph is under discussion with the Scottish Development Department.

Exchanges should be sent to the Hon. Librarian, to whom enquiries should be made regarding back numbers of these Transactions — also see rear cover. As many of the back numbers are out of print, 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.

Payment of subscriptions should be made to the Hon. Treasurer, Mr K. H. Dobie, 2 Corbelly Hill, Dumfries, 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.

Limited grants may be available for excavations or other research; applications should be made prior to 28th February in each year, to the Hon. Secretary, Mr R. H. McEwen, 13 Douglas Terrace, Lockerbie who will also deal with membership enquiries.

A copy of the current Rules, being those passed at the Special General Meeting on 4th May 1977 appeared in vol. 52 and a list of Members in vol. 56.

This volume is made with the assistance of a generous Carnegie Grant. The Council is also indebted to the Scottish Development Department (Historic Buildings and Monuments) for a grant towards the costs of Mr Halpin's paper on Deil's Dyke II and to the Royal Commission on Ancient and Historical Monuments of Scotland for grants towards Mr Stell's and Mrs Reynold's papers on Southerness Lighthouse and J. M. Corrie, Archaeologist respectively.

The illustration on the front cover is of the Wamphray "grave slab" from the article The Early Church in Dumfriesshire by W. G. Collingwood in Vol. XII (1926) of these *Transactions.*

Note:— The Society is indebted to Dr E. J. Perkins for having provided a *Corrigenda* for his *Marine Fauna and Flora of the Solway Firth.* For a copy of the *Corrigenda* (which is paginated with reference to the volume published in 1973), a stamped addressed envelope should be sent to the Hon. Librarian.

SUBJECT, TITLE AND AUTHOR INDEX TO THE SOCIETY'S TRANSACTIONS THIRD SERIES. Vols. XLIX TO LVIII

Compiled by A. R. and J. Williams

The Author Index has been abbreviated by limiting it to references to the Subject Index. In the case of the latter, however, the compilers have followed the method employed in the Indices to the volumes of the First and Second Series (1862-1912) and that for volumes XXXIX to XLVIII of the Third Series. This involves a breakdown into subjects and periods. For example, the Archaeological section is divided into General, Mesolithic, Neolithic, Bronze Age, etc.: Natural History and other subjects are arranged in a similar manner. It is hoped that this will allow specialists requiring information in any particular field to see, at a glance, all the relevant papers.

SUBJECT/TITLE INDEX

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DINANTIAN STRATIGRAPHY AND EVOLUTION OF THE NORTHUMBERLAND TROUGH NEAR KIRKBEAN, SCOTLAND

by
Franz Froelicher

University of Southern Mississippi

Abstract

The Kirkbean outlier is fitted into the new stratigraphical scheme. A general summary of the paleoecology, sedimentation, fauna and flora is presented.

Introduction

The lower Carboniferous (Dinantian) rocks of the Kirkbean Outlier outcrop on the north shore of the Solway Firth for some 5 km between the villages of Southerness in the south and Carsethorn in the north. The strata are well exposed in the intertidal zone of the Solway except where shifting sands cover them now and again.

Stratigraphy

The first stratigraphical correlations of the Dinantian of the north of England and the south of Scotland were made by Tate (1867) and Lebour (1875), who divided the column into the lower Cementstone Group and upper Fell Sandstone Group. Miller (1887) added the overlying younger Scremerston Coal Group and the topmost Lower, Middle and Upper Limestone Groups. This classification was based mainly upon lithological criteria. Though a more biostratigraphical approach was begun by Smith (1910), faunal correlation was only firmly established by the great work of Garwood (1910, 1913, 1931) who applied the principles of coral-brachiopod zonation to the Calcareous Division (see Day, 1971, p. 10; George *et al*, 1976, p. 42). Further refinements to the stratigraphy of the area were made by Fowler (1926), Trotter and Hollingworth (1932) and Johnson *et al* (1962).

It was not until the work of Day (1970) and Lumsden *et al* (1967) that a reclassification of the Northumberland Trough was attempted using macro and micropalaeontology and additional sedimentological knowledge gained in the previous 40 years. Day (1970) introduced the terms Lower, Middle and Upper Border Groups and the topmost Liddesdale Group. Then followed the subdivision of Ramsbottom (1973) of these groups into Major Cycles, and finally the integration of the entire correlation into an Anglo-European stratigraphical frame by George *et al* (1976) (Fig. 2).

George *et al* (1976, p. 42) organized the stratigraphy of the Kirkbean outlier described in this work, into the following stages of the Dinantian: Courceyan, Chadian, Arundian, Holkerian and the Asbian (Fig. 2).

Courceyan: George *et al* (1976, p. 44) considered the lower beds up to Craig's (1956) *Syringothyris* Limestone to belong to this stage. The *Syringothyris* Limestone is herewith equated to the first two (lowest) Coquinas "B" of this work (Fig. 2). The lowest visible occurrence of the Southerness Beds is exposed only in the core of the south-westernmost anticline to the S.W. of Southerness: Point at Nat. Grid Ref. NX971542.

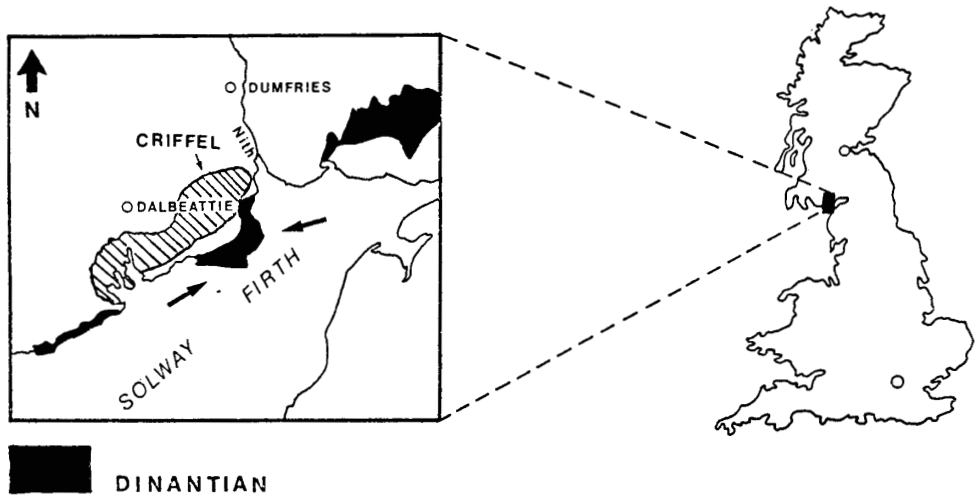

Fig. 1 Location Map.

Chadian: The base is taken at the first appearance of Coquina "A". However, there is a transition from Coquina "B" to "A" with one example of mixing of both in the same bed. The fauna is comparable to that of the Cambeck Beds (Ramsbottom in Day, 1970, p. 169) and the Harden Beds (Wilson *in* Lumsden *et al,* 1967, p. 103). The Hillend Algal band is correlated with the Algal Beds of Southerness and is taken as the top of this stage (also see Day, 1970, p. 68). Ramsbottom (1973, p. 580) also takes this common algal horizon to be the top boundary of Major Cycle 2. The single anomalous fossil is *Eomarginifera setosa*, which usually indicates a higher horizon.

Arundian: This comprises most of Day's (1970) Middle Border Group. As elsewhere in the Northumberland Trough this sequence is dominated by deltaic nearshore sediments and environments. The Fell Sandstones, correlated by Craig (1956) with the Thirlstane Sandstone, are a part of this stage and contain few fossils. The base is taken at Southerness at the Algal Beds and continues through to the fault separating the Thirlstane from the overlying Arbigland Group as seen immediately to the S. of the "House on the Shore" at Nat. Grid Ref. NX993569. A new fauna appears starting from the bottom of the Gillfoot Beds. The characteristic fossils are *Lithostrotion scoticum* and ramose bryozoans.

Here, as elsewhere in the Kirkbean outlier, the rapid oscillations of various environments causes sudden appearance and disappearance of certain fossil groups. This makes biostratigraphical evidence tenuous at best.

Holkerian: The S. Arbigland Beds are tidal nearshore deposits and contain no definite correlatable fauna, but in accordance with George *et al* (1976) are placed in this stage.

Asbian: The Arbigland Beds show a notable faunal change with the introduction of the massive heads of *Lithostrotion clavaticum*, the gigantoproductid *Semiplanus* sp., *Caninia* and *Caniniophyllum.* This fauna is recognised in the Langholm district (Wilson *in* Lumsden *et al*, 1967, p. 116) and most importantly in the Clattering Band of Bewcastle (Day, 1970, p. 105).

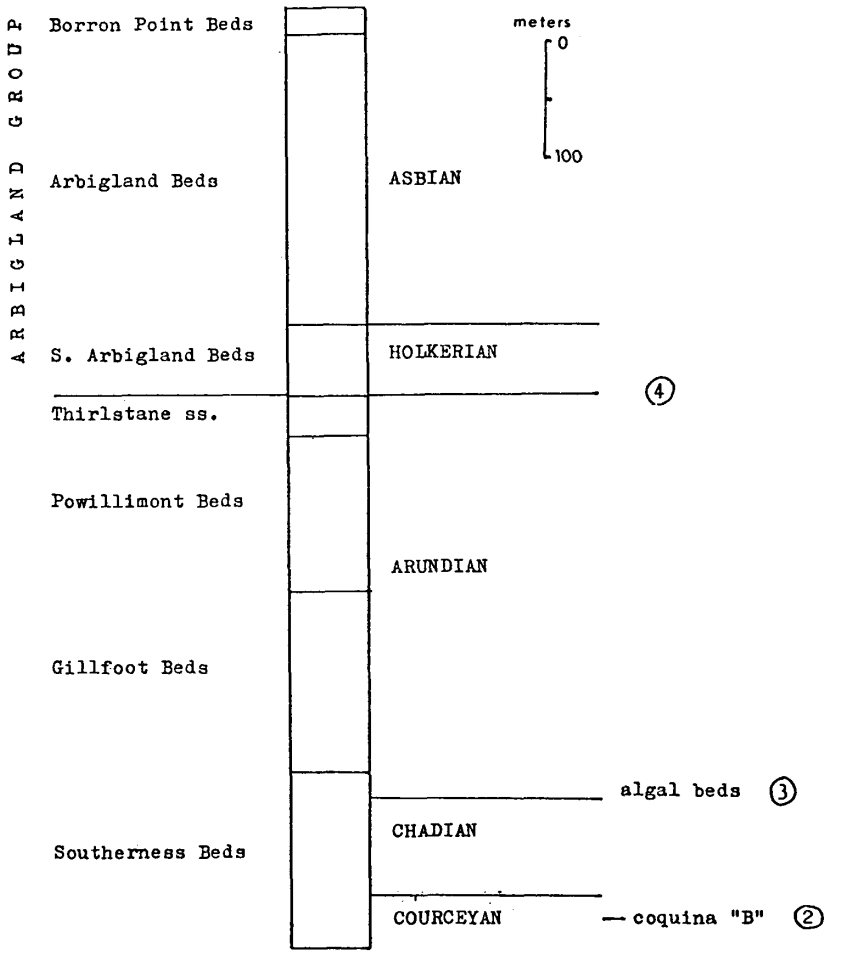

Fig. 2 Stratigraphy.

The Borron Point Beds, considered younger than the Arbigland Beds, constitute the top of the Kirkbean succession. The only faunal change noted here is the disappearance of *Semiplanus* sp. which may probably be due to a change in environments.

Depositional environment

Red, green and brown sediments and basaltic lavas, correlative with the Birrenswark lavas (George *et al*, 1976, p. 44), are found in Kirkbean Glen and Prestonmill Burn (Craig, 1956) and lie unconformably on a basement of folded Silurian greywackes and shales. The lavas, about 20 metres thick here, crop out north of the main road (Pallister, 1952).

The base of the Dinantian at Kirkbean is taken either at the base of the lavas (Lumsden *et al*, 1967) or their top (Craig, 1956). The sediments underlying the lava might also be assigned to the Dinantian as they are lithologically similar to the beds immediately above the lavas. George (p. 44) and Lumsden (p. 43) have previously commented on this and noted the difficulty of drawing a definite boundary.

The lava's contact with the overlying sediments, calcareous mudstone containing breccias of mudstone and lava, lies in the stream below the service station and smithy at Prestonmill. Based on a restricted fauna described by Craig (1956) these sediments are probably of marine origin. The available evidence suggests, therefore, that shallow marine conditions existed from the beginning of Dinantian times.

The Criffel granite (Fig. 1) represents a source area to the northwest and north that seems to have supplied much of the sediment found in the Kirkbean Outlier. The other possible source was from the northeast (Day, 1970).

As elsewhere in the Northumberland Trough, the entire sequence of Dinantian rocks consists of marine limestones, shales and sandstones often showing rhythmic deposition.

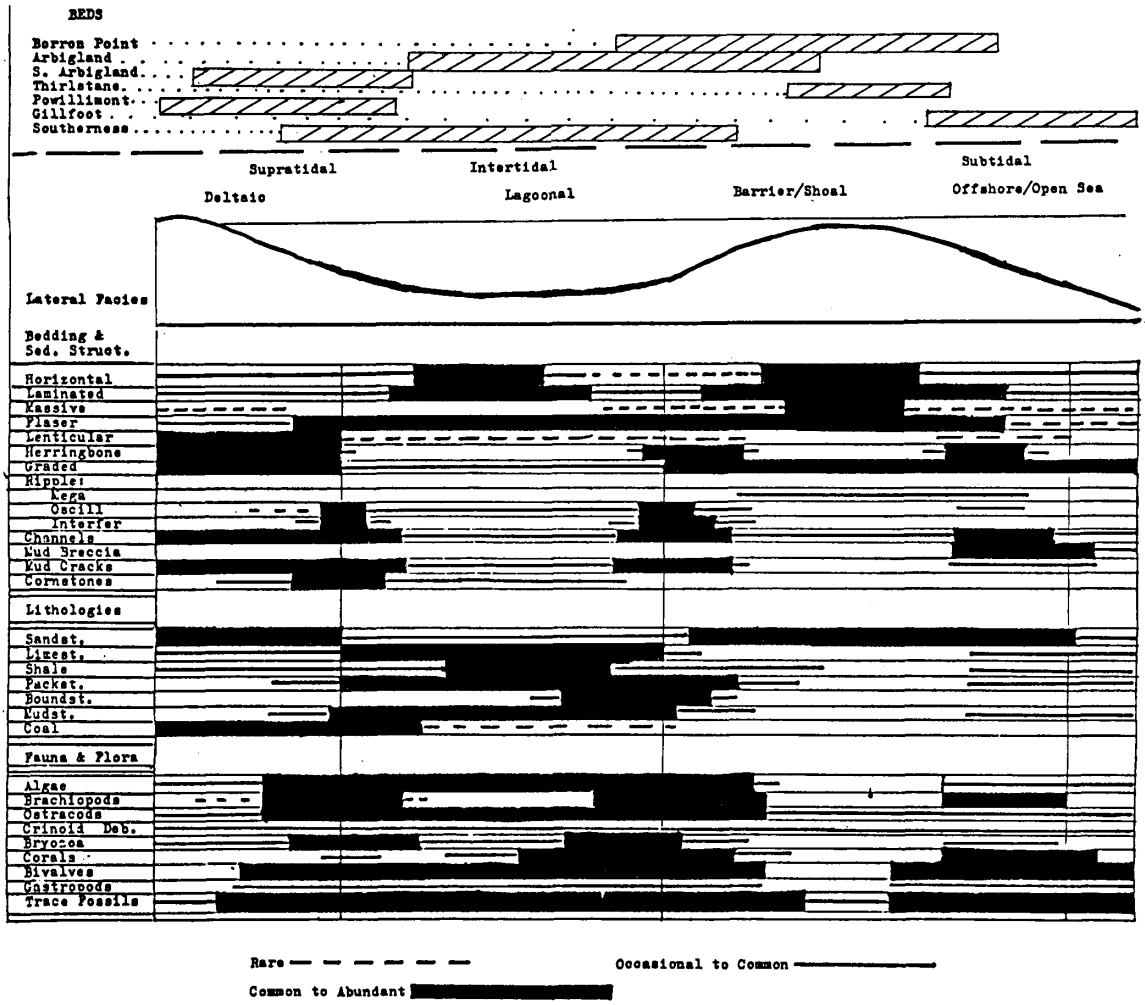

Fig. 3 Depositional Environment.

Figure 3 shows a concise summary of the sediments, sedimentary structures, fauna and flora, and is to be used as a general guide in the environmental interpretation of the Kirkbean Outlier.

During the Dinantian the flat-bottomed, shallow NE-SW trending Northumberland Trough was connected to a shelf-neritic sea to the southwest. As the top of Figure 3 shows, the Southerness Beds, the lowest outcrop of the outlier, are composed of shallow marine sediments. These are interpreted as lagoonal deposits with large allochthonous faunas and well developed autochthonous algal beds (Frolicher, 1977).

The overlying Gillfoot Beds are interpreted as rapidly deposited subtidal sediments strongly influenced by a near-by shore (Frolicher, 1977). This area gradually accumulated deltaic sediments and the outward (regressive) growing delta with its associated environments formed the Powillimont Beds. The overlying Thirlstane Sandstone is interpreted as a rapidly transgressive sand bar covering the small delta and sea coast as it progressed in a northeasterly direction, i.e. towards Criffel.

The typically intertidal limestone, sandstone and mudstone sediments of the South Arbigland Beds show a cyclicity reflecting the instability of sea level during this interval. In contrast, the Arbigland Beds reflect the return of relative stability to the area, and the establishment, with minor oscillations, of a lagoonal environment subject to occasional currents.

In the top-most Borron Point Beds, sedimentation rates increase and the environment is characterised by the continuous shifting of sediments from one place to another, i.e. prograding and regrading.

The general pattern of tectonic activity during the Dinantian is one of a slowly subsiding basin, subject to short irregular periods of movement, which are expressed by the observed depositional cyclicity.

There has been some discussion of the salinity of various parts of the Northumberland Trough during the Dinantian. George (1969, p. 209-210) thought that the western part of the Trough was more normally marine than the northeastern part which was less saline. In contrast, Ramsbottom (1973, p. 571) considered the northeastern part to be more saline. Evidence from the Kirkbean Outlier seems to confirm that the western part of the Trough was of normal marine character for the most of the time with periods of hyposalinity most probably due to fluvial influences.

The rich and well-preserved body and trace fossil faunas found in the Kirkbean Outlier are truly indicative of shallow marine conditions. Although worm tubes and tracks, as with ripple marks, cannot invariably be taken as evidence of shallow water, the presence of certain trace and body fossils in association do supply this evidence. Unusual faunal conditions such as dwarfing are not seen. Locally, lower species numbers than would be expected in this type of environment perhaps reflects the effect of turbid conditions, instability of the environment or fluctuations in salinity.

Acknowledgements

I would like to acknowledge the help of Professor G. Y. Craig and Dr. E. N. K. Clarkson of Edinburgh and A. Seilacher of Tubingen and F. Fursich of Munchen. In addition many people showed me much kindness and gave concrete help in every way they could. A few among the many are Capt. Blackett-Sweeney of Arbigland, Mr Chris Rourke and many more of the Arbigland Estate, also Mr and Mrs J. Thomson and Mr and Mrs A. Leyland of Carsethorn plus many others. Mr A. E. Truckell's wide knowledge of the area proved to be invaluable. Without these the work would not have been possible.

BIBLIOGRAPHY

CRAIG, G. Y. 1956. Lower Carboniferous Outlier of Kirkbean, Kirkcudbrightshire, *Trans. Geol. Soc. Glasg.*, 22, 113-132.

DAY, J. B. W. 1970. Geology of the country around Bewcastle. *Mem. Geol. Surv. Gt. Br.*, 357.

FOWLER, A. 1926. The geology of Berwick-on-Tweed, Norham and Scremerston. *Mem. Geol. Surv. Gt. Br.*

FROELICHER, F. J. 1977. The sedimentology and palaeoecology of the Dinantian outlier of Kirkbean, Kirkcudbrightshire, Scotland. Unpub. PhD Thesis, Univ. Edinburgh.

GARWOOD, E. J. 1910. The geology of Northumberland and Durham. Geology in the Field: Jubilee Vol. *Geol. Assoc.* (1858-1908), 661-697.

GARWOOD, E. J. 1913. The Lower Carboniferous succession in the north-west of England. *Quart. J. Geol. Soc. Lond.*, 68, 449-586.

GARWOOD, E. J. 1931. The tuedian Beds of northern Cumberland and Roxburghshire East of the Liddle Water. *Quart. J. Geol. Soc. Lond.*, 87, 97-159.

GEORGE, T. N. 1969. British Dinantian Stratigraphy. *C. R. 6me Int. Strat. Geol. Carb.*, Sheffield 1967, 1, 193-218.

GEORGE, T. N., JOHNSON, G. A. L., MITCHELL, M., PRENTICE, J. E., RAMSBOTTOM, W. H. C., SEVATOPULO, G. and WILSON, R. B. 1976. A correlation of Dinantian rocks in the British Isles. *Geol. Soc. Lond. Spec. Rep.* 7, 1976, 87pp.

JOHNSON, G. A. L., HODGE, B. L. and FAIRBURN, R. A. 1962. The base of the Namurian and of the Millstone Grit in north-eastern England. *Proc. Yorks. Geol. Soc.*, 33, 341-362.

LEBOUR, G. A. 1875. On the limits of the Yoredale Series in the north of England. *Geol. Mag.* 2, 539.

LUMSDEN, G. I., TULLOCH, E., HOWELLS, M. F. and DAVIES, A. 1967. The geology in the neighbourhood of Langholm. *Mem. Geol. Surv. Scotland.* 225pp. H.M.S.O. Edinburgh.

MILLER, H. 1887. The geology of the country around Otterburn and Elsdon. *Mem. Geol. Surv. Gt. Br.* I-VIII, 1-147.

PALLISTER, J. W. 1952. The Birrenswark Lavas, Dumfriesshire. *Trans. Edinb. Geol. Soc.*, 14, 336-348.

RAMSBOTTOM, W. H. C. 1973. Transgression and Regressions in the Dinantian: a new synthesis of British Dinantian Stratigraphy. *Proc. Yorks. Geol. Soc.*, 39, 567-607.

SMITH, J. 1910. Carboniferous rocks of the Solway, Scotland. *Trans. Geol. Soc. Glasg.*, 14, 30-59.

TATE, G. 1867. Miscellanea Geologica for 1866. *Proc. Berwicksh. Club* 5, 283-289.

TROTTER, F. M. and HOLLINGWORTH, S. E. 1932. The Geology of the Brampton District. *Mem. Geol. Survey. U.K.*

SOME ASPECTS OF THE BIOLOGY OF PAGURUS BERNHARDUS (L.)

by

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Introduction

The hermit crabs are an interesting group of animals in that, unlike the true crabs, their abdomen is both large when compared with the thorax and is soft and unprotected. The crab protects this vulnerable abdomen by thrusting it into vacant shells of gastropod molluscs. This characteristic mode of life has attracted the attention of many scientists, but despite the abundance of the group, their role in marine systems is largely unexplored (Hazlett, 1981).

The hermit crabs are an abundant and successful group which has a cosmopolitan distribution (e.g. Johnson and Snook, 1955; Yonge, 1965; Morton and Miller, 1968; Gosner, 1971; Stephenson and Stephenson, 1972 and Campbell, 1976). The marine species range from the lower mid shore to water of some depth (e.g. Allen, 1967 and Gosner, 1971); *Coenobita* spp. are truly terrestrial in habit and may climb shrubs and trees (Johnson and Snook, 1955 and Yonge, 1965), while *Birgus*, the coconut crab, has redeveloped a calcareous abdominal exoskeleton.

Pagurus (Eupagurus) bernhardus the common hermit or soldier crab is apparently the commonest British species occurring from the lower littoral to depths of 140m, although it is most abundant in shallow water (e.g. Marine Biological Association of the United Kingdom, 1957; Barrett and Yonge, 1958; Yonge, 1965; Allen, 1967; Laverack and Blackler, 1974; Campbell, 1976; Boyden *et al*, 1977 and Dittmer, 1981) ranging from the Mediterranean to the Baltic (Campbell, 1976). It is generally recognised for this and other species that it is the smaller individuals which invade the lower littoral while the larger are confined to depths below the extreme low water mark of spring tides (E.L.W.M.S.T.). The following paper presents data collected from the Gareloch and Loch Long, Firth of Clyde in addition to that from the Solway Firth.

Methods

In the Firth of Clyde sublittoral collections at Dalandhui, Garelochhead were made by baited pots. On the shore, hand collection was used at Portincaple, Loch Long; Portkil Bay, Kilcreggan and at Dalandhui, Garelochhead; the object at each site being the supply of sufficient animals to carry out a programme of toxicology. Although not originally intended for this purpose, two sinks (370mm x 260mm x 140mm deep) set in the shore near mean low water mark of neap tides (M.L.W.M.N.T.) at Dalandhui were used as pitfalls and largely replaced the other methods as a source of supply.

In the Solway Firth, hand collections were made above E.L.W.M.S.T., but below it a 2.44m beam trawl which sampled 0.2438ha per km was used; such trawls have a low efficiency for which the conservative estimate of 10% for total fauna (Holme and McIntyre, 1984) is used for present purposes.

The body length of *P. bernhardus* may reach 127mm (Barrett and Yonge, 1958 and Campbell, 1976). In the Solway Firth, the largest recorded was 98mm, but in a programme of work, both here and at Garelochhead, which sought to be non-destructive this measurement was not acceptable, instead the length of the major propodus to the nearest mm upwards was used. At this stage, the relationship between the total length and that of the major propodus has not been established, but in the Solway Firth the maximum recorded was 46mm, though most were less than 40mm.

Results

(i) *Distribution*

The stony substrata sampled at the Firth of Clyde stations being derived from boulder clay and best described as bound shingle may be compared directly with the scar grounds of such coastal plain estuaries as the Solway Firth (Perkins, 1974). *Pagurus bernhardus* was taken frequently about the low water mark and at Dalandhui pot and shore collections were most intensive between 1969 and 1973: none of the animals taken was of a large size. Of some 3,000 measured, the mean size of the major propodus was 10mm and none exceeded 26mm. Berried, i.e. ovigerous, females were present from March to May, but only 13 were noted, suggesting that most of the recruitment to this population was derived from some other source and contrasts markedly with that noted in the Plymouth Marine Fauna (1954).

Throughout the Solway Firth, *P. bernhardus* is found abundantly on sandy and bound shingle substrata (Perkins, 1973). Using a propodus length of 28mm as an arbitrary point of distinction, animals exceeding this size are found only at depths greater than 5m below chart datum to 18m, the limit within which the survey has been carried out. Whilst *P. bernhardus* is found on both sand and scar, and the smaller individuals are often taken in the winkle fishery (*Littorina littorea*), particular attention has been paid to its occurrence on the sand flats of Allonby Bay. During the course of more general work, it was often noted near E.L.W.M.S.T. particularly in April and May. By collecting in both directions along 1km of the low water mark south-west from Allonby, the number per hectare can be estimated (Table 1). It will be seen that *Pagurus* was most abundant from March to June as earlier observation had indicated, and that in the months from November to February few were likely to be found. This pattern was substantially repeated on Allonby Scar, although modified by gales when *Pagurus* may be rolled across the sands to firmer substratum of the scar. On both scar and sand flat, *Pagurus* may approach the Highest Low Water Mark of Neap Tides (H.L.W.M.N.T.) though at these higher levels it is always associated with some residual body of water such as a pool surrounding a boulder on the sand flats, from M.L.W.M.N.T. downwards *Pagurus* may be found scattered over the sand flat as the tide recedes.

Generally, the best collections were made at low waters about 1.0-1.5m above datum, curiously on two occasions when the low water was approximately 0.5m above datum the samples were much smaller than expected. Turbidity of the tide edge and a greater quantity of silt upon the sand had no clear effect upon sample size. Similarly, while one might have expected that the catch would be greater on the return leg closest to the low water mark, this was true only of 5 of the 8 occasions upon which such comparisons could be made. Further, on each sampling path, the distribution was uneven with marked aggregations in some cases.

Table 1

Variations in abundance of *Pagurus bernhardus* taken along 1km length about E.L.W.M.S.T., 21.1.84 to 25.2.85

Date	n	Mean number per hectare
Jan/Feb 1984	2	0
Mar/Apr 1984	3	610
May/June 1984	1	109
July/Aug 1984	1	50
Sept/Oct 1984	3	50
Nov/Dec 1984	3	2
Jan/Feb 1985	2	5

n = Number of measurements

The marked changes in abundance noted over the year are indicative of migrations in the longer term; with a greater migration onshore in the warmer months these may be compared with those of *Carcinus*. The movement of *Carcinus* is apparently temperature controlled (Perkins, 1974), but no clear evidence is presently available regarding *Pagurus*, and while it may be recalled that land and sandflat temperatures have a pronounced effect upon that of the zone closest to the water's edge (Perkins, 1974), the results in Table 1 are indicative of a more complex association than this.

The collections from the shore and sinks at Dalandhui were indicative of tidal migrations in which *Pagurus* invaded the shore during the flood and retired with the ebb. Such indirect evidence was confirmed by visual observations, particularly in the twilight period. At Allonby, no pitfall traps were available, nevertheless visual observations indicated an active migration onto the shore with the flood tide. In the ebb period those *Pagurus* left between M.L.W.M.N.T. and receding water's edge were rarely seen in active motion, but usually with either the mouth of the shell face down in the substratum or buried to such an extent that only the upper portion of the spire was evident. It must, therefore, be concluded that the smaller sizes of *Pagurus* tend to migrate onto the shore during the warmer months and that diurnal migrations with the tide are extensive.

In the sublittoral, trawl sampling in the Solway Firth was carried on at stations off St. Bees, in Saltom and Parton Bays, on Workington, Robin Rigg and Dumroof Banks and off Borron Point (Table 2).

Taken as a whole, the stations westward of Workington Bank apparently had a greater abundance of *Pagurus* than Workington Bank itself and those upstream of it, but these means conceal the fact that many of these trawls contained no *Pagurus* (Table 2). Taking Parton Bay, as an example, in the period 1972-75, a series of sequential trawls were taken during each cruise, here not only was the mean abundance greatest, but at 34%, fewer trawls contained no *Pagurus*, nevertheless on 19.4.72, 50% of the trawls contained no *Pagurus* and a maximum of 3,400/ha some 1.5 times more than the next in order of abundance was recorded. In contrast, on 21.10.72 14% of the trawls contained no *Pagurus* and 2 contained more than 8,000/ha

some 1.5 times more than the next in order of abundance. In the later period, the number of samples containing no *Pagurus* rose to 53% and the maximum fell to 210/ha. Although the results from St. Bees and Saltom Bay were apparently more even, a substantial proportion of trawls contained no *Pagurus*.

Given these data it is reasonable to conclude that *Pagurus* populations may show marked aggregations which undertake both tidal/diurnal and longer term migrations in part related to season.

Table 2

Trawl sampling of *Pagurus bernhardus*

(i) 1972-1975 (ii) 1975 onwards

Station	n	Mean abundance (no/ha)	Trawls without *Pagurus* (%)
St. Bees (i)	3	130	0
(ii)	10	220	50
Saltom Bay (i)	31	170	51
(ii)	60	100	42
Parton Bay (i)	86	930	34
(ii)	30	30	53
Workington Bank (ii)	20	30	75
Robin Rigg (ii)	30	120	43
Dumroof (ii)	30	50	73
Borron Point (ii)	10	0	100

n = Number of trawls

(ii) *Trophic Relationships*

The hermit crabs are able to consume a wide variety of foods and are said to range from coprophagy to active carnivore (Furneaux, 1922; Hunt, 1925; Orton, 1927; Frankenberg and Smith, 1967; Frankenberg *et al,* 1967; Morton and Miller 1968 and Thorson, 1971). No purposive studies of feeding upon *P. bernhardus* were made during the present work, but some observations were made during the course of it. Thus maintenance in the toxicological studies was in agreement with Furneaux (1922) who stated that it is easily kept in captivity and will consume any kind of food. In this work, cannibalism was a persistent problem, but no attempt was made to determine if this arose from laboratory stress. In the laboratory, too, it was noted that *Pagurus* would consume the barnacles colonising the shell of another. Hunt (1925) working on the fishing grounds off Plymouth found it to be a predator of polychaetes, crustaceans, lamellibranchs, echinoderms and fish. On the shore, at Allonby, it has been seen to consume fish and crustacean flesh deposited by the receding tide.

Hunt (1925) found that *Pagurus bernhardus* was eaten by the cod, *Gadus morhua*, while in the Solway Firth, Williams *et al* (1965) found that it was consumed by cod, plaice, *Pleuronectes platessa*, dab, *Limanda limanda*, and roker, *Raia clavata*. During the present study, it was repeatedly noted at Allonby that sea birds had removed *Pagurus* from its protective shell, consuming all but the chelipeds. On Allonby Scar, an upturned shell, with limbs beside it, was often seen on boulders, and while direct observation is lacking, this occurrence was usually associated with flocks of oyster catchers, *Haematopus ostralegus*.

Discussion

The hermit crab, *Pagurus bernhardus*, occurs on a wide variety of substrata from H.L.W.M.N.T. to 140m depth, from the Mediterranean to the Baltic. Ovigerous females may be present in April (Laverack, 1974) or may be found in every month except October and November, with a breeding peak apparently in winter and early spring (Allen, 1967). At Garelochhead, of some 3,000 examined only 13 ovigerous females were found between March and May: these were all individuals of less than 26mm major propodus length (mean 10mm); it might be argued that at these smaller sizes, the hermit crabs are immature, but in Plymouth Marine Fauna (1957) it is reported that many of the small individuals living on the lower shore were berried. It is therefore considered that the population of *Pagurus* near Garelochhead was not reproducing effectively and was recruited from some external source. This conclusion has a parallel in the work of Buchanan (1966) who showed that the heart urchin, *Echinocardium cordatum*, may have two kinds of population one of which is effectively sterile.

Yonge (1965) considered that small *Pagurus* inhabit small shells on the lower shore, migrating to the seawards as they increase in size. While in the Solway Firth as elsewhere (e.g. Marine Biological Association, 1957; Allen, 1967; Laverack, 1974 and Campbell, 1976) the larger animals are found below the low water mark, there is strong evidence of tidal and seasonal migrations onto and off the shore by sizes with a major propodus length of less than 28mm. On both the shore and the sublittoral, *Pagurus* apparently occurs in mobile aggregations, which may reach a density exceeding 8,000 per ha.

References

ALLEN, J. A. (1967) Crustacea: Euphausiacea and Decapoda. In *The Fauna of the Clyde Sea Area.* 116pp. Scottish Marine Biological Association, Millport.

BARRETT, J. H. and YONGE, C. M. (1958) *Collins Pocket Guide to the Sea Shore.* 272pp. Collins, London.

BOYDEN, C. R., CROTHERS, J. H., LITTLE, C. and METTAM, C. (1977) The intertidal invertebrate fauna of the Severn estuary. *Field Studies,* **4,** 477-554.

BUCHANAN, J. B. (1966) The biology of *Echinocardium cordatum* (Echinodermata: Spatangoidea) from different habitats. *Journal of the Marine Biological Association of the United Kingdom,* **46**, 97-111.

CAMPBELL, A. C. (1976) *The Hamlyn Guide to the Seashore and Shallow Seas of Britain and Europe.* 320pp. Hamlyn, London, New York, Sydney, Toronto.

DITTMER, J.-D. (1981) The distribution of subtidal macrobenthos in the estuaries of the Rivers Ems and Weser. In *Invertebrates of the Wadden Sea.* Final Report of the Section "Marine Zoology" of the Wadden Sea Working Group. Report 4, 188-206.

FURNEAUX, W. S. (1922) *The Sea Shore.* 436pp. Longmans, Green. London.

FRANKENBERG, D., COLES, S. L. and JOHANNES, R. E. (1967). The potential trophic significance of *Callianassa major* faecal pellets. *Limnology and Oceanography*, **12**, 113-126.

FRANKENBERG, D. and SMITH, K. L. (1967) Coprophagy in marine animals. *Limnology and Oceanography,* **12**, 443-450.

GOSNER, K. L. (1971) *Guide to the Identification of Marine and Estuarine Invertebrates. Cape Hatteras to the Bay of Fundy.* 693pp. Wiley Interscience, New York, London, Sydney and Toronto.

HAZLETT, B. A. (1981) The behavioural ecology of hermit crabs. *Annual Review of Ecological Systems,* **12**, 1-22.

HOLME, N. A. and McINTYRE, A. D. (eds.) (1984). *Methods for the Study of Marine Benthos.* I.B.P. Handbook 16, 2nd Edn, 387pp. Blackwell, Oxford, London, Edinburgh.

HUNT, O. D. (1925) The food of the bottom fauna off the Plymouth fishing grounds. *Journal of the Marine Biological Association of the United Kingdom,* **24,** 1-68.

JOHNSON, M. E. and SNOOK, N. J. (1955) *Seashore Animals of the Pacific Coast.* 659pp. Dover, New York.

LAVERACK, M. S. and BLACKLER, M. (eds.) (1974) *Fauna and Flora of St. Andrews Bay.* 310pp. Scottish Academic Press, Edinburgh and London.

MARINE BIOLOGICAL ASSOCIATION OF THE UNITED KINGDOM (1957) *Plymouth Marine Fauna*, 3rd Edition. 457pp. Marine Biological Association of the United Kingdom, Plymouth, Devon.

MORTON, J. E. and MILLER, M. (1968) *The New Zealand Sea Shore.* 638pp. Collins, London and Auckland.

ORTON, J. H. (1927) On the mode of feeding of the hermit crab, *Eupagurus bernhardus*, and some other Decapoda. *Journal of the Marine Biological Association of the United Kingdom,* **14**, 909-921.

PERKINS, E. J. (1973) *The Marine Fauna and Flora of the Solway Firth.* Dumfries and Galloway Natural History and Antiquarian Society.

PERKINS, E. J. (1974) *The Biology of Estuaries and Coastal Waters.* 678pp. Academic Press, London and New York.

STEPHENSON, T. A. and STEPHENSON, A. (1972) *Life between tidemarks on rocky shores.* 425pp. W. H. Freeman and Co., San Francisco.

THORSON, G. (1971) *Life in the Sea.* 256pp. World University Library, Weidenfeld and Nicolson, London.

WHITELEY, D., NICHOLS, D. and COOKE, J. A. L. (1971) *The Oxford Book of Invertebrates.* 218pp. Oxford University Press, London.

WILLIAMS, B. R. H., PERKINS, E. J. and HINDE, A. (1965) The biology of the Solway Firth in relation to the movement and accumulation of radioactive material. III. Fisheries and Food Chains. H.M.S.O.., U.K.A.E.A., P.G. Report 611(CC).

YONGE, C. M. (1965) *The Sea Shore.* 350pp. Fontana Library. Collins, London and Glasgow.

THE DEIL'S DYKE II
NITHSDALE, DUMFRIES AND GALLOWAY

by

Eoin Halpin

Introduction

This excavation was undertaken, by the author, as a postscript to the work carried out in 1981 by John Barber (1982). A length of the monument, immediately to the west of the Barber sector, is programmed for destruction by the National Coal Board (NCB) at Crockroy near Kirkconnel (see Fig. 1) and a series of small excavations was carried out on behalf of SDD (AM).

Graham described the Deil's Dyke in 1956, including the length under threat (Graham and Feacham, 1956). This length can be divided into three sectors (see Fig. 2). The west sector runs from the NW corner of the NCB area at NS 7012 1188 for 150m to the lip of the Rotton Sike at NS 7022 1182. In the C (central) sector the Dyke is interrupted by the confluence of the Rotton Sike and a small tributary at NS 7027 1197. The monument then reappears in the E sector and can be seen running for a further 150m to NS 7048 1172 where it has become incorporated into a dirt track, and disappears.

A pre-excavation survey showed that due to recent land reclamation, the monument cannot be positively identified on the ground in the W sector. The Dyke does not appear in the area of the C sector. It may be that its builders used the existing course of the Rotton Sike as a link between the segments to the E and W. In the E sector the Dyke consists of a low spread bank standing to an averge height of less than 0.50m. It rises from the E lip of the Rotton Sike, running in a NE direction for 20m, it then turns E following the N bank of a small sike for a further 20m where it is badly disturbed by cattle ruts. Finally, it disappears altogether beneath a modern dirt track. Thus, since 1955 when Graham recorded this sector of the Dyke as running "despite minor interruptions and numerous field boundaries" from Rig Burn to Polneul Burn, it appears that some 80% of the monument has been destroyed (*ibid.* 145).

Excavation

Having studied the monument along its threatened length of some 600m, it was decided to concentrate on the upstanding section of the E sector. Here, firstly, an exploratory trench was dug through the Dyke at right angles to its apparent course, in order to record the form and mode of construction of this sector. This enabled a comparison to be made with the more detailed work done by Barber (1982, 29-46).

It was soon apparent that the monument in this sector consisted of a bank with no contemporary ditch, though shallow ditches of both earlier and later dates were discovered (see Fig. 3 Area A). The bank was composed of redeposited clay and altered turves. There was no recognisable old ground surface (OGS), but there was a slight colour change in the soil at the base of the bank which may represent the altered OGS since it ended at the edge of the Dyke's protective covering. Outwith the bank the run-off clay deposits lay immediately on top of unaltered fill. Beyond this, to the S, peat rested on boulder clay without an intervening B horizon, that is the

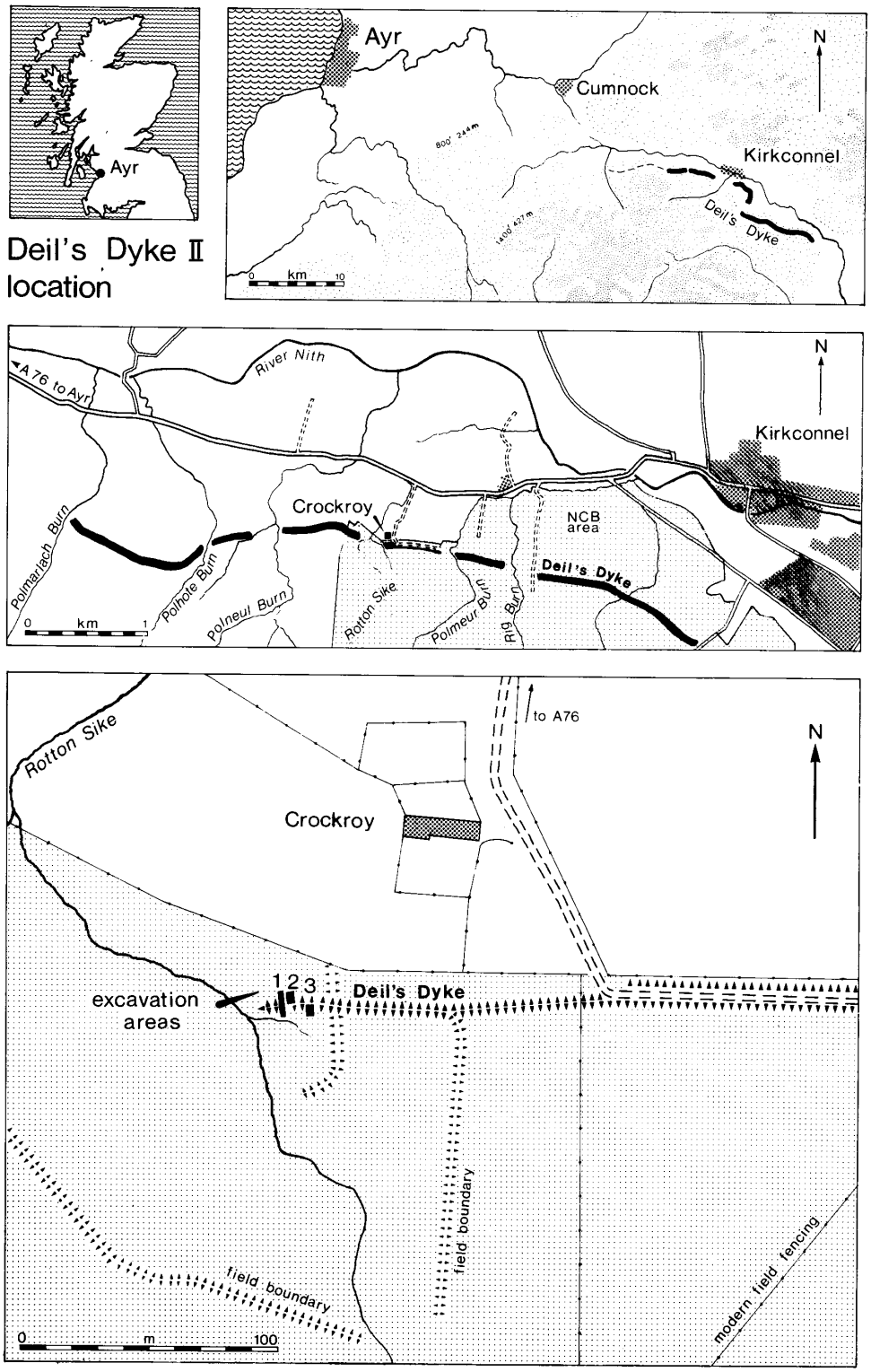
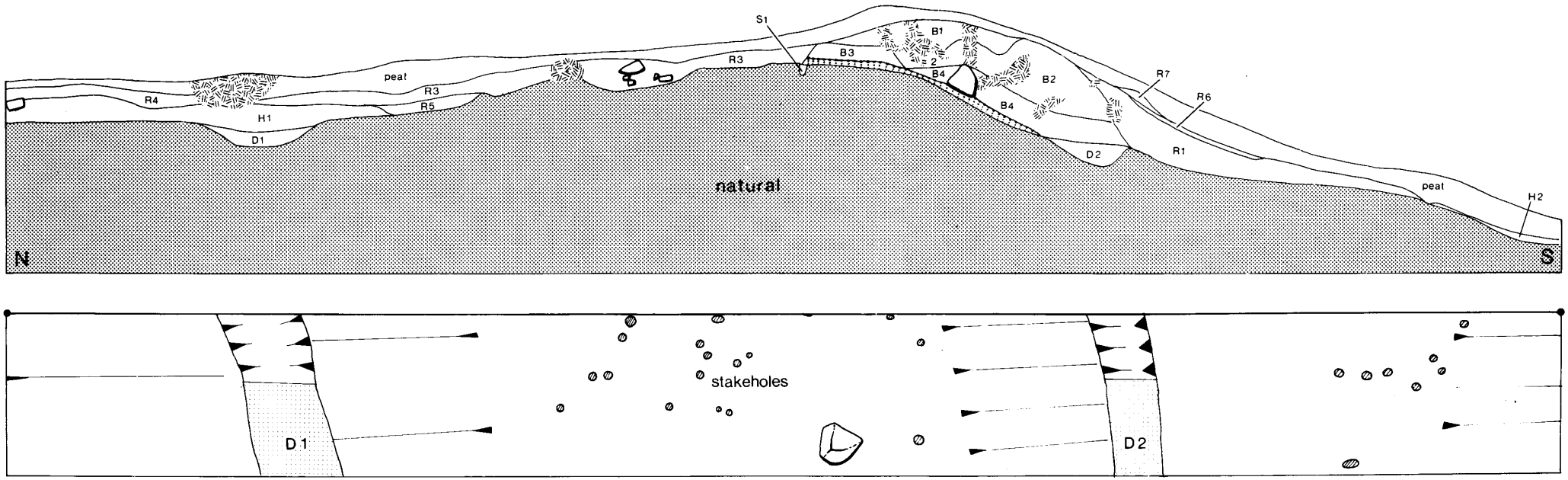


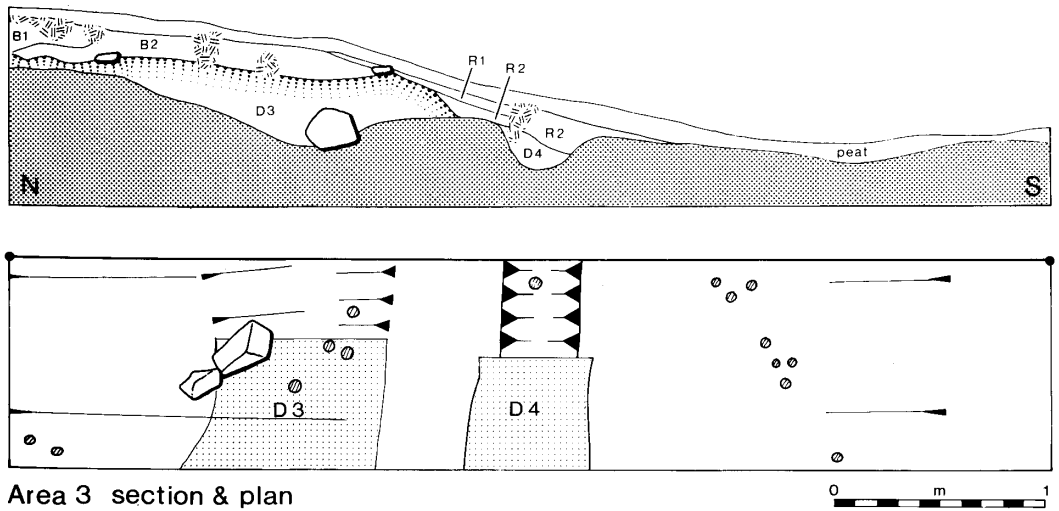
Fig. 1 Location maps and plan.



Area 1 section & plan

animal disturbance

buried horizon



Area 3 section & plan

All soils are **loams** with small amounts of **charcoal**

Bank	B1	brown - silty
	B2	brown - clayey
	B3	light yellowish brown - clayey
	B4	dark yellowish brown - silty
Runoff from bank	R1	very dark greyish brown - clayey, silty
	R2	greyish brown - silty, clayey
	R3	dark greyish brown - clayey silty
	R4	dark grey - silty, sandy
	R5	brown - silty, clayey
	R6	very dark brown - humic, silty
	R7	greyish brown - silty
Hill wash	H1	greyish brown - silty, clayey - 50% + stones
	H2	dark yellowish brown - silty, clayey, gritty
Ditches	D1	grey - gritty, clayey (glayed) - 50% + stones
	D2	greyish brown - gritty, clayey - 30% stones
	D3	dark grey - silty
	D4	greyish brown - silty, clayey - slightly stony
Stakeholes	S1	dark brown - clayey

Fig. 3 Deil's Dyke II. Sections.

zone into which some materials washed out of the overlying humic horizon are conveyed and deposited. To the N, although the situation is slightly complicated by the presence of a shallow ditch (ditch 1), a similar situation prevailed. With the aid of test pits, dug every 5m out from the bank, the recognisable B horizon was located some 25m to the N of the Dyke. It is suggested, therefore, that the bank was constructed by the stripping of the turves and the scraping up of the underlying soil either side of the Dyke's intended course. Although there was very slight evidence for a core of turves, it was by no means conclusive.

To the S of the Dyke a gully has been formed by a small sike which runs parallel to the monument for 20m. Thus the width of the area available for stripping on this side was no more than 10m wide, at most. Consequently a greater area had to be utilised to the N. Barber discovered that the bank "was constructed by stripping turves and topsoil for a band of land c. 18.5m wide on either side" (1982, 42). In the area under discussion, however, the land was stripped for some 25m to the N and, at most, 10m to the S.

A number of features were discovered cut into the glacial till. The shallow ditch to the N of the Dyke has already been mentioned but also found was a second shallow ditch (ditch 2) and a number of stakeholes. From the section it may be seen that ditch 2 predated the construction of the bank, while ditch 1 was dug before or at least during the erosion of the Dyke. The stakeholes were examined further to eliminate the possibility that the features were 'bogus' (Watkins, 1983, 164-68). Box sections were dug through a number of them to investigate their profiles. These proved to be tapering with rounded tips. In all cases the boundary between the fill and the glacial till was 'sharp' (Hodgson, J., 1976, 63), and the angle at which the stakeholds penetrated the till varied from the vertical to 45°. Taproots grow directly downwards from the stem forming the centre from which subsidiary rootlets spring, this would would blur the boundary of the feature. As this was not the case here, it is likely that these features are man-made. At least four of the stakeholes predated the construction of the bank and the remainder of them, some twenty in all, were sealed by the run-off deposits.

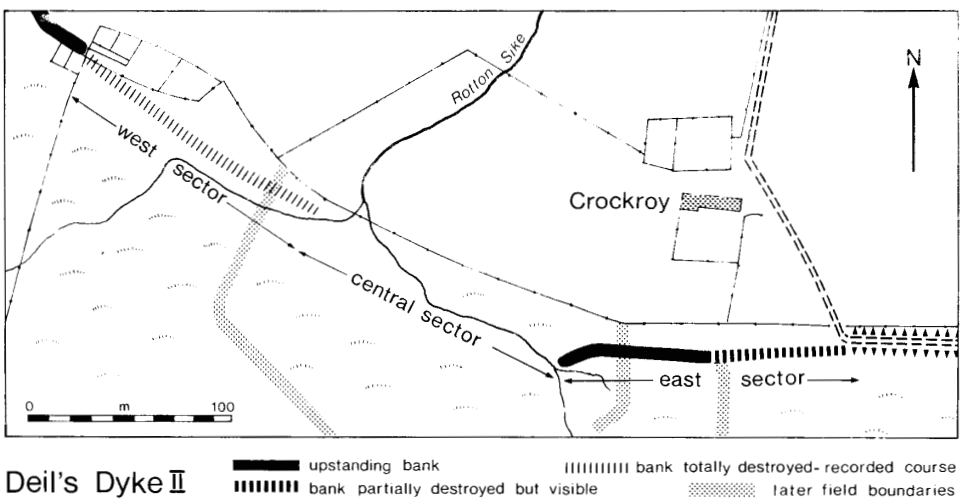


Fig. 2 Deil's Dyke II. Existing remains.

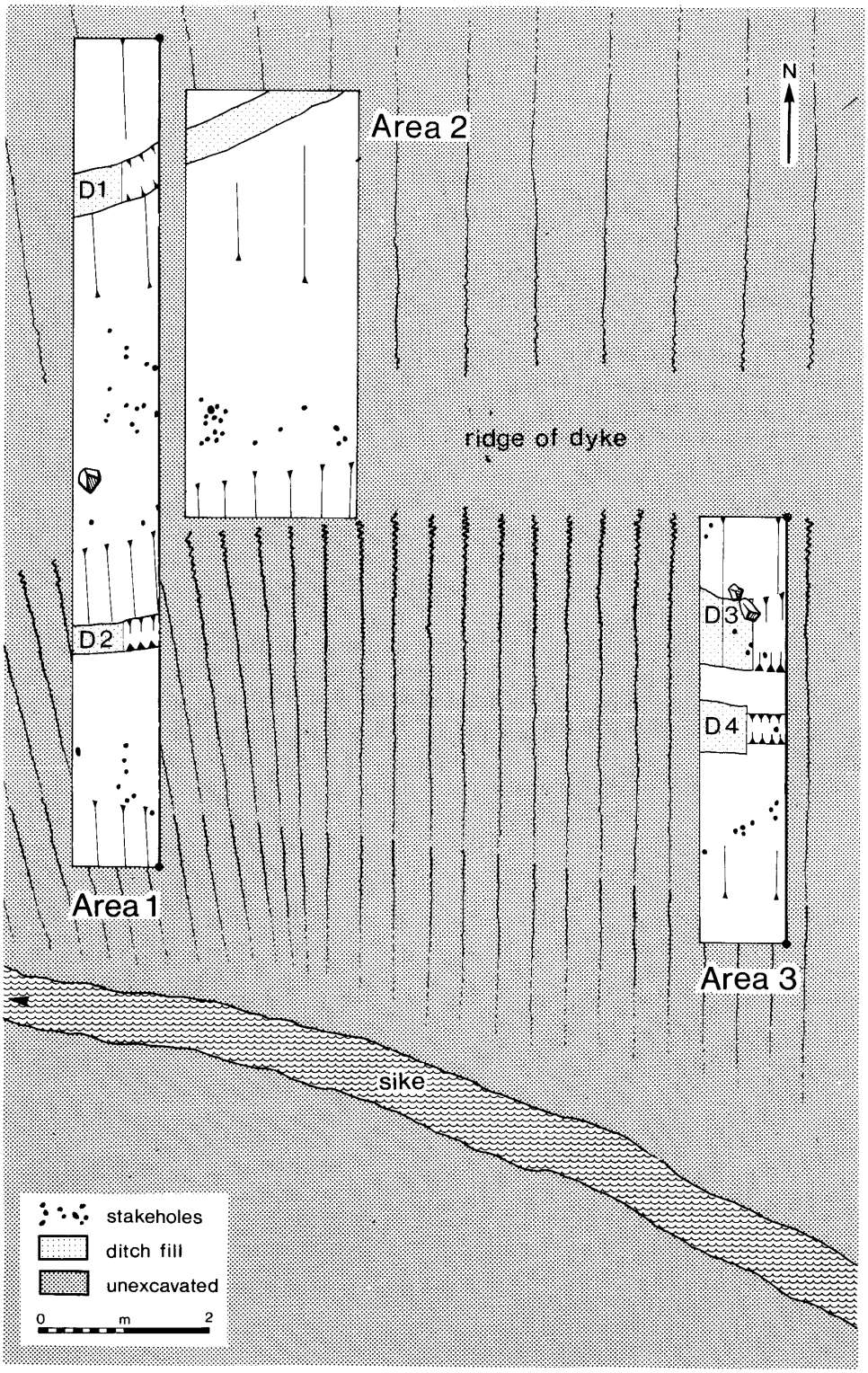


Fig. 4 Excavated areas.

Two new areas were opened up in order to investigate the form and function of both the ditches and the stakeholes (see Fig. 4). Area B was excavated to examine the stakeholes and ditch 1 and Area C was an attempt to trace ditch 2 along a length of the Dyke. The extensive stripping of the land, by the builders of the Dyke, to the N and S of the monument effectively destroyed any chance of finding good relationships between these features and the Dyke. Both new areas proved more problematic than productive, but even so some suggestions may be made. Over all three areas an apparently random scatter of some forty stakeholes were found and half of these were sampled. Although their diameters at the surface were fairly constant throughout the measured sample there was some variation in their depths, but the range of depths displayed bore no relationship to the overlying stratigraphy. Neither did their fills, which consisted in all cases of a brown clay/loam. This may suggest that the stakeholes were contemporaneous. If so, then they all must be of a pre-earthwork date since some were sealed by the Dyke.

Ditch 1 seemed to run parallel to the Dyke in the limited exposure of Area A but in the new cutting it veered off in a NE direction, away from the E-W line of the earthwork. The relationship, if any, between the two linear features remains unknown. A single artifact, a rusted metal object, was located in the upper layers of the run-off deposits of this cutting.

Area 3 (see Fig. 4) produced a further fifteen stakeholes and one shallow ditch (ditch 4). It was thought that ditch 4 could be a continuation of ditch 2 but the morphology of the former was dissimilar enough to demonstrate that they were separate and distinct features. A shallow scoop was recorded under the Dyke ('ditch 3') but the horizon beneath the bank and the fill of the feature were homogeneous; added to this no cuts for the feature were recognised and it is presumed that the 'ditch' is a natural undulation in the glacial till. The stakeholes displayed all the characteristics of those seen in the other two areas and also predate the bank.

Discussion

Excavation revealed that the Deil's Dyke was constructed in this sector by stripping the turves and scrapping up the topsoil from an area some 25m wide to the N and less than 10m to the S. Although some altered turves were discerned in the sections, evidence for the construction of a turf core was inconclusive. Evidence was also found for human activity not immediately related to the function of the Dyke as a boundary. Ditch 2 and the stakeholes predate the Deil's Dyke but are of an indeterminate age and function. The remaining ditches are either contemporary with, or later than, the Dyke.

Finally, as was mentioned above, the builders of the earthwork appeared to have utilised the course of the Rotton Sike to link two segments of the Dyke. This practice was noted to reoccur by the author while walking the Deil's Dyke west from Crockroy. In particular, a 300m stretch between NS 6962 1191 and NS 6915 1184 where the Dyke uses a small tributary of the Polneul Burn but more impressively at the Polhote Burn. Here the Dyke abuts the burn at NS 6915 1184 and utilised the gorge for 100m, reappearing at NS 6910 1175 before heading west once again. These observations must add weight to the theory which sees the Deil's Dyke as a boundary rather than a defensive earthwork.

Acknowledgements

This excavation was carried out on the property of the NCB and their co-operation is gratefully acknowledged as is that of the farmer, Mr Howat, who allowed us access to the site. The assistance on site of Mr A. Duffy, Mr M. Grunbeck and Mr S. Cooke deserve the author's best thanks. The soils of the site were studied by Ms M. McHugh and her contribution added greatly to our understanding of the site. Dr D. Breeze SDD(AM) and Mr J. Barber (CEU) helped with the compilation and editing of the report and their assistance is gratefully acknowledged. The line drawings were prepared for publication by Ms A. Townshend.

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References

BARBER, J. W. 1982. 'The Deil's Dyke, Nithsdale', *Trans. Dumfries and Galloway Nat. Hist. & Antiq. Soc.* (1982), 29-46.

GRAHAM, A. 1949. 'The Deil's Dyke in Galloway', *Proc. Soc. Antiq. Scot.* 83, (1948-9), 174-85.

GRAHAM, A. and FEACHAM, R. W. 1956 'The Deil's Dyke in Dumfries-shire and Ayrshire, *Proc. Soc. Antiq. Sco.* 88, 137-53.

HODGSON, J. M. (ed.) 1974. *Soil survey field handbook* 63, Harpenden.

WATKINS, T. 1983. 'Beware the bogus stakehole', *Scot. Arch. Rev.*, Vol. 2, Part 2, 164-68.

EXCAVATION AT BRYDEKIRK, ANNAN. 1982-1984

by
Chris Crowe

General

In July 1982 an excavation was commenced at Brydekirk, Dumfries (NY 185711). There is no documentary evidence for the site, but the Ordnance Survey and local tradition show St. Bryde's Kirk here. A quarter of a mile to the north is St. Bryde's Well on the banks of the River Annan.

The author believes that a dedication to St. Bridget is of sufficient interest to warrant investigation to see if the site has any connection with Irish monastic sites in Scotland of the sixth century. The name may also show a Christianising of a pagan Celtic goddess 'Brighda' and a reuse of the site of a pagan place of worship.[1]

It is generally accepted that the Bryde-Bridget transfer is correct, but it may represent a 12th century popularising rather than an Irish tradition.[2]

The place-name evidence is sparse — 'Bridechapell'. 1507. Bridkyrk. 1517.[3] but confirms that this is the site which gives the place its name. There are important St. Bridget dedications at Durisdeer where early sculpture has been found, at Moresby (Cu) (the site of the principium of a Roman fort) and Kirkbride (Cu) where there is a similar relationship to a Roman fort.

Documentary Evidence

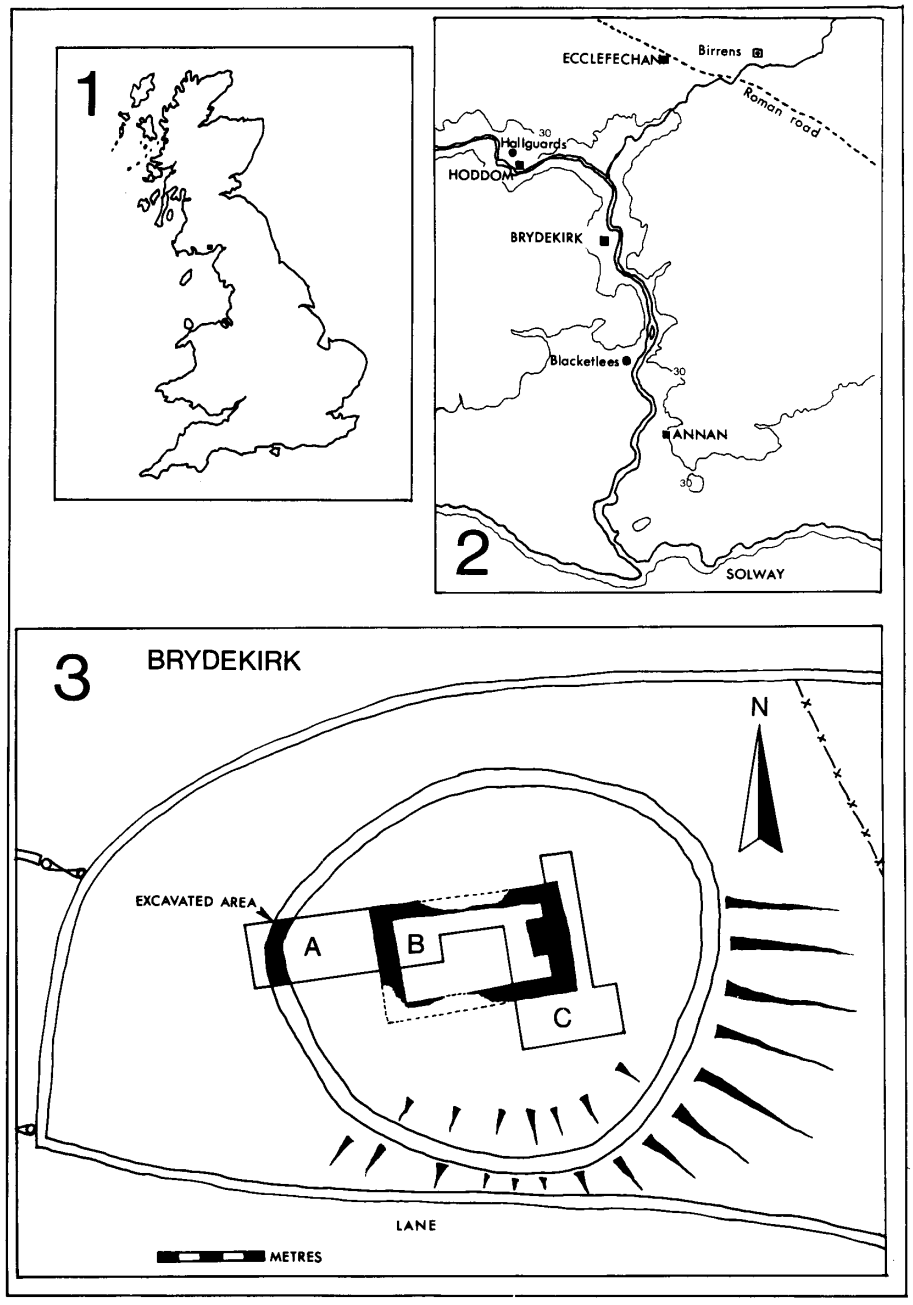
The documentary evidence is negative, but a recent article by I. B. Cowan has thrown some light on the conclusion of the excavation that the chapel was abandoned in the sixteenth century.[4] Several parishes were not provided with a protestant incumbent after 1574, notably Trailtrow. Other parishes were only intermittently staffed after 1574. Ecclefechan was one of these, and Hoddom another.

It seems that Brydekirk had always been a chapel attached to Annan. There is no suggestion that the church had formed part of the dependent parishes of the see of Glasgow. It may have started its life as an estate church.[5]

The Site

The chapel ruin lies on a small hillock about 50 metres north of Brydekirk Mains farm. It is beside a small brook which flows to the west side of the chapel down past the farm to the River Annan. The site is relatively sheltered by the surrounding hills and has access to Annan and the coast by the valley floor or by light boat. Traces of early settlement in the immediate area include an iron-age Romano-British settlement at Blacketlees 2 km south of Brydekirk on the banks of the Annan[6], a possible Romano-British defended farmstead at Hallguards near Hoddom bridge 2 km to the north.[7] There is the Roman road from Birrens running north west only 4 km away at Ecclefechan.

1. Connell, B. *The Pagan Celtic Origin of Witchcraft* (1980) Dumfries 3.
2. Macqueen, J. "The Gaelic Speakers of Galloway and Carrick" *Scottish Studies* 17 (1973) 25.
3. Ferguson, R. S. *Place Names of Dumfriesshire* (1935).
4. Cowan, I. B. "The Reformation in Dumfriesshire" *T.D.G.N.H.A.S.* 3rd Series LVI (1981) 82-91.
5. Collingwood, W. G. "The Early Church in Dumfriesshire" *T.D.G.N.H.A.S.* 3rd Series XII (1926) 46ff.
6. Truckell, A. E. "Excavation at Blacketlees, Annan" *T.D.G.N.H.A.S.* XXXV 138.
7. A wrist purse of the Roman period was found here during the last century.



Figs. 1, 2, and 3 Location maps and general plan showing excavated areas.

The soil is a sandy loam with pebbles, typical of glacial alluvium. It is good arable soil and will support a variety of crops. At present barley is most common. A settlement at Brydekirk could have relied on a supply of salmon and trout from the river, sea food from the Solway, game from the marshlands by the Annan to the south, and in the forests to the north.

Christian Regligious settlement in the area seems to have been firm by the eighth century and a variety of carved stones indicate early monasteries at Hoddom[8] and Ruthwell[9] and the place name indicates an early church at Ecclefechan.[10] Dedications to Irish Celtic saints occur at Kirkconnell and Kirkpatrick Fleming.[11]

Excavation. Area A (Fig. 4)

The area west of the chapel building was excavated to a depth of 70-90 cms to the subsoil. It was found that the foundations of the west wall of the chapel and those of the boundary stone wall were laid on the subsoil. The soil showed no appreciable layering in the sections and it is assumed that this is due to the action of tree roots which dominate the entire site. Similarly the pottery cannot be shown to be presently layered in strict order of deposition, therefore dating of individual pieces has had to be done by type.

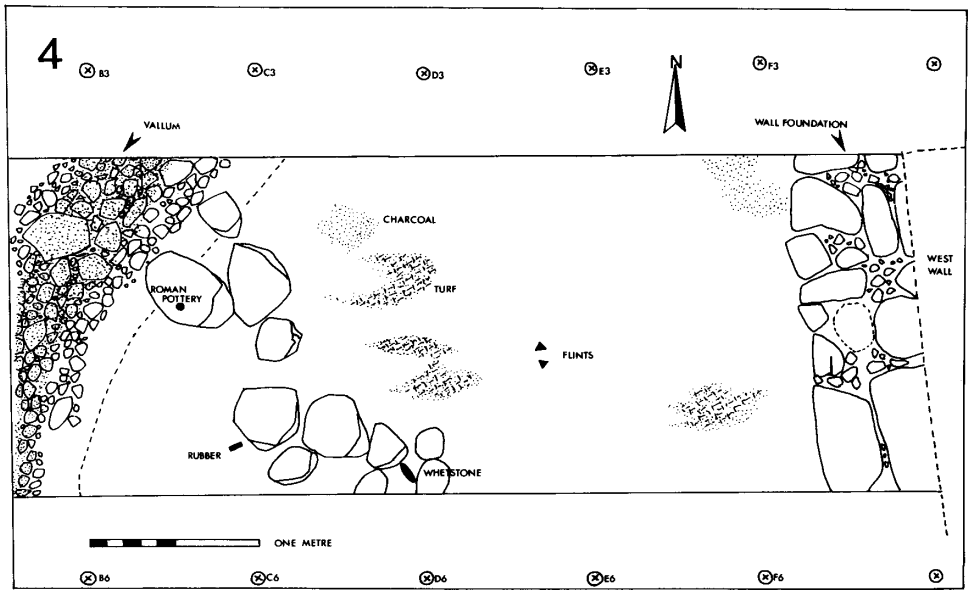


Fig. 4 Plan of excavated area A.

8. Dumfries Museum.
9. Dumfries Museum and The Kirk at Ruthwell. The Ruthwell cross is from c. A.D. 675; also see Radford, C. A. R. "An Early Cross at Ruthwell, *T.D.G.N.H.A.S.* XXVII 158, and Williams, J. "An Architectural Fragment from Ruthwell *T.D.G.N.H.A.S.* LI 29.
10. Ecclefechan "The Little Church" Latin "*Ecclesia*", O.W. "*Eglwys*".
11. Kirkpatrick "The Church of St Patrick". The Flemyng family had added their name to distinguish the village from others of the same name.

The foundation of the west wall was revealed to be laid on a different axis to the wall above it (Figure 5). The foundation was found to be of about three courses of large stones. The top surface of the remains are worn by the action of feet as if it had formed part of an ambulatory in the past.

Area B (Fig. 5)

Inside the chapel walls the area shown on Figure 4 was taken down to natural sand. The north wall was exposed for its whole length where it is presently represented by about three courses of stone with no foundation.

This area was excavated down to a floor of yellow clay mixed with fragments of charcoal. The floor had been preserved only in the corners of the building. Elsewhere it had disappeared. The clay was between 4 and 40 cms thick. Above the floor there were four courses of stone revealed, some of the stones massive and showing signs of dressing on the inside face only. There were no traces of mortar in the wall and it showed itself to have been built of freestone with rubble and earth filling.

In removing the rubble the earth between the stones was seen to be red (the natural colour for the area) and heavy with clay. It was assumed that this earth had been in the wall filling before it had fallen.

When the rubble was removed the base of a freestone mortar built altar was revealed. The excavators probably moved some of the stone before it was clear what it was. The altar stood above the clay floor and had a paved area around it as evidenced by a stone protruding from beneath it at floor level. (57 cms below the ground level). In front of the altar there was a broken slab (100 cm x 60 cm when it was reassembled) which could have formed the table of an altar — but not this one as it was too small in both dimensions. I conclude it had been reused as part of a paved area in front of the present altar. It lay on the basic sand of this site.

In the S.E. corner the clay floor up to and under the altar was burned red and hard by continuous firing. This suggested some industrial process taking place in the building before the present altar was built.

When the altar was taken apart both a coin and a mount or hoop fragment were found on each side of the rear of the platform at the level of the clay floor (52 cms below ground). The pieces of mount or hoop were from the same object. The coins were billon pennies of James IV (1488-1513) issued in Edinburgh.

Area C (Fig. 5)

A trench was cut on the outside of the east wall of the building. From the excavation three features emerged. The wall was laid on a foundation of large freestone boulders so that these stones presented a platform about 22-25 cms wide at the original ground level outside the wall where they protruded beneath the wall itself. At first this was thought to be the edge of a pavement or ambulatory around the east end of the building, but excavation showed that this was not so. This trench also revealed that the wall had been patch pointed with mortar at some stage although the original construction was not mortared. In the south end of the trench a layer of clay and charcoal was shown to match the layer on the inside of the wall. This layer varied in depth from 15-40 cms, there were stones in the clay and charcoal suggesting a building which had disintegrated. The foundation of the east wall had been cut through this layer and laid on the natural orange yellow sand of the site.

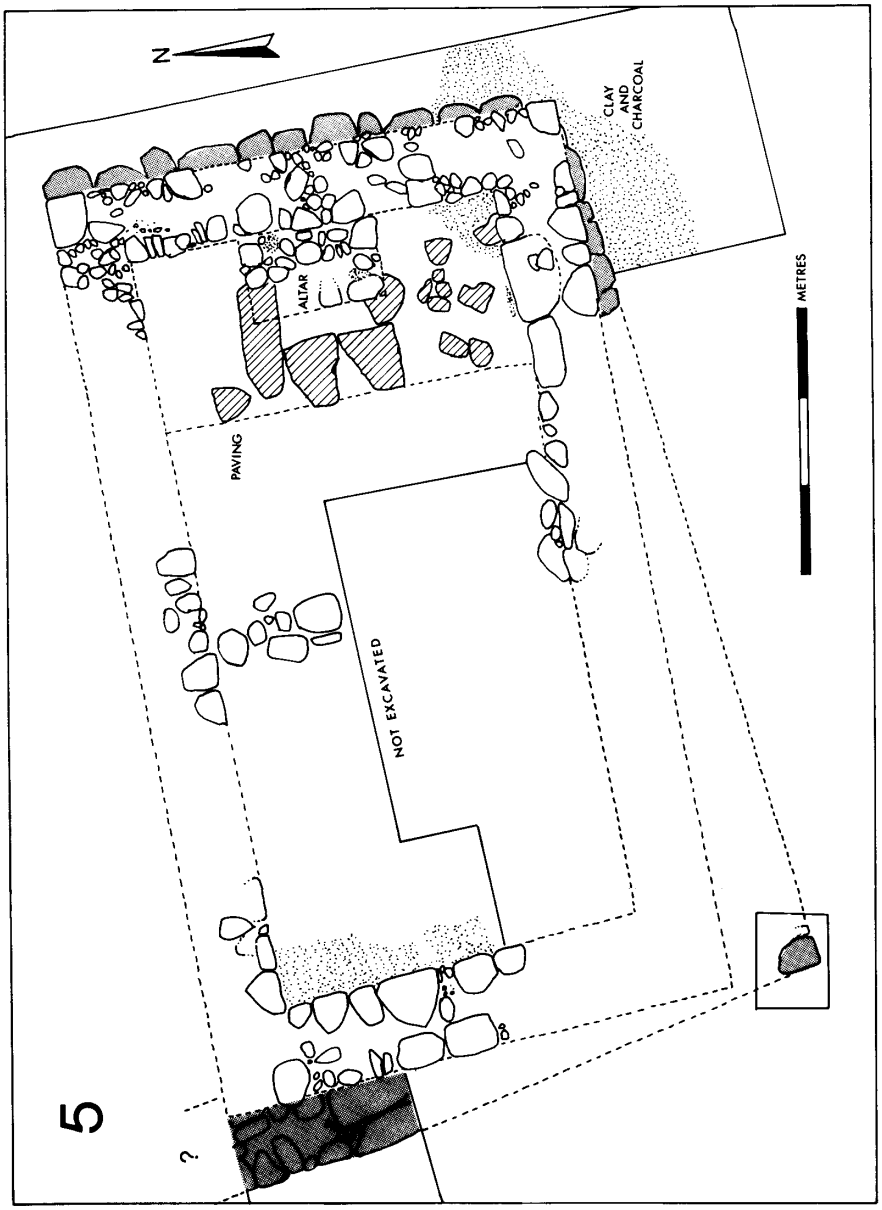


Fig. 5 Plan of excavated areas B and C.

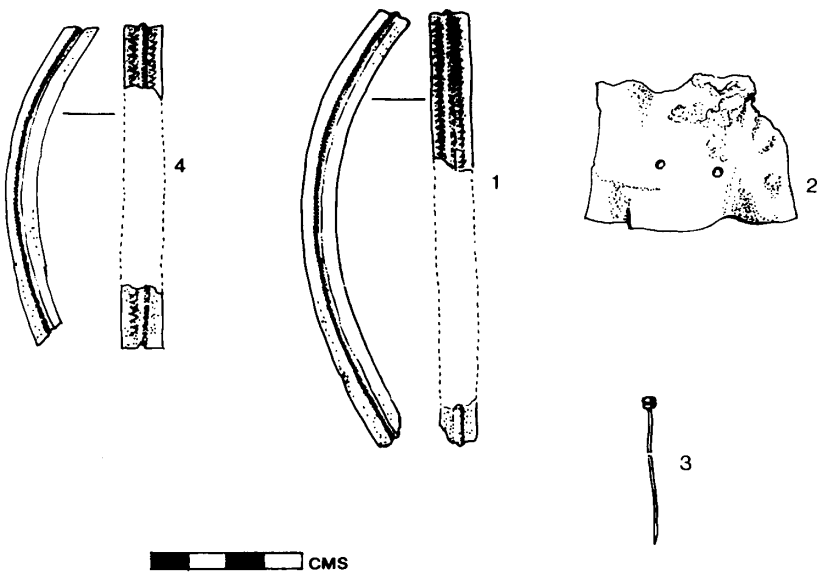


Fig. 6 Small finds of metal.
1 and 4, fragments of copper or base silver hoop or mount from beneath the altar.
2, bronze sheet fragment. 3, pin of silver (?) with wire head. All x ½.

The excavators also cut a rectangle 2m x 3m to examine the south-east corner of the building's exterior. The whole area was stripped of topsoil to reveal a cap of clay and charcoal into which the corner of the building had been set. At 46 cms we found three large stones, 50-80 cms long, which appeared to have tumbled from another building since they were below the level of the original ground surface.

It also became clear that the present south wall rests on another wall at a different angle to the foundations (Figure 5). The two eccentric foundation directions gave us a corner for a previous building which we confirmed by a sondage.

The Finds (all in Dumfries Museum)

Metal Objects

The altar filling contained a silver pin (Figure 6 - 3) as well as the coins and mount or hoop (Figure 6 - 1 and 4) described above. In front of the altar and in the floor was a piece of bronze, possibly part of the decorative appliqué for a cross or bible cover (Figure 6 - 2). Two pieces of iron slag were found in Area A.

Pottery

A scatter of pottery was found concentrated outside the west wall of the building and about the boundary wall. The dateable sherds fell between AD1200 and 1560. A small fragment of Roman pottery with a light orange body was found by the inside of the foundation of the boundary wall (no conclusion can be inferred from this isolated fragment).

The following sherds can be dated with some certainty by reference to other pottery from Scotland and northern England.

B83D463 13th century tripod pitcher base. Red earthenware, badly eroded.
B830728 12th century cooking pot. Grey-brown body, rilled surface.
B83A560 14th-15th century cooking pot. Northern English.
B83C570 13th century jug — shows affinities in type to examples from
B830736 ,, ,, ,, Yorkshire.
B83B440 13th century jug rim.
B830498 13th century — base of cooking pot with brown glaze. Scottish.
B836430 Unglazed cooking pot 12th-15th century. Grey-brown micaceous body.
B83E440 13th century jug rim.

Stone

1. A small parchment smoother or dressing stone — Hard sandstone.
2. A whetstone.[12] Possibly a river pebble of suitable kind and shape — Hard sandstone.

Flint, Chert, etc.

The following is a report from W. F. Cormack. He suggests that objects turning up in a later context may have been introduced in turf roofing materials.

1. A uniface core, 29mm long, in grey-green chert with a thick buff cortex. Worked down to the cortex. Unburnt and unrolled.
2. A triangular flake in grey-green chert, 21mm along the longest side. Unburnt and unrolled. Some damage and bladelet scars along one edge perhaps indicate it to be a core rejuvenation flake.

Both these are similar in material and general appearance to the mesolithic material recovered in quantity from the banks of the River Annan a few kilometres upstream at Brocklerigg[13] (NY 145733) and Dalton Hook [14] (NY 115763).

There were no pieces of clay pipe found on the site, nor any pottery later than the 16th century except a small piece of blue "willow pattern" china and a brass overall button on the surface.

Conclusions

The present structure was occupied from the 12th century to the 16th century with the building being patch pointed and kept in repair until being allowed to fall down in the mid 16th century. The building was surrounded by a substantial wall of which only the rubble core remains, the rest having been robbed for building stone.

The present building rests on earlier stone remains. The east wall and west wall were founded through a large area of abandoned industrial waste in the form of clay and charcoal built up over a number of years. This process of industry may have been connected with an earlier building.

12. A similar whetstone is in the Celtic-Roman collection at Dumfries Museum.
13. *Discovery and Excavation, Scotland* 1966.
14. *Ibid.* 1964.

The smoother and whetstone may indicate a monastic workshop of the mediaeval period. Traces of iron working on the site may account for the charcoal and clay, but at what date is not clear except that it occurs in a sequence before AD1350.

The trapezoidal plan of the original building is a puzzle. The excavation did not connect any of the finds directly with these foundations and without destruction this could not be achieved. The north-west corner runs under a tree and so the excavation could not confirm its location. Stonework in the centre of the chapel floor at about 55 cms could be construed as a badly damaged partition wall, levelled to the present floor.

The chapel was first in use, according to this evidence, in the 12th century. It is interesting to note that other excavated chapels of a similar type in this area have also revealed nothing before this date. In particular an excavation at Little Dalton by James Williams a couple of years ago revealed nothing before the 12th century.[15] Similarly excavation of St. Conal's chapel near Sanquhar in 1983 by Tom Affleck[16] has led to the same conclusion. St. Bridget is, incidentally, remembered in many dedications in the area and the first documented dedication at Dalbeattie seems also to be from the mid 12th century.

Acknowledgements

I would like to thank Mr James Bell of Brydekirk Mains Farm for all his help in enabling this research: also Alfred Truckell and David Lockwood of the Museum in Dumfries for their help. I thank also W. F. Cormack for his report on the flint objects, Eric Talbot of Glasgow University and Phil Mayes of the Greater Manchester Archaeological Unit for help with the pottery. Finally, for help in survey and excavation, Quentin Ray, James Stallybrass and John Robinson, together with all my adult students whose patience is vindicated by this report.

15. Personal communication 1983.
16. Personal communication 1983.

THE GLENKENS 1275-1456:
SNAPSHOTS OF A MEDIEVAL COUNTRYSIDE

by
Daphne Brooke

Between the dates 1275 and 1456 the Glenkens is sufficiently well documented to provide consecutive glimpses of a medieval countryside in process of change. The records present the district in turn as a rural deanery, a war zone, a royal hunting forest. There are traces of a Northumbrian stronghold and a Cumbrian cantred. The effect of the fourteenth-century wars and plague upon land and people are scantily recorded; but in the absence of native documents the Vatican records offer evidence both of social decline and some continuity of economic life.

Inferences to be drawn from the early fifteenth century documents prompt the questions had newcomers been settled in Balmaclellan in the fourteenth century, and what were the economic attractions of Carsphairn? Finally in 1456 the demesne lands of the lords of Galloway, occupying a considerable proportion of the district, are revealed in profile as they passed into the hands of the crown. An appendix lists the settlements parish by parish of which there is record before 1457. If the narrative is episodic and the inferences drawn seem both inconclusive and controversial, they are presented in the hope that other local historians will be moved to ponder and investigate further.

Around 1275 a Papal tax of the Scottish church to finance a crusade, left an almost comprehensive list of the deaneries and parishes of the diocese of Whithorn. The Glenken, for the first and only time, is recorded as a deanery. It consisted of the five parishes of Kells, Dalry, Kirkandrews (Balmaghie), Kirkandrews (Parton), and the fifth parish listed under the name *Trevercarcou*[1] and later known as Balmaclellan (*SHS Misc vi*). The church of St Andrew of Balmaghie had been recorded in the twelfth century, when it was annexed to Holyrood Priory by Uchtred lord of Galloway (*Holy Lib*); but the rest are documented for the first time in the taxation roll of c. 1275. In more recent times the Glenken has been regarded as consisting of the three northern parishes only, without Parton and Balmaghie, and with the addition of the parish of Carsphairn. The latter acquired parochial status in the seventeenth century. In this article the Glenken is treated as consisting of the five parishes of the medieval deanery, but interest centres in Balmaclellan, Kells, and Dalry, including what is now Carsphairn.

The water of Ken rises in the hills of Carsphairn not far from the borders of Dumfriesshire and Ayrshire. The stream flows south-westwards through the bleak white fell-land, bog and heather of the hills that divide Galloway from Kyle and Carrick. Except for the one age-old route northward over the pass to Ayr, and possibly an ancient east-west road, the predecessor of the Military Road, this bare upland is scarcely penetrated by road or human settlement. Today it is given over to sheep, whose forebears may have helped to destroy the oakwood that once clothed it. These hills are traditionally believed to have been heavily wooded down to the

1. *SHS Misc* vi. Mrs Dunlop identified it with Troqueer. Troqueer appears in the same document, transcribed *Crevecoer*, under its correct deanery — Cro in the diocese of Glasgow. No medieval churchman would have confused it with a parish in the Glenken.

seventeenth century, though this is not wholly reconcilable with the thirteenth century evidence. A writer of less than a century ago claimed apparently from personal knowledge that 'even on the highest hills the roots of large oaktrees are yet to be seen'[2]. This timber as long as it lasted, was a further economic resource, but it was not the only one. Some of the burns can still be panned for gold. This and deposits of lead, silver, copper and iron have probably attracted exploitation over a very long period.

As the water of Ken reached lower ground its course meandered through a narrow valley and then spread out into an inland loch, Loch Ken, out of which flows the river Dee. The strathland contrasts sharply with the hills surrounding it. Lush woods and alluvial meadows, and as late as the last century, productive ploughlands, surrounded the chain of elongated lochs.[3] This is the Glenken, a district embracing both valley and hill. It is a good land: rich in minerals, endowed with plentiful grazing, fertile for cropbearing, and in the Middle Ages, producing timber, an abundance of wild life, its waters full of fish. Cairns and standing stones mark the long continuity of human habitation. In Balmaclellan one of the most exquisite examples of celtic metalwork ever found in Britain was unearthed, dating probably from the first century BC. Long before the Romans reconnoitred southern Scotland the Glenken was inhabited by a cultured and highly organised people.[4]

The price of holding this fecund countryside is evident from the map. Ring forts lie alongside Norman mottes and medieval castles. Many of the mottes probably date from Roland of Galloway's Anglo-Norman military regime established by force in 1185, and apparently held by intimidating a reluctant countryside.[5] The castle on Burned Island and at Earlston were probably older; the fifteenth century fortress of Threave stood, to judge by its Cumbric name, on an ancient island site similar to the Gordon's castle of Lochinvar in Dalry. Kenmure may have been a relative late-comer.[6] Place-names like Stroangassell (*Srongasschill* 1365 *RRS* D ii) and Castle-maddy (*Castelmaddy* 1456 ER vi) testifying to the existence of defended homesteads ruined long before the names were coined, extend the list of fortified places. The Roman fort at Glenlochar completes it. Like Nithsdale, the Glenken, leading to an easy pass near Loch Doon and the direct route to Ayr, was a backdoor into Galloway which had to be secured whenever Galloway and Carrick were controlled by different political masters. The boundary has varied with time. Since the creation of the Earldom of Carrick in 1185 at any rate the dividing line has been the modern county boundary. At some indefinite earlier period the line of demarcation may have been the Deil's Dyke some miles to the south, which crosses the Glenken just north of the confluence of the water of Ken and the Black Water.

It has already been said that the parish now called Balmaclellan was *Trevercarcou* in the thirteenth century (*SHS Misc* vi). Balmaclellan is not on record as a name before 1408 (*Balmaclelane SRO* RH 6 ii 219), and as a parish name not

2. J. Barbour: The Glenkens in Olden Times. *D&G Trans.* 1895-6. pp 135-147.
3. The past tense is used here because the present lochs of Carsfad and Earlston are of modern creation.
4. A bronze crescentic plate or collar. Also a bronze hand mirror. See R. Feachem: *The North Britons.* 1965. p 228.
5. Discussed by Bruce Webster: *Scotland from the Eleventh Century to 1603.* 1975. pp 116-7.
6. This view based on documentary evidence is confirmed as an archaeological judgment by Christopher J. Tabraham: "Norman Settlement in Galloway : Recent Fieldwork in the Stewartry", in which he reviewed the *prima facie* Norman mottes in Kirkcudbrightshire. (*Studies in Scottish Antiquity presented by Stewart Cruden.* ed. David J. Breeze. 1984.)

before 1453. Among the most important of the lands of Balmaclellan listed in 1466 (*RMS* ii) was *Trechanis*, which appears in *RMS* as *Trochane* in 1501 and is the present-day Troquhain. Whether *Trevercarcou* represents a name distorted in recopying and should be identified with Troquhain is not clear. Both contain the Cumbric *tref* (homestead, village, home of the kindred) which appears in its unqualified form in Threave in Balmaghie (*Treif* 1422). A charter of 1408 listing lands in Balmaclellan omits Troquhain but includes *le Contrefe*. This seems to mean the cantred, the traditional Cumbric and Welsh territorial and administrative division based on a hundred households. Here the place-name may represent the central homestead or site of the cantred court. I interpret this evidence to mean that the cantred had embraced the whole of the Glenken, and that it dated from the access of power of the Kingdom of Cumbria (Strathclyde) in the tenth century. Whether *Trevercarcou*, Troquhain, and *le Contrefe* represent three place-names or one is not easy to decide, but they are treated as three in the Appendix.[6a].

Traces of the even earlier Northumbrian supremacy may be seen in the church dedications to St Andrew at Parton and Balmaghie, and in the Old English name for the castle on Burned Island which Edward Baliol described in a charter of 1352 as '*mea castra de insula arsa*' (*SRO* RH1 i). Between 1456 and 1471 this appears in the Exchequer records as: *Irisbutil, Erysbutil, Arsbutil, Erthbutil* and *Arthbutil* (ER vi-viii). The second element *botl* (homestead, lord's hall) has been identified as indicating very early Anglian settlement. A classic example is Buittle.[7] Earlston may also date from the Northumbrian period. Its strategic position is striking; but it could equally well derive its name from the Earls of Douglas. It was *le mote de Erlistone* in 1456 (*ER* vi). Its importance in the later Middle Ages is suggested by the Exchequer entry of 1481 which refers to 'the Glenken *alias* Earstoun'.

As a route between the Bruces' lands of Carrick and Annandale, the Glenken lay in the midst of a war zone from 1286 — when Robert Bruce the Competitor and his son the Earl of Carrick ravaged Galloway — and 1356 when Edward Baliol finally relinquished all claim to the Scottish crown. What intermissions from war there were between these dates were brief. The Wars of Independence may be represented as a gallant struggle by a small nation against a would-be conqueror, but for the people of Galloway it was far more bitter. It involved a prolonged succession of occupations by a foreign power, and worst of all, civil war fought over home ground. The knightly classes suffered in the conflict of local loyalties to Baliol, Comyn, and Bruce, and turned their coats in desperate efforts to preserve home, lands, and family inheritance. The suffering of the peasantry consisted of crops wasted, livestock commandeered, cottages fired, harvests aborted — catastrophes which could mean death to the weakest if not to all.

The recorded events of the wars are familiar enough, and this article is not concerned with them except to call attention to three incidents. There was a dispatch which reported in 1300 that Robert Bruce and his guerrillas had been 'in *les Kellys* last Sunday' and had passed on (*CDS* ii). In 1306 Sir Eymer de Valence in the service of Edward II dated a dispatch 'written at the Glenken' (*CDS* ii). An English royal

6a. For a further discussion on *le Contrefe* see postscript.

7. W. F. H. Nicolaisen: Celts and Anglo-saxons in the Scottish Border Counties. *Scottish Studies*. 1964. p 2.

directive was given to allow the refugees that had driven their herds from Galloway across the Solway fords to the safety of Inglewood forest to graze them there (*CDS* iii). The first two show the pressure upon Glenken as a district, the third is evidence of the plight of the peasantry in general. The effect of the war on the land itself is reflected in the constant changing hands of estates as power swung between Baliol and Bruce and back again.

The first transaction seems however to have been more in the nature of a defence measure. In 1300 John Maxwell, son and heir of Sir Herbert Maxwell of Caerlaverock, granted to Sir Adam de Gordon half the Glenken. This will not have meant a division of territory, but of the rents, dues, and services which the lands yielded to the proprietor. John Maxwell's superior in the Glenken was John Comyn, Earl of Buchan.[8] The charter of 1300 is said to have been preserved in the Kenmure charter book but has been lost. It is quoted in Thomson's Preface to *RMS* i, and the new edition of 1984. The document is notable for a clause declaring Sir Adam Gordon and everyone living in the Glenken "quit of *sorthyn* and *fascal* and *de superdicto servienti*". This garbled Gaelic phrase, which appears in two other more or less contemporary documents as *sorryn et frithelos* and *sorem et freelache*, refers to the power of baronial serjeants of the peace to billet themselves and their men on the ordinary householder. The Latin *superdicto servienti* (or *serjeanti*), or in French *surdit de sergeants*, relates to their powers of summary accusation, and in some cases execution of lawbreakers, on their word alone. This corner of legal history is the subject of a short authoritative article by Professor Dickinson.[9] The practice had been abolished in the whole of southern Scotland except Galloway in the reign of Alexander III who had extended the ban to Galloway in the last year of his life. The practices were in fact unlawful and discredited in 1300 but appeared to persist.

In 1304-5 the Community of Galloway petitioned Edward I to abolish summary accusation by serjeants 'which barons and great lords of the country are now enforcing' (*CDS* ii); and Robert I in the latter part of his reign found it necessary to enact both a general ban applying to Galloway, and to specify in his confirmation charter to the Priory of Whithorn that their property in the Glenken — Glenswinton — should be free of *surdit de sergeants*. (*RMS* i App i).

In the context of the Glenken during the first troubled decade of the fourteenth century the persistence or revival of compulsory billetting and summary accusation by sergeants, and the agitation against it becomes a vivid reality. Archaic and discredited practises, bearing hard upon the individual householder, were being brought into use and adapted to the exigencies of civil war. The initiators appear to have been the Baliol party and the English knights and barons newly arrived in Scotland in the service of Edward I; but both sides may have resorted to the abuse. The purpose is not difficult to identify. The charters appear to be concerned with the ordinary criminal as sergeants' quarry but the powers are much more likely to have been used politically against suspected enemies. They were analogous to the 'sus' laws in present-day Northern Ireland.

8. *Register of Deeds* Dal. Vol 143.
9. W. C. Dickinson: Surdit de Sergeants. *Scottish Historical Review*. 1979. pp 170-75.

Robert I finally gained undisputed possession of Galloway in 1313, and his pacification of Scotland after Bannockburn included a redistribution of fiefs in Galloway. Hugo de Ross, a Bruce supporter probably from Ayrshire, was in possession of the Glenken (*RMS* i App 2) in place of John Maxwell and Sir Adam Gordon, and Robert effected an exchange with Hugo giving him the lands of Kinfauns in Perthshire (*RMS* i App 2). The explanation of this exchange is suggested later. The lands in the Glenken belonging to Gylbricht McMalene and Gilluth McMolene were granted to Robert Boyd (*RMS* i App 2). Unfortunately these cannot be identified. Richard Edgar from Nithsdale was granted the lands of Kirkanders (Balmaghie) the Airds, and the lands of *Hergawane*. This comes from the catalogue of lost charters (*RMS* i App 2) and *Hergawane* may be corrupt.[9a] It appears to have meant either Edgarton or was the name of the lands which became Edgarton as a result of this grant. In continuation of Robert I's policies of securing the south-west by enfeoffing men he could trust, John Randolph Earl of Moray, the Guardian of David II in his minority, granted in 1330 the estates of Garlies in Minnigaff immediately west of the Glenken, and Corsock on the eastern side of Glenken, to his kinsman Walter Steuart (*RMS* i App 2). This was the beginning of the Stewarts' landholding in Galloway, which lasted for centuries.

By 1332 Edward Baliol, with English backing and the support of the dispossessed landowners of the south-west, was on Scottish soil claiming the crown. War, foreign occupation and the civil conflict were once more ever-present; and the struggle lasted until 1356. After David II's capture at Neville's Cross in 1346, Baliol's power was in the ascendant for some years. In 1348 Edward III formally restored to him the regality of the lands of Buittle, Kenmore, and Kirkanders (Balmaghie) (*CDS* iii). In the same year Baliol granted to his closest friend and supporter, William de Aldeburgh, the lands of Kirkanders and *Ballemegethe* (*CDS* iii). In 1352 William de Aldeburgh was granted the barony of Kells in the Glenken, with the castle of Burned Island and other large and important estates in Galloway (*SRO* RH1 i). Baliol's abdication left the south-west exhausted and scarred. Pestilence had hit Dumfries in 1350, and we may presume the surrounding countryside. Another epidemic occurred in 1362. The extent of the damage and disorganisation of the wars and the plague cannot be measured for they are not recorded. The only documentation of the Glenken at this time concerns the New Forest.

Perhaps for personal reasons, and perhaps in recognition that both population and cultivations had been reduced as a result of the war, Robert I had taken the Glenken into his own hands — the significance of the exchange with Hugo de Ross — and designated it as a hunting reserve. No record of this decision appears until 1358. Robert had known the Glenken well, and perhaps had hunted there in the days when he too was hunted; but in his latter years he spent little time in the south-west. No king in his senses would have exposed himself to the chances of the hunt in that disaffected countryside. Almost from the first the New Forest as a royal hunting reserve had been a white elephant. The campaigns of Edward Baliol had rendered the Glenken inaccessible to the Kings of Scots after Robert's death, and its effective administration as a hunting forest was out of the question.

Any discussion of medieval forests is bedevilled by the ambiguity of the term. Forest means to us either a large tract of natural woodland or a plantation of timber grown as a crop. In the Middle Ages it certainly meant natural woodland such as still

9a. See postscript for a further discussion of *Hergawane*.

clothed a great deal of Scotland. It also meant a hunting reserve subject to a strict code of law and an elaborate administrative system. The hunting reserve was a forest whether wooded or not. The New Forest of the Glenken was almost certainly both.

Medieval royal forests did not necessarily involve the clearance of villages or existing arable cultivation; and the grazing of sheep, cattle, horses, and pigs was usually undisturbed. The peasantry were encouraged to keep down the smaller wild life inimical to the king's venison — deer and wild boar — but it was death to kill or harm a deer. The protection of the king's sport overrode all other claims on the land. So as to afford shelter for the game, the felling of trees and the diminution of the forest, and the ploughing of new arable fields was forbidden under stiff penalty. Forest law was enforced by a hierarchy of sergeants and verderers under a forester, a noble appointment. Poaching and encroachment were nevertheless constant in the most efficiently policed forests. In the New Forest of the Glenken where kings, except perhaps Edward Baliol, rarely hunted, a good many liberties will have been taken.

A feature of the medieval forest was the creation of parks. These were enclosures surrounded by high banks where deer could both be protected and contained. The Park of Balmaclellan, now perhaps represented by High Park and Parkrobbin on the shores of Loch Ken, is documented in 1408 (*le Park SRO* RH6 2 219) and again in 1426 (*RMS* ii) and in 1456 (*ER* vi).

The first available documents which refer to the New Forest date from 1358. David II, returning from captivity in 1357, turned his attention among other matters to the control and administration of the royal forests, the Glenken among them. In 1358 he appointed John Crawford of Cumnock Keeper or Forester (*RMS* i App 2). In the same year Robert Stewart, Earl of Strathearn, later Robert II, granted to William de Gordon, lord of Stitchelle 'the whole lordship (*dominium*), administration (*regimen*), and safekeeping (*tutelam*) of the New Forest of the Glenkenne to be held of the granter by its ancient bounds measures and divisions and with all liberties . . . feus and rights obtaining in the time of Robert I, and according to custom and the tenor of David II's charter.' (*SHS* Misc Vol xxi). Eight years later David II appears to have accepted that it was unrealistic to retain the Glenken as a royal forest, and finally feued it away. His charter of 1366 gave Walter Lessley and wife Euphamia Ross, kinswoman to the king, 'the whole of the New Forest with the pertinents for his homage and service . . . with bondmen, bond tenements, villeins etc.' (*RMS* i 258). In 1368-9 the king granted the lands of the Glenken (and the estate of Mochrum in Wigtownshire) to his kinsman George Dunbar (*RRS* Dii). The first grant signified apparently the alienation of the hunting rights (the rights of hunting and wood cutting etc.) to Walter Lessley, and the second the granting of the proprietorship of the lands of the Glenken.

The forest continued to change hands. In 1373 Robert II accepted Walter Lesley's resignation of the New Forest in favour of his, the king's nephew, James Lindsay (*RMS* i 446). Lindsay in his turn resigned possession in 1375-6 but continued to hold the superiority. The forest was then granted to John Maxwell whose predecessor had owned the Glenken before 1300 (*RMS* i 576).

Dr John Gilbert's study of the hunting forests of Scotland posits that the Norman forest laws were modified by older celtic custom relating to hunting. He points out that whether a royal grant of forest rights had ever been made to him. Alan

of Galloway (1200-1234) referred in one of his charters to his woods and forests, while his grandfather Uchtred granted rights of pannage to Holm Cultram Abbey in Kirkgunzeon (*Holm Cultram* 120) and a tithe of his hunting between the Urr, Nith, and Cluden to the canons of Holyrood. These grants Dr Gilbert regards as consistent with the existence of a pre-Norman forest. None of the districts named was in the Glenken, but Robert I may have been aware of ancient hunting rights exercised there in designating his royal hunting reserve.[10]

The extent and bounds are not known. P. H. M'Kerlie and Sir Andrew Agnew whose topography and local lore were more reliable than their history, both identified the New Forest with the Forest of Buchan which lies mainly in the parish of Minnigaff, extending as far west as Loch Trool. 'Higher up the Ken', wrote M'Kerlie, 'there was the New Forest, so called but doubtless it was all one'. He claimed that this forest included a great deal of land in Carrick and the contiguous parishes of Carsphairn, Minnigaff and Dalry.[11] While he may have been right in practical terms in saying these forest areas were 'all one', strict distinctions were drawn for instance, in the Justice Ayre Journal books dealing with woodcutting offences in the early sixteenth century, between the Glenken (1511), the New Forest (1507), and the Forest of Buchan (1507). Later in the sixteenth century a tract of forest on the border with Kyle, that is to say Carsphairn, was called the Free Forest.[12] It looks as if distinctions were being drawn between recognisable remnants of a great primitive forest of South-west Scotland where the status of hunting reserves had been established at different periods. The name of the New Forest, suggests an older one.

In the closing decades of the fourteenth century one is tempted to ask what was left of the Glenken after the long wars and the epidemics, apart from a neglected hunting forest that nobody seemed to want. As far back as 1306-7 the effect of the war on the countryside had been such as to depress land values. Huwe de Champane had petitioned Edward II for a mitigation of his relief for this Galloway lands 'according to their present value, not the old valuation before the Scottish war as they have been so wasted thereby' (*CDS* ii). Fifty years more of war, and pestilence beside, could have reduced both the population and the acreage of land in agricultural use. The absence of records invites speculation. Is this the silence of desolation? The Vatican records interpose with the unromantic voice of reality, and prevent the exaggerations which speculation might suggest. At diocesan level the bishopric of Whithorn had been compromised and torn by its traditional place within the province of York. The conflict of loyalties between the spiritual power in York and the temporal power in the person of the king of Scots, was aggravated by the Great Schism in which the Scottish and English churches adhered to different Popes. The bishops of Whithorn, with their inevitably English sympathies and affiliations, found

10. John Gilbert: *Hunting and Hunting Reserves in Medieval Scotland.* 1979. pp 24-25.
11. P. H. McKerlie: *History of the Lands of Galloway and their Owners.* 1870-79. Vol 4. pp 465-504; and Sir Andrew Agnew: *The Hereditary Sheriffs of Wigtownshire.* 1893. Vol. 3. pp 62-104.
12. Gilbert: *Hunting.* pp 240-42.

their diocese hostile. In 1388 Bishop Oswald fled for his life and sought the protection of Richard II of England. More than one bishop lived either in England or abroad.[13] When Bishop Eliseus was instituted in 1406, he was the first resident bishop for a generation or more.

Papal letters of the intervening period reveal the neglect and disorganisation this entailed in the bishopric. The relevant ones begin in 1369 in response to a petition by David II on behalf of his secretary Duncan Petit for the Archdeaconry of Galloway. By 1383 Petit held several benefices and was asking for an extension of his tenure of the Archdeaconry (*CPL* iv). In 1392 he was rector of Kells in the Glenken as well as Archdeacon (*Papal Letters* 1378-94 *SHS* 1976). His petition on this occasion was to the effect that 'he had been collated (to the parish of Kells) by the ordinary authority' believing that the parish and the Archdeaconry were united; but now asked for dispensation. Robert I had in fact endowed the Archdeaconry with the parish of Kells, but although there was obviously some memory of the endowment, there was clearly no record of it. The plight of the parish is underlined by Petit's inability as royal secretary to discharge effectively the cure of souls.

It is nevertheless clearly inferred that these benefices and dignities were profitable. Teinds and dues were being paid, if not in full, and peasants were working the glebe. The lands of the Glenken were still yielding what the medieval church graphically called 'fruits'. The competition for livings continued but that does not concern us here.

The parish of Dalry as described in a Papal letter of 1428 yields a haunting picture. Sir John Betoun, familiar clerk to Margaret of Touraine[14] was Archdeacon and rector of St John's church, Dalry, and he petitioned that benefactors to the church rebuilding fund should be granted indulgences — a normal way of fundraising to cover construction costs. The church, he said, was situated in the woods 'far from the habitations of other Christian faithful, among fierce men ill-versed in the faith'. On account of its antiquity, the building was so badly collapsed in its framework and roof and other structures, that unless it was speedily repaired it would fall down. (*CSSR* 1423-28). The dilapidations to the church, like the spiritual neglect of the flock, speak more of a neglected diocese under absentee bishops and preoccupied archdeacons, than the direct effect of war or epidemic seventy years before. Nevertheless the Archdeacon's description suggests a village that had become isolated by the shrinkage of others around. Did the church's situation 'in the woods' mean that the forest had encroached here? Available records of the lands of Dalry are very few, and how much of the parish was woodland and how much settled, is not clear. The lands of Dalry were granted by David II to Roger de Camera (*Chalmers*) (*RMS* i App 2); the lords of Galloway held Earlston (see Appendix) and the Castle and estate of Lochinvar was not recorded until the fifteenth century.

The parish of *Trevercarcou* comes into prominence in 1408 under a new name — the barony of Balmaclellan — with a charter by Archibald, fourth Earl of Douglas, lord of Galloway to Alexander de Gordon confirming to him: 'the lands of

13. Gordon Donaldson: Bishops and Priors of Whithorn. *D&G Trans.* 1948-9. pp 127-54.
14. Margaret, daughter of Robert III, married the fourth Earl of Douglas, Duc de Touraine. After his death in 1424 she was lady of Galloway.

Schyirmes, le Park, le Contrefe, Ern Canny, Ern Macnelly, Ern MacCathy and *Ern Macgilqwhinny* in the lordship of Galloway, the Barony of Balmaclelane, and constabulary of Kirkcudbright. To be held forever for one attendance yearly at one court to be held immediately after Easter at the principal place of the said barony' (*SRO* RH6 ii 219).

The significance of the names *le Contrefe* and *le Park* have already been discussed. Shirmers lies on the east bank of Loch Ken by the waterside. The four place-names beginning with the element *ern* (the Gaelic *earann*, a portion) call for close examination. Place-names with the first element deriving from *earann* are uncommon in Galloway. The best known is the parish name Kirkpatrick Irongray. Its older name was Kirkpatrick Cro (*Kyrkpatric Cro* c 1275 *SHS Misc* vi) and as late as 1347 the parish was called *Kircpatrick juxta Trevereglis* (*RMS* ii). It emerged as *Kirkpatrick Yrngray* in 1466 (*RMS* ii). Ironlosh in the Glenken was *Arnglosk* in 1456 (*ER* vi), *Ernloske* in 1458 (*ER* vi); and Ironmacanny appears as *Armakewne*, probably more correctly *Arnmakennie* in 1466 (*RMS* ii). These are the only examples of place-names containing the element *earann* in Galloway or Carrick that I have been able to find recorded before 1500. There are some apparent *earann* names on the Ordnance Survey maps such as Ernespie in Castle Douglas, but they are not authenticated by medieval forms. The history of the name Irongray emphasises that the element may have been a late-comer to the Stewartry.

The personal names qualifying the element 'Ern-' in the charter of 1408 appear for the first time in a Galloway context along with the new place-name Balmaclellan (Gaelic: *Baile-MacGillFhiolan* — Maclellans' village). Black identified Macneillie or Macnelly and MacCathy as Galloway names but from a later period. He has no examples before 1426 and 1481 respectively. Macqwhynny he associated with Bute, and he did not list Canny or Macanny at all.[15] So a number of new names appear in record for the first time together: the relatively new and uncommon place-name 'Ern-' its meaning 'portion' or 'share' suggesting perhaps a new assart won from the forest; the personal names Macnelly, MacCathy, Macqwhynny and Canny; and the personal name Maclellan incorporated into a place-name for the first time. Are we to see these as closely associated, and as indicating the arrival of a settlement of newcomers in the old parish of *Trevercarcou*?

The name Maclellan was first recorded in Galloway in 1273 when Cane McGillolane witnessed the foundation charter of Sweetheart Abbey (*Laing Chrs*).[16] In 1305-6 Patrick son of Gilbert M'Lolane was among the Bruce adherents who captured Dumfries Castle (*CDS* iv). Sir Mathew M'Lolane and Gilbert son of Gilbert M'Lolane witnessed Edward Baliol's charter annexing Buittle parish church to Sweetheart Abbey in 1351 (*CPL* iii); and in the next year Sir Mathew and his son John witnessed Baliol's grant to William de Aldeburgh of the barony of Kells (*SRO* RH i). When David II received the clans of Galloway into his peace Gilbert McGillolane was formally designated Captain of the kindred of Clenconnon (*RMS* i App 2) 'a clan,' commented Black, 'of which there is no other record'. The same Gilbert, apparently, was a juror in a Dumfries Inquest in 1367 (*Mort Reg.*).

15. George Black: *Surnames of Scotland*. 1946.
16. Dovenald Fitz Cane swore fealty in 1296 (*CDS* ii), and appeared with Cuthbert M'Cane in 1304 (*CDS* ii). Gibbon Fitz Kan is on record in 1298 (*CDS* ii).

Although the Maclellans presence in the parish must be inferred from before 1408, it is not actually documented until 1466. There was then a royal confirmation of a grant by Vedaste Grierson, one of the three superiors holding land in the parish, to John M'Lelane of a twelve merkland. This was particularised as the lands of *Armakewne* (? Arnmakennie) now Ironmacannie, *Trechanis* (Troquhain), *Blaranny* (Blairinnie) and *Blackcrag* (Blackcraig), the last to be found only on the first one inch Ordnance Survey Map. In this charter the surname Maclellan had not become fixed any more than it seems to have been in 1296. John M'Lelane was further identified as 'son of Dongal Johnsone', a genuine patronymic. In 1501 Dongal Maklellane was still 'alias Dongalsoun' (*RMS* ii). This may explain why the names Canny and Macanny are not listed in Black as surnames. Canny, which appears in Cane McGillolane, seems to have been a personal name associated with Clenconnan. The preservation of the fluid patronymic at so late a period in Galloway was singular. McCulloch, McGuffog, and Macdowell for example, were fixed surnames by 1296.[17] The suggestion here is that the Maclellans and their kin held to traditional Gaelic speech habits different from those current in Galloway at large.

The most significant thing known about the Clenconnon is that when Edward I received the fealty of the ancient, and originally Cumbric, kindreds of Galloway, such as Clenafren, the clan of the McGhies of Balmaghie, the Clenconnon was not among them (*CDS* ii). As we have seen, leading members of the Maclellan family were already in Galloway, and their history suggests that their sympathies were with the Baliols but their principles those of the Vicar of Bray. It is not very likely that in 1298 they would have avoided swearing fealty on behalf of Clenconnon, and more probable that Clenconnon were not yet settled in Galloway at that date. That would place their implantation some time between 1300 and the latter half of the fourteenth century. This hypothesis appears to win some support from the facts recorded by Black: that the name Connon developed later as a surname in Aberdeenshire and Banff, while Cannan emerged as a surname among the bonnet lairds and tenants around 1500 in the parishes of Buittle, Balmaclellan and the district of Carsphairn.[18]

If the kindred of Clenconnon were brought into the Glenken in the fourteenth century, perhaps to repair depopulation resulting from the war or the plague, where did they come from? The suggestion has already presented itself that they came from the north-east, and the name McGillFhiolan may indicate that they derived from a district where the cult of St Fillan was strong.[19] All the same some clearer evidence of northern associations would be needed before such a hypothesis could seriously be entertained.

Just such a link appears in a charter of 1422 by the fourth Earl of Douglas in a confirmation by his widow Margaret of Touraine, of 1437 (*SRO* RH6 ii 296). This conveyed to the Earl's squire Robert de Gordon half his lands of the Boreland of Balmaclellan 'and the farchier annexed thereto'. I am indebted to Professor Barrow for drawing my attention to the similarity of the word 'farchier' to the Gaelic word

17. Patrick McGuffok 1291 (*Palgrave*); Thomas Maculagh and Fergus Macdowilt 1296 (*CDS* ii).
18. D. V. Cannan and R. C. Reid: The Cannan Family in Galloway. *D&G Trans.*. 1953-4. The earliest record of the name is given as 1477, but Alexander A'Canne was a burgess of Wigtown in 1471 (*ER*).
19. I am grateful to Mr W. F. Cormack for this suggestion.

appearing in contemporaneous northern charters as *fortyr*; and for pointing out that the pronunciation of the t in the mouths of Gaelic-speakers would sound very much like the English pronunciation of the 'ch' in 'farchier'. 'Fortyr' (*foirthir* in modern Gaelic) appears to have meant the hill land attached but at a distance from the main holding. A thirteenth-century grant of two davochs of Clintlaw and Balcashy in Angus contained the Latin '*cum molendino et fortyris ad dictas davochs spectantibus* — with the mill and the hill land belonging to the two davochs. Professor Barrow has written 'the word fortir is not well-attested in documentary sources, yet its meaning of "upper land", "over land" seems clear. In this sense it would correspond with the Welsh word *gorthir* "higher land".'[20] The term was in use in Ross in the fourteenth century, and may be assumed to have been in general use in the Gaelic-speaking north. It does not appear in record relating to Galloway apart from the instance just quoted. The important thing for the present purpose is that the charter of 1437 employed a Gaelic term current apparently only in the north. Its significance surely is that 'farchier' had entered the local vocabulary of Balmaclellan by importation. Several somewhat tenuous threads begin to plait together into a recognisable lead.

Contacts between the north of Scotland and the Glenken had been continuous from the late thirteenth century. If we discount as too early in this context the lands held by John Comyn Earl of Buchan in the Glenken, Dalswinton in Nithsdale, and in the north, Sir Adam Gordon, lord of half the Glenken in 1300, was granted the lands of Strathbogie by Robert I after Bannockburn[21]; and in the succeeding generation Archibald Earl of Douglas, who became lord of Galloway in 1369, became possessed two or three years later of the Earldom of Mar in the right of his wife.[22]

Either the Gordons or the Earl of Douglas, or both in cooperation, could have been responsible for bringing the Clenconnon from the north into Galloway. Both were superiors of the lands of Balmaclellan. The possible introduction of a 'colony' to replenish a depleted population begins to look less far-fetched. Less still, when we discover the Maclellans as far north as Forfar. Ingeram M'Gilelan granted a lease of land in the barony of Redcastle to Sir Robert Stewart of Strathbogie, which Robert II confirmed in 1372.[23]

M'Kerlie explained the appearance of the parish name Balmaclellan by saying that the name of the parish was changed in 1466 when John Maclellan gave the site for a new church. The parish church had been annexed to Dundrennan Abbey in 1453 (*CPL* x) and no authority for M'Kerlie's statement can be found. With the dilapidation of Dalry church before us, it is not difficult to believe that a new church may have been needed in the parish of *Trevercarcou*, that it was provided on the initiative of the Maclellans, and that the annexation to Dundrennan marked its completion. If this were correct it would be consistent with the parish having previously fallen derelict and semi-depopulated. The Vatican letters which chronicle the competition for the livings of Kells, Parton and Balmaghie in the century after the end of the wars, significantly enough do not mention the parish of *Trevercarcou* or Balmaclellan.

20. G. W. S. Barrow: *The Kingdom of Scots*. 1973. pp 269-70.
21 G. W. S. Barrow: *Robert Bruce and the Community of the Realm of Scotland*. 1976. p 387.
22. William Fraser: *The Book of Douglas*. 1902. pp 256-57.
23. J. Balfour, Paul: *The Scots Peerage*. Vol. 5. 1908. pp 256-57.

Reference was made at the beginning of this article to the character and natural resources of Carsphairn. Three sets of records of the thirteenth and fifteenth centuries indicate something of the continuity of settlement and economic exploitation of the district. Towards the end of the twelfth century Thomas Colville leased to the Abbey of Melrose 'a quarter of the lands of Almelidun (Dalmellington) that is called Keresban' for six merks a year (£4) (*Melr Lib* 172, 192 and 193). Roland of Galloway, who died in 1200, witnessed the charter. Still apparently in his lifetime, Alan of Galloway, styling himself 'son of Roland Constable of Scotland' exchanged these lands with the monks of Melrose for 'his whole waste of *Lambremor* (Lammermuir) apart from his common pastureland which he and his ancestors had been accustomed to use'. The charter included permission to the monks to enclose meadows and pastures by building dykes and ditches. The exchange was confirmed by Alexander II. The implication of the second charter seems to be that the Abbey of Melrose would be enclosing a sheepwalk on Lammermuir, and therefore that that was what they had had at Carsphairn.

In 1220 Henry III of England instructed his Justiciar in Ireland to permit several religious houses in south-west Scotland to buy corn, meal, etc., in Ireland. This does not appear to be an emergency measure following a year of scarcity for the arrangement was to last for four years. Among the monasteries benefiting was the Abbey of Vaudey in Lincolnshire, which had monks 'dwelling at *Kar* in Galloway' (*CDS* i). The editor of CDS, Joseph Bain, identified *Kar* by reference to the Melrose charters just discussed as identical with *Keresban*, and so would I.

What were the monks of Vaudey doing in Carsphairn? Like Melrose, Vaudey was a Cistercian house with estates in Lincolnshire and Leicestershire where they were producing wool and making at that time, a considerable income of £200 a year.[24] It is difficult to picture a monastery well-endowed with pastures locally, going as far afield as Carsphairn, buying their provender at some inconvenience in Ireland, in order to add another sheepwalk to their estates.

The Geological Survey for Southern Scotland comment that galena mined at Leadhills will have been wrought prior to the seventeenth century to produce silver rather than lead. Galena was mined at Woodhead in Carsphairn in 1838 and some of it was extracted by opencast working, a method likely to have been employed in the Middle Ages.[25] The Old Statistical Account mentions iron-mining as having hitherto taken place in Carsphairn, and attributes much of the deforestation of the district to the use of timber for charcoal burning in the process of iron extraction.[26] The Geological Survey reported the existence of iron workings at Holm of Daltallochan.[27]

It would have been in the Cistercian tradition for the Abbey of Vaudey to undertake mining in Carsphairn, and the labour-force that mining would have involved, however small its scale, would explain better the necessity of fetching grain from Ireland, than the numbers of personnel employed by sheep farming. This is as far as it would be honest to carry speculation. Similarly inconclusive and equally suggestive documentary evidence survives from the fifteenth century.

24. *Victoria County History: Lincolnshire.* Vol. 2 1906. pp 145-45. Also see postscript.
25. *British Regional Geology*: South of Scotland. 1971. p 106. See also G. V. Wilson: *Special Reports on the Mineral Resources of Great Britain.* Vol. xvii. *The Lead, Zinc, Copper and Nickel Ores of Scotland.* 1921. Vol. xvii.
26. R. Sinclair: *The* (Old) *Statistical Account of Scotland.* 1792. Parish of Carsphairn.
27. *British Regional Geology*: South of Scotland. 2nd edition. 1948.

In 1419 the fourth Earl of Douglas granted to Gilbert Grierson the lands of *Drumgevan* (Drumjohn) with the pertinents (*Cal Lag*), and this was confirmed by Margaret of Touraine in 1429 (Black). The pertinents were listed in full in a charter of 1475 as: *Longfurde* (Lamford), *Kilcrosh* (no longer identifiable), *Corarlo* (also unidentified), and *Dawtallochane Holme* (Holm of Daltallochan). Lamford lies at the river crossing, and Holm of Daltallochan lies on the main route north and south at the head of the Glenken. The Griersons continued to hold the lands into the sixteenth century. The charter of 1419, of which there is a transcript in the Ewart Library, Dumfries, is in Latin, lengthy and detailed. The view that Latin charters became so standardised as to reveal nothing of the lands they concern can be overstated. This charter specifically mentions rights of hunting and hawking and of common pasture, so if this is to be taken seriously at all the implicit question — how much of Carsphairn was still forest — is in part answered. The charter evokes a diversified countryside, neither wholly woodland nor wholly grazing land. The grant also conveys rights of turbary, peat cutting, and charcoal burning, and gives the grantee the use of the land both above ground and below — in short the rights of quarrying and mining were specifically conceded. Whether they were exercised in the period under review is more than can be judged on the present evidence. An incised Dark Age cross-slab was unearthed at Holm of Daltallochan, giving colour to the lost place-name *Kilcrosh*, and affirming the long continuity of human settlement.[28]

When in 1455 the longstanding struggle for power between the Black Douglas and the throne reached its climax, and Threave fell before the 'great bombard', the estates of the ninth Earl of Douglas in Galloway were confiscated and annexed to the crown. By the harvest of 1456 the Exchequer was managing this large scattered estate — collecting rents, granting leases, and recording rental values. These records are useful in the present context because they show the distribution of the lord of Galloway's demesne, and fill out any survey of the settled lands in the Glenken. The Appendix lists fifty-odd settlements of which half were demesne lands. These were concentrated in the parishes of Kells and Balmaclellan.

This article attempts only the most tentative conclusions. We have pored over the successive 'snapshots', appreciating their occasional vividness, tantalised by the questions they pose and do not answer. It is brought home to us afresh how the period under review produced irreversible change. Sceptres and crowns had tumbled down. Three great noble houses had passed away: the Baliols, the Comyns, and the Earls of Douglas. Many lesser houses fell with them; but by sheer political agility the Maxwells, the Gordons, and the rising Griersons and Maclellans kept or acquired their estates. The McGhies, chiefs of Clenafren, whose presence in Kirkandrews Balmakethe (*Holy Lib*) is manifest from the thirteenth century, were still proprietors of Balmaghie at the end of the fifteenth. The hunting reserve passed from the king's hands, but the forest, new only in name, remained as it had been time out of mind. To this extent there was continuity.

28. Cecil L. Curle: Some Little Known Early Christian Monuments in Western Scotland. *Proc. of the Society of Antiquaries for Scotland.* 1961-2.

How hardly the fourteenth century wars bore on the peasantry can be sensed more easily than demonstrated. The presence of newcomers in Balmaclellan, if newcomers they were, implies catastrophe for a previous generation — starved, plague-stricken, driven away like the refugees in Inglewood. The lands were saved from falling back into waste; and in this can be perceived a deliberate reconstruction policy on the part of the superiors, perhaps notably the Earls of Douglas and Margaret of Touraine. Much had been lost. The sinking of vitality and the breakdown of order are illustrated for example by the passing out of mind of the old deanery of the Glenken. Its disappearance is as eloquent an indicator of the disruption of church administration and the life of the people as the physical decay of Dalry church. The ecclesiastical deterioration seems to have been matched by the loss of an economic and administrative centre in the Glenken. It is striking that the district had no burgh or recognisable market in the mid-fifteenth century comparable with the modest townships of Wigtownshire at the same period. The ancient parish of *Trevercarcou* with its traces of a Cumbric heritage and its status as the traditional centre of the Glenken had given way to Balmaclellan, and the Glenken no longer had a gathering point. This lack was highlighted in the seventeenth century by the creation on the other side of Loch Ken of the new town, New Galloway.

POSTSCRIPT

Professor Barrow has read this article in proof and has saved me from a number of errors. For this, and for his comments which are either reported in the footnotes or in the following paragraphs, and for much help and encouragement, the author would like to record her warmest thanks.

Footnote 6a. *le Contrefe.* He has suggested that *le Contrefe* may be a partially gaelicised form of the Cumbric *pentref* meaning 'head of settlement', a common place-name in Wales. He adds: "The name does not (normally at least) seem to be equivalent of English 'townhead', 'townsend'. It seems to apply to settlements set fairly high up, though not so conspicuously high as *ucheldref* (Sc. Ochiltree) . . . a parallel might be Concraig, the older name for Drummond Castle near Crieff, which might originally have been *pencraig* or *pengraig* — these are quite common names in Wales." According to Ekwall the element *pen* can sometimes have the force of 'chief' as in Penrith. *Le Contrefe* might by this token have had the meaning 'chief settlement' ? (DB). Professor Barrow further points out that the article incorporated in *Trevercarcou* makes it very unlikely that this was the same as Troquhain. He suggests that *Trevercarcou* might have been the older name for Earlston.

Footnote 9a. *Hergawane.* He further suggests that this may be an *earann* name (the word is Gaelic meaning share, acre). This would be consistent with the second element gawane representing the personal name Gawayne or Gavin which according to Black's Surnames was 'a favourite name in Strathclyde in past times'.

Footnote 24. Thomas Colville, son of Philip Colville, appears to have been the donor of these lands to Vaudey. His family were lords of Castle Bytham in Lincolnshire and patrons of the monastery. See Barrow *Anglo-Norman Era in Scottish History* (1980), especially p177.

APPENDIX

Settlements in the Glenken recorded before 1457

Name	Nat. Grid Ref. (all in square NX)	Medieval name form	Date	Source
Glenkens		*Glenken*	c 1275	*SHS Misc* vi
New Forest		*Nova Foresta*	1329-71	*RMS* i App 2
PARISH of BALMACLELLAN				
Balmaclellan		*Balmaclelane*	1408	*SRO* RH6 ii 219
* Barley	68 77	*Bayrley*	1456	*ER* vi
* Bartaggart	69 79	*Bartagere*	1456	*ER* vi
Unidentified		*Bordland*	1422	*SRO* RH6 ii 296
* Burned Island	66 72	*insula arsa*	1352	*SRO* RH1 i
* Caldow	72 78	*Caldow*	1456	*ER* vi
* Cassenvey	68 77	*Carsynvey*	1456	*ER* vi
Unidentified		*le Contrefe*	1408	*SRO* RH6 ii 219
* Corse	67 76	*Corse*	1456	*ER* vi
Corsock	76 76	*Corsocche*	1329-71	*RMS* i App 2
* Craig	67 75	*Crag*	1456	*ER* vi
Craigmuie	73 86	*Cragmoy*	1456	*ER* vi
Crogo	75 76	*Cragow*	1448	Fraser: *Caerlaverock*
* Cubbox	64 77	*Cubboys*	1456	*ER* vi
Unidentified		*Ern Canny* *Ern MacCathy* *Ern Macgilqwhynny* *Ern Macnelly*	1408	*SRO* RH6 ii 219
* Ironlosh	71 78	*Arnglosk*	1456	*ER* vi
Ironmacanny	68 78	*Armakewne*	1466	*RMS* ii
* Knocknaw	68 78 (approx)	*Knokynwen*	1456	*ER* vi
* Lowes	70 79	*Lowys*	1456	*ER* vi
Parkrobbin	64 74-6	*le Park*	1408	*SRO* RH6 ii 219
Shirmers	68 75	*Schyirmes*	1408	*SRO* RH6 ii 219
* Unidentified		*Sleundaw*	1456	*ER* vi
* Stranfasket	59 85	*Stronfascag*	1458	*ER* vi
Unidentified		*Trevercarcou*	1275	*SHS Misc.* vi
Troquhain	68 79	*Trechanis*	1466	*RMS* ii
PARISH of BALMAGHIE				
Balmaghie		*ecclesia de sancti Andree*	1172-4	*RRS* W I
Bargatton	69 63	*Balgaltoun*	1456	*ER* vi
* Cullendoch	55 65	*Cullyndach*	1456	*ER* vi
Edgarton	67 63 ?	*Hergawane*	1306-29	*RMS* i App 2
Unidentified	66 60 (approx)	*Glenmannache*	1329-71	*RMS* i App 2
* Threave	74 62	*Treif*	1422	*SRO* RH6 ii 296

* Lord of Galloway's demesne until 1455.

Name	Nat. Grid Ref. (all in square NX)	Medieval name form	Date	Source
PARISH of DALRY				
Dalry		*Dalri*	c 1275	*SHS Misc* vi
* Earlston	61 84	*Erlistone*	1456	*ER* vi
Grennan	63 79	*Grenan*	1386 (1414)	Fraser: *Caerlaverock*
Stroangassel	60 87	*Srongassill*	1355	RRS Dii
PARISH of KELLS				
Kells		*Kelles*	c 1275	*SHS Misc* vi
Airds	67 70	*Ardis* (tres)	1456	*ER* vi
* Barskeoch	60 83	*Barnscheach*	1456	*ER* vi
Carsphairn	56 93	*Keresban*	c 1190	*Melr Lib*
? Castlemaddy	55 89	*Castelmaddy*	1456	*ER* vi
* Clenrie		*Clunnaree*	1456	*ER* vi
Craigenbay	55 78	*Cragynbay*	1456	*ER* vi
Unidentified		*Curharlow*	1456	*ER* vi
* Drumbuie	56 82	*Drumboy*	1456	*ER* vi
Drumjohn	52 97	*Drumgevane*	1419	*Lag Chrs*
* Fintloch	63 80	*Fyndtelauch*	1456	*ER* vi
* Garrary	53 78	*Garwere*	1456	*ER* vi
Kenmure	63 76	*Kenmur*	1329-71	*RMS* i App 2
Unidentified		*Kylcross*	1456	*ER* vi
* Unidentified		*Largvey*	1456	*ER* vi
* Largmore	57 82	*Largmor*	1456	*ER* vi
PARISH of PARTON				
Parton		*Kirkandrum Purten*	c 1275	*SHS Misc* vi
Boreland of Parton	68 70	*Bordland*	1413	*Lag Chrs*
Glenswinton	70 74	*Glenswyntoune*	1326	*RMS* i App i

* Lord of Galloway's demesne until 1455.

ABBREVIATIONS

CDS	*Calendar of Documents relating to Scotland.* ed. J. Bain. 1881-8.
CPL	*Calendar of Entries in the Papal Registers relating to Great Britain and Ireland.* Papal Letters. edd. W. Bliss and others.
CSSR ii	*Calendar of Scottish Supplications to Rome 1423-28.* ed. A. I. Dunlop. SHS 1956.
ER	*Exchequer Rolls of Scotland.* edd. J. Stewart and others. 1878-1908.
Fraser:	*Caerlaverock.* W. Fraser: *The Book of Caerlaverock.* 1873.
Holy Lib	*Liber Cartrum Sancte Crucis.* Bannatyne Club. 1840.
Holm Cultram	*Register and Records of Holm Cultram.* edd. F. Grainger and W. G. Collingwood. 1929.
Lag Chrs	*Calendar of Lag Charters.* ed. Atholl Murray. Scottish Record Society. 1958.
Laing Chrs	*Calendar of the Laing Chaters 845-1837.* ed. J. Anderson. 1899.
Melr Lib	*Liber Sancte Marie de Melros.* Bannatyne Club. 1837.
Mort Reg	*Registrum Honoris de Morton.* Bannatyne Club. 1853.
NG	Ordnance Survey National Grid.
RMS	*Registrum Magnum Sigilli Regum Scottorum.* edd. J. M. Thompson and others. 1882-1914.
RRS D ii	*The Acts of David II.* ed. B. Webster. 1962.
SRO	Scottish Record Office (unpublished material).
Wigt Chrs	*Wigtownshire Charters.* ed. R. C. Reid. 1960.

THOMAS WINTER'S CHART OF THE SOLWAY FIRTH

by
John N. Moore
Glasgow University Library

In 1978 the National Library of Scotland purchased a map of the inner Solway Firth[1] from well-known London dealers. Although the map was not listed in any cartobibliography and bore no indication of who surveyed or engraved it, considerable detail about its provenance can be found in the Town Council Minutes of Dumfries for 1742-45. The Minutes not only indicate the surveyor, the particulars of the work involved and the payments made, but also the significance of this rare map in having been originally put into execution and published by the Dumfries Town Council.

The map itself, entitled 'A Chart of Solway Firth, describing the Banks & Coasts of England and Scotland from St. Bees head and the Ross of Kirkcudbright to the harbour of Carse in the River of Nith according to an Exact Survey made anno 1742', measures 473 by 567mm and is drawn at a scale of one inch to 1.33 miles (or 1:84,480). It is uncoloured but marks in careful detail the channels, sandbanks and depth of water in the inner estuary. The Cumberland coast is drawn between St. Bees Head, where a lighthouse is shown, and 'Dubmiln'. Nineteen place names are indicated along this coast, concentrating on features that can be seen from offshore (e.g. 'Wockingtoune Church', 'Cannanby Saltpans'). As with the Scottish side of the firth, the extensive areas of sand exposed at low tide are mapped. However, when the Scottish coast is considered, it is clear that the surveyor has paid more attention to its details. The inlets of Auchencairn and Kirkcudbright Bays are carefully delineated. As well as naming forty-five individual locations, the hill ranges of Bengairn and Screel, and Criffel are shown, with some attempt to show differentiation in height. Again, notable buildings and landmarks are indicated (e.g. Arbigland House and Southerness Point). Neither coast is drawn in completely and, in fact, the mouth of the Nith up-river from Carsethorn is not at all clearly shown. However it is the firth itself which is concentrated upon. Offshore sand bars are drawn in detail, with a graded stippling effect. The banks shown are 'Barnhowry Sands', 'Dumreef', 'New Bank' and 'Robin Rigg'. On Dumreef, the map notes 'this Bank Washes but keeps its place' and the channel between it and Barnhourie is marked as shifting. Clearly, the surveyor went to some trouble to provide as much navigation information as possible. Figures on the chart indicate the depth of water at low tide and these are shown not only for the main channels but also at the entrance to Kirkcudbright Bay. Two buoys are located and Roman numerals show the time of high water at the full and change of the moon. The estuary is crossed by a large number of bearing lines taken from three central points in the firth to features on both coasts. Two compass points indicate true and magnetic north, with a variation of 15°30′ recorded.

How accurate is this chart? A set of linear measurements was taken from it and compared with the most recent edition of the Ordnance Survey 1:250,000 map of the Solway Firth (see table 1). The figures show an impressive degree of accuracy, underlining the chart's value.

1. N.L.S. Map Room EMS.s.489.

Table 1

Distance	*Winter*	*O.S.*
Southerness Point — Dubmill Point	8.13″	7.89″
Hestan Island — Dubmill Point	14.93″	14.99″
Little Ross — St. Bees Head	24.53″	24.46″
Southerness Point — St. Bees Head	24.67″	24.46″
Dubmill Point — St. Bees Head	21.20″	20.91″
Little Ross — Southerness Point	20.00″	20.91″

It was in 1742 that the Dumfries Council initiated survey work of the banks at the mouth of the Nith. The Town Council Minutes for June 14th read:

> 'The said Day the Magistrats and Councill considering that it will be necessary to have the banks lying at the mouth of the River of nith surveyed in order to have Bowies put thereupon for the Safety of the navigation and that it will be necessary to have two more Bowies purchased in Holland of the same kind with the one lately brought from thence to put upon the said banks. They Recomend to the Provost to cause purchase the said two Bowies and bring them home and recomend to him and the rest of the Magistrats or any two of them and the Conveener to agree with a proper person to make the said Survey and to fix the said Bowies at as easy an rate as they can and to draw precepts on the Treasurer for what money shall be necessary for defraying the expence thereof.'

This earlier buoy had been brought across from Holland in the previous year. The Burgh Treasurer's accounts for 21st March 1743 record:

> 'the said James Laurie had debursed for the duty and Entry of a Bwoy shipped on board the Prosperity at Rotterdam by Mr. Robert Herries 10/6½d — receipt 11th Decr. 1741.'

After six months work, the Provost reported back to the Council on the progress made over the summer. At a Council meeting on October 11th it is noted,

> '. . . Provost Bell Reported that he and the other Magts. with the Conveener as appointed by act of Councill the 14th of June last had agreed with Thos. Winter Shipmaster to Survey the Channell and Banks in the entry to this harbour for which they had engaged to pay him thirty pounds Sterling for his own pains and trouble and to furnish him with a Sloop or vessell for makeing the said Survey and had recomended to him to provide himself with Such Sloop or vessell at the easiest rate and the said Thos. Winter compearing produced a Chart by him of Solway firth and declared that he had agreed with Wm. and Rot. Blairs for their Sloop imployed in the said Service at nine pound ten sh. Ster. p. month and that they were imployed two months and nineteen days in makeing the said Survey with the said Sloop and that Thomas Hyslop Smith had furnished two Smal anchors and three iron Chains at three pound eighteen sh. and four pence ster. for fixing a bowie in the Channell into this port for which Sum he had drawn two precepts on James Laurie late Treasr of this Burgh all which with a petition given in by the said Wm. and Rot. Blairs complaining that they were losers by the forsaid imploy being considered by the Magts. and Councill. They appoynt James Laurie late Treasr. to make payment to the said Thos. Winter of the forsaid thirty pounds

> ster. and of twenty six pound sixteen sh. and eight pence ster for makeing the forsaid Survey and furnishing the forsaid Sloop with men and provisions out of the money in the Towns hands arrisen from the Tonnage on Shipping and on goods imported and exported granted by act of parliament to this Burgh and approve of the said Jas. Laury his paying fifteen sh and eight pence for the said two small anchors and three pound two sh and 8d for the forsaid chains to the said Thos. Hyslop by order of the said Thos. Winter and also of one sh ster for carrying down a machine imployed in the forsaid Survey and appoynt the said whole Sums to be charged to the account of the forsaid dutys.'

From this entry, we discover not only who the surveyor was but also much about how the work was conducted. Clearly, the survey was only part of a programme of marking a safe channel up-river to the port. It is unfortunate that the 'machine' employed in the survey is not discussed, but it is possible that Winter used some form of quadrant for taking angles at sea. Over two and a half months is a considerable time to take for such localised work but the attention to detail shown in the resulting chart emphasises Winter's care in producing 'an exact survey'. Certainly, the Town Council appear happy to have paid out a considerable sum for the map and there are no notes of criticism of its quality. In fact, an entry in the Treasurer's Accounting Book for 30th May, 1743 records the payment to Winter,

> 'For cash paid to Thomas Winter for Surveying Solway with makeing a Chart thereof fixing a Bwoy per Act of Councill the Eleventh and his discharge the fifteenth of October last Fifty Six pound Sixteen shillings and eight pence Sterling. For cash payd Thomas Hyslop Smith for two small Anchors for said Survey three iron Chains for fixing Bwoys and Carriage per Act of Councill the Eleventh of October last Three pound nineteen Shillings and four pence And for money payd Robert Maxwell and Comp. for two oyl casks for said Survey per Receipt the twenty Seventh of Decer. last And Discharged the Nineteenth of february.'

Who were the men that carried out this survey? It has been assumed that the cartographer was the same Thomas Winter as the estate surveyor brought to Monymusk, Aberdeenshire by Sir Archibald Grant in 1726.[2] Both he and his son are known figures in the field of Scots mapping and several of their surveys survive in the Scottish Record Office.[3] However 'he was an agriculturalist with a strong cartographic background'.[4] Furthermore, he himself is known to have been 'busily engaged in surveying and planning enclosures' in the 1730's and 40's, mainly in the Monymusk area.[5] Papers at Monymusk House show that Winter was still there in 1742, ending up as baron baillie for Grant. There is no record of any connection with Dumfries and I cannot believe that he, or his son who also concentrated on estate surveys in Perthshire and the North-East,[6] drew this map. Comparisons of the printed Solway chart with the manuscript surveys of the two Winters are not very

2. HAMILTON, Henry (ed.) *Selections from the Monymusk Papers (1713-1755).* Scottish History Society Publications. Third Series, vol 39. Edinburgh: Scottish History Society, 1945, p.xlvii.
3. 20 plans dating from 1746 to 1760 are held.
4. ADAMS, Ian H. 'George Taylor, a surveyor o' pairts'. *Imago Mundi*, vol 27, 1975, p.55.
5. HAMILTON op. cit. p.lxix.
6. ADAMS, Ian H. (ed.) *Papers on Peter May, Land Surveyor. 1749-1793.* Scottish History Society Publications. Fourth Series, vol 15. Edinburgh: Scottish History Society, 1979. pp.xxvi-xxvii.

helpful as the engraver may have easily adapted the style of the original work. Furthermore, spelling and lettering conventions for this period are notoriously inexact.

It is more likely that this Thomas Winter was a local man who may have only produced this one work. A local person would well understand the frequent changes of the channels in the firth and would be better able to know the more permanent features of the estuary. Unfortunately, there is no printed evidence to confirm this belief. Winter's name does not appear in the shipping lists compiled from the Burgh register of impost and Tonnage.[7] This, however, covers the period 1750-1762 only. The merchants, Robert Maxwell and Co. are listed[8] as are Robert and William Blair, who appear to have worked as masters on several local ships, including the 'David'[9] and the 'Janet and Mary'.[10] They were engaged in coastal work, largely between the Scottish Solway ports and Whitehaven. Their local knowledge would have been invaluable to Winter in his work.

This survey should be seen as another part of the Burgh's response to the growing maritime activity in the area, which also included blasting and stone clearance of the river, the building of quays and the fixing of a beacon light at Southerness in 1749. The Burgh Treasurer's accounts note the preparation of an earlier chart between 1710 and 1720, which has not, so far, come to light.[11] The Council again used a local surveyor, Charles Mercer, when laying out the quay and village of Glencaple in 1746,[12] possibly confirming their reliance on local expertise.

Later Council Minutes show a continuing interest in the chart. An entry for January 30th, 1744 notes:

> 'The said Day the Magistrats and Councill Recomend to the Provost with any one of the Bailys to cause make a Copper plate of the Card made by Thos. Winter of the Banks at the foot of the River for the Safety of the Navigation into this port and to cast off so many copys thereof as they shall find proper and to purchase the plate itself and draw precept on the Treasurer for the expence therof.'

Obviously, the Council was anxious to publicise this chart which was, after all, the first accurate survey of the area since the manuscript work of John Adair at the turn of the century. Later in the same year, on September 14th,

> 'the Provost produced to the Councill the copy of a Copper plate of Solway firth made by Mr. Richard Cooper Engraver at Edr. with copys thereof cast off which being considered by the Magistrats and Councill They approve thereof and appoint John Graham Tresr. to dispose of the said copys or so many thereof at two shills. and six pence pr piece wherewith he is to be charged at compting and the said copys are put into his hands for that purpose and the Copper plate is also put into his hands untill the same be put into the Charter Chest.'

7. TRUCKELL, A. E. 'Early shipping references in the Dumfries Burgh Records'. *Transactions of the Dumfriesshire and Galloway Natural History and Antiquarian Society*, 3rd series, vol 33, 1954-55, pp.132-175; vol 34, 1955-56, pp.29-58.
8. ibid. p.163.
9. ibid. p.168.
10. ibid. p.35.
11. GRAHAM, A. and TRUCKELL, A. E. 'Old harbours in the Solway Firth'. *Transactions of the Dumfriesshire and Galloway Natural History and Antiquarian Society*, 3rd series, vol 52, 1976-77, p.124.
12. McDOWALL, William *History of the Burgh of Dumfries*. 3rd edition. Dumfries: Hunter, 1906. p.597.

Richard Cooper was an experienced, if not the leading, engraver of maps in Scotland at this time. He is credited with founding a school of engraving in Edinburgh[13] and was, probably, one of the few people in Scotland capable of making a plate of the manuscript chart. Whether the Council intended to recoup some of their expenses by the sales of the printed map is not known but, by early 1745, only a limited number had been purchased. The Treasurer's accounts for March 23rd read:

> 'And has also received three pounds seven shills and six pence sterling for twenty seven of the Cards of the River and Solway firth sold by him And that he has payed for placing them and a third Buoy, clearing part of the River and cutting a Copperplate of the River of Nith and Solloway firth and casting off three hundred Coppies thereof Ninety three pounds fourteen shillings and seven pence one farthing Sterling conform to receipts produced.'

With this entry, the records on this chart close but what they provide us with is a significant contribution to our knowledge of the Council's positive attitude to developing Dumfries as an important trade centre. In addition, this chart and its history give a new and significant insight into an aspect of Scottish mapping. Here we have a corporate decision pursued to a successful conclusion, using local knowledge and involving quite a high capital outlay, and not the more familiar struggles of the talented individual. Such enterprising spirit well deserved the recognition and praise of contemporary writers such as Defoe, and continues to merit our admiration.

[The author wishes to express his sincere thanks to Mr A. E. Truckell, Mr David Lockwood and the staff of Dumfries Museum for their kind assistance and advice in writing this paper.]

13. ROYAL SCOTTISH GEOGRAPHICAL SOCIETY *The Early Maps of Scotland to 1850.* Vol 1, 3rd edition. Edinburgh: Royal Scottish Geographical Society, 1973. p.138.

Key to Fig. 1 overlay

Title A Chart of Solway Firth describing the Banks & Coasts of England and Scotland from St.Bees head and the Ross of Kirkcudbright to the harbour of Carse in the River of Nith, According to an exact Survey made Anno 1742, Published by the Town of Dumfries.

Note N.B. The figures on the Chart describe the depth of water at low water; And the Capital figures the time of high water at full and Change. in Spring Tydes its observed to rise between four and five fathoms

1 Little Ross
2 Great Ross
3 Bagmannon Bay
4 Dunnroad
5 Senwick
6 Kirkcudbright
7 St.Mary's Isle
8 Inch
9 Manksmans lake
10 Torrs Point
11 Barnea
12 Rebery head
13 Mullock
14 Abbay head
15 Abbay Burn
16 Nether Rerick
17 A Scale of 5 Miles
18 Oraland
19 Rasscarall
20 Airds
21 Bellcary
22 Auchincairn
23 Barngairn and Skriel
24 Orchardtoun
25 Moylend
26 Isle of Heston
27 Barcloy
28 Glenstocken
29 Blacknook
30 Barnhowry
31 These lands appear thus as men pass up the Maine Channel
32 Barnhowry Sands
33 Southwick
34 Green merse
35 Mains House
36 Sutherness Point A Landmark
37 Criffell
38 Maxwellfield
39 Dovecoat
40 Arbiglandhouse
41 Borran Point
42 Carsethorn
43 Airdwell
44 Carlavrick Castle
45 Glenhorvan
46 Backland
47 Glencaple
48 Borron Point
49 The Borron Point to the land thus leads up or down the Channel till you meet with Robinrigg
50 White Buoy
51 Dumreef—This Bank washes but keeps its place
52 This channel shifts
53 New Bank
54 Robin Rigg
55 Black Buoy
56 Dubmiln
57 Allanby
58 Cannanby Saltpans
59 Bankend
60 Saltpans
61 Valentia
62 Flimbay pans
63 Flimbay
64 Conniehouse
65 Rubinghouse
66 Wockingtoune Church
67 Flow michael
68 Harringtoune beck
69 Partoune
70 Whitehaven
71 Tomherd
72 Saltom
73 Covet Bay
74 St.Beeshead and Lighthouse

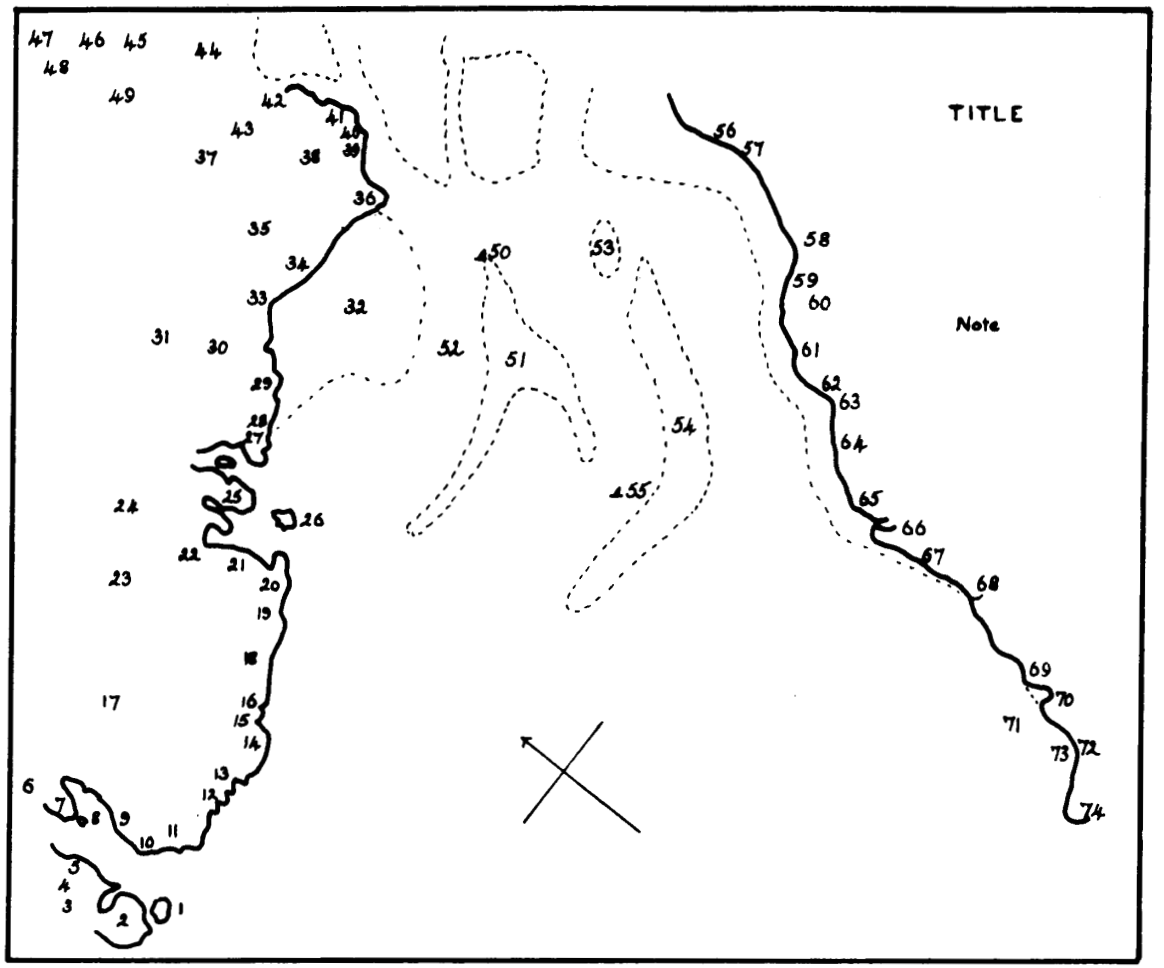


Fig. 1 Overlay. For key to the numbers see facing page.
Omitted are soundings, arrows showing direction of stream of flood tide
and tidal constants (in Roman capitals).

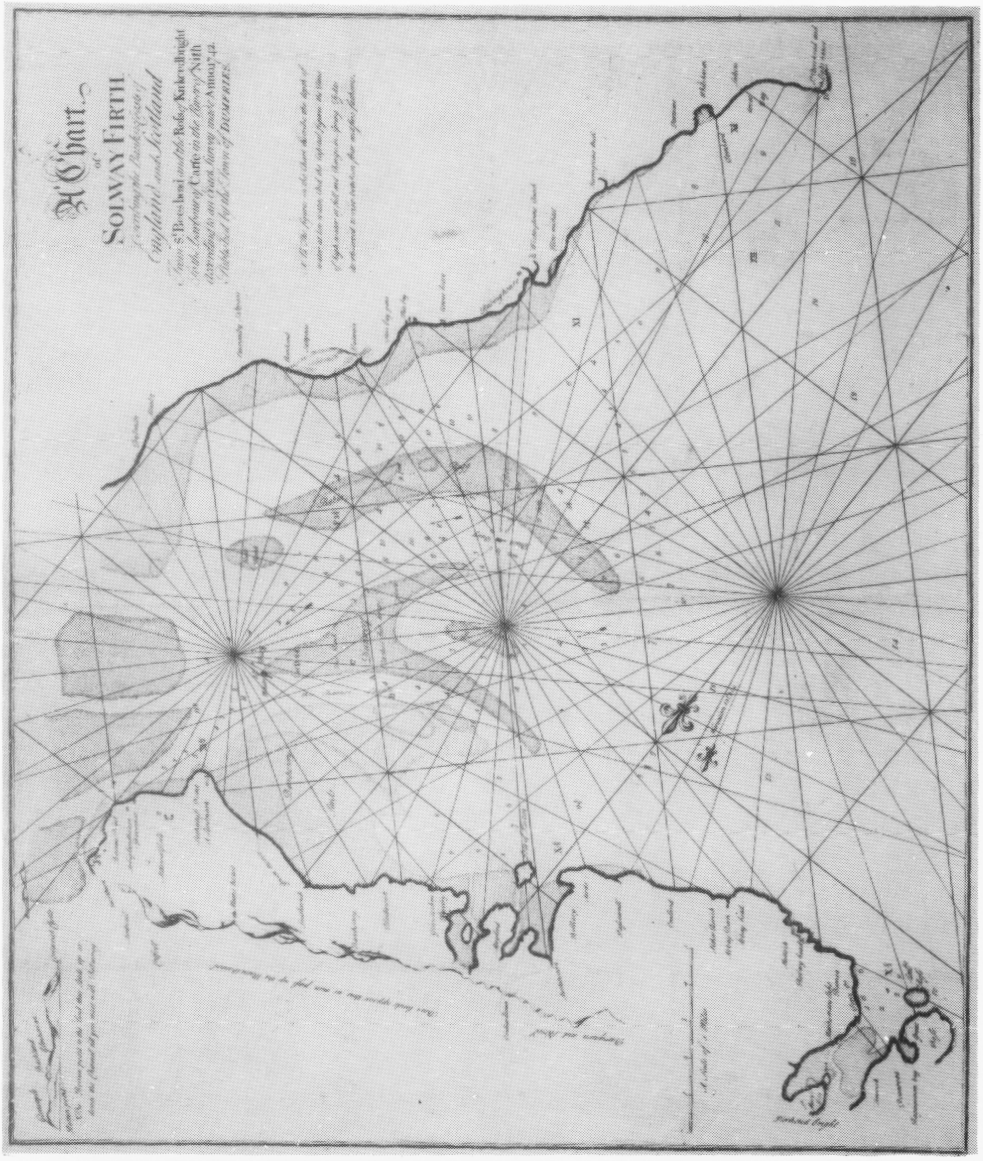


Fig. 1 Chart of the Solway Firth 1742 by T. Winter — original is 473x567mm. Reproduced by courtesy of Trustees of the National Library of Scotland.

SOUTHERNESS LIGHTHOUSE

by
Geoffrey Stell

The building of a beacon at Southerness on the W point of the Nith estuary in 1748 was one of only very few enterprises of its kind attempted in Scotland before the formation of the Northern Lighthouse Board in 1786. Although much later in date than the towers erected on the Isle of May (1636) in the Forth and at Buddon Ness (1687) on the Tay estuary, Southerness ranks third in the sequence of purpose-built Scottish lighthouses.[1] Its construction at this comparatively early date is thus testimony to the importance which the merchants of Dumfries attached to their trading activities through the Nith ports in the 17th, 18th and 19th centuries. It serves also as a reminder of some of the physical difficulties and dangers which boats faced in approaching the mouth of the Nith; their course usually lay between the treacherous Longrake sand-bar in the middle of the Solway Firth and the Barnhourie Sands stretching away to the SW of Southerness Point.[2]

Although mentioned briefly in most published works on Scottish industrial archaeology this interesting and picturesque tower is only just beginning to receive the full historical credit that is its due, thanks largely to the researches of R. W. Munro and A. E. Truckell.[3] The purpose of this short note is simply to re-emphasise the national importance of this early engineering monument by combining their historical researches with the results of a survey carried out by the Royal Commission on the Ancient and Historical Monuments of Scotland (Figs. 1 and 2).

The tower (N.G.R. NX 977542) is situated immediately to the SE of the village of Southerness, facing S across the Solway Firth. It stands within the broad tidal zone of the foreshore, mounted on a low rubble-built platform among shelving beds of flaggy Carboniferous sandstone. A pathway cut through the platform gives access to a ground-floor doorway in the N wall of the tower. The tower itself is square on plan, measuring at base 4.45 m over walls 0.75 m thick and standing to an overall height of more than 18 m. The walls are constructed of limewashed rubble masonry, and the original lower sections have a slight external batter. The landward (NW) angle rises square-cornered through the full height of the tower, while the other three angles are pared with tapered splays beneath a bow-fronted light-chamber and parapet. The ashlar masonry of these upperworks is wrought from a local red sandstone, and the

1. Munro, R. W., *Scottish Lighthouses* (1979), 25-50 at 42-3. A beacon or sea-mark function may have influenced the design and setting of the 17th-century circular church tower of Port Montgomery (later Portpatrick), Wigtownshire. In Symson's time (1684), before the extensive developments that affected the layout of village and harbour, the church stood 'just on the sea side near the harbour', Macfarlane *Geographical Coll.*, **2**, 95. 'Portpatrick *c* 1680' is shown on the map of pre-1762 lighthouses in Hague, D. B., and Christie, R., *Lighthouses: their architecture, history and archaeology* (1975), 39.
2. Knowledge of the dangers of the Nith estuary were well known, even to the English in the 16th century. A report of 1563-6 on the seaward approaches to Caerlaverock Castle described the mouth of the Nith as 'a schallow revare; noo weshalles can come furthe of Englande in yt but at the ful sea, and that at the crope of the tyde; soo that thei mon pas the Longrake sande in the myddes of Sulwaye . . . There boates and vesshells can not excede ten townes', Armstrong, R. B., *History of Liddesdale . . .*, **1** (1883), Appx. 70, p. 109. Commenting upon the trade of Dumfries, Thomas Tucker in 1655 referred to 'The badnesse of comeing into the river upon which it lyes, hindering theyr commerce by sea . . .', Brown, P. H., *Early Travellers in Scotland* (1891), 180-1. For the derivation and meaning of Southerness, salters' point *not* southern point, see Neilson, G., *Annals of the Solway until AD 1307* (1899), 47-8.
3. Munro, loc. cit., Graham, A., and Truckell, A. E., 'Old Harbours in the Solway Firth', *Ante*, 3rd series, **52** (1976-7), 109-42 at 139-40. See also Butt, J., *The Industrial Archaeology of Scotland* (1967), 274; Donnachie, I. L., *The Industrial Archaeology of Galloway* (1971), 171-8 at 173 and 177, but with no description; Hume, J. R., *The Industrial Archaeology of Scotland*, **1** (1976), 152.

surfaces have pronounced vertical and horizontal droving. The balcony is carried on a two- and three-tiered corbel-course, and is fronted by a plain metal balustrade. The light chamber has a multi-paned glazed frontage and its pyramidal slated roof is capped with a ventilator cowl.

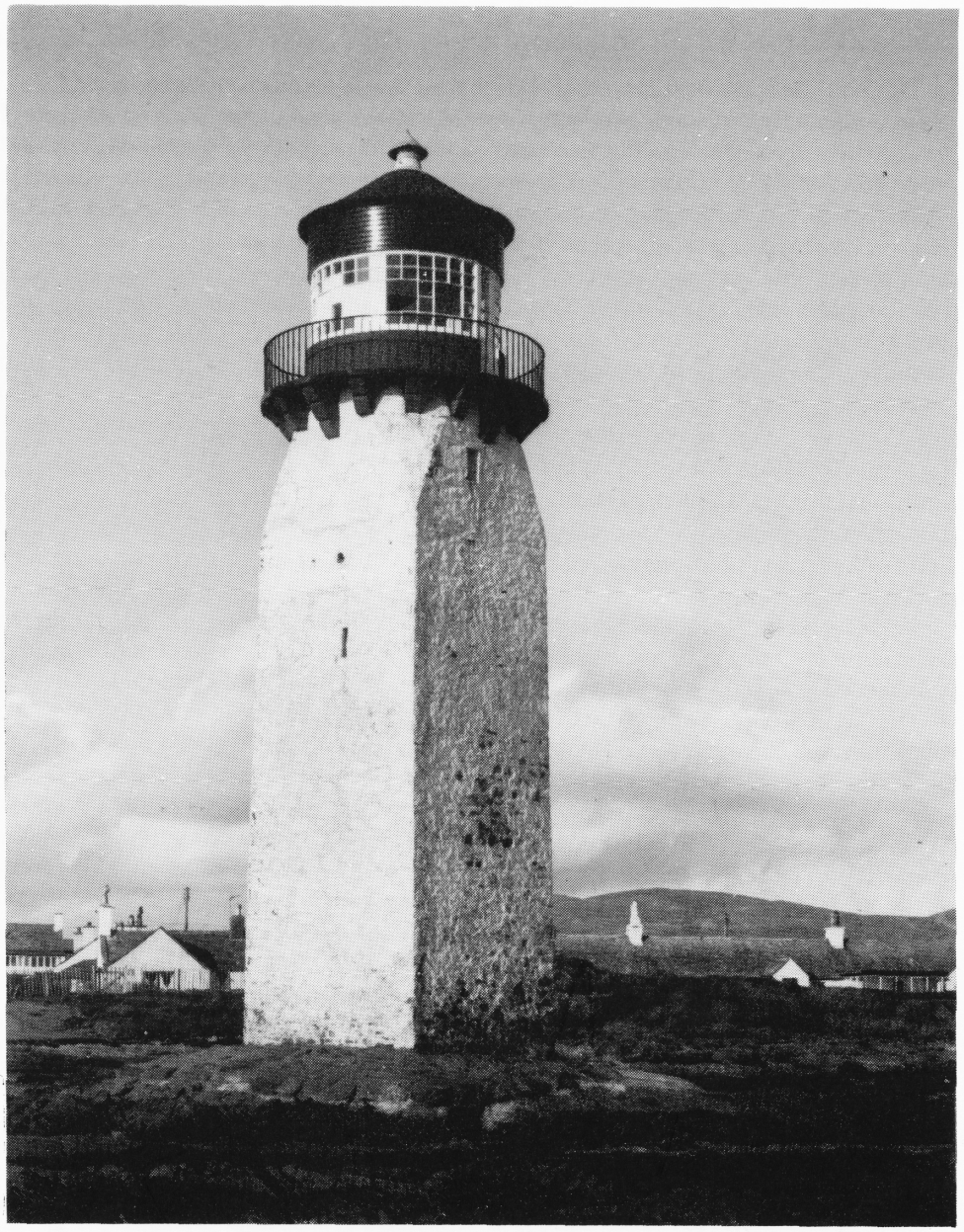


Fig. 1 Southerness Lighthouse from SE.

In the main body of the tower the N and S walls retain slight traces of blocked-up openings and repairs, executed mainly in brick. The ground-floor doorway-opening has a segmental arched head, and is secured with an outer wrought-iron gate or 'yett' equipped with a double spring latch. An inner two-leaved door also has a spring latch as well as a rim lock with a decorative drop-handle. Disposed at a different level in each of the four walls there is one narrow slit-window with plain squared arrises and later glazing. The uneven distribution of the windows probably marks the stages in the ascent of the original stair within the tower. The existing, relatively modern, stair

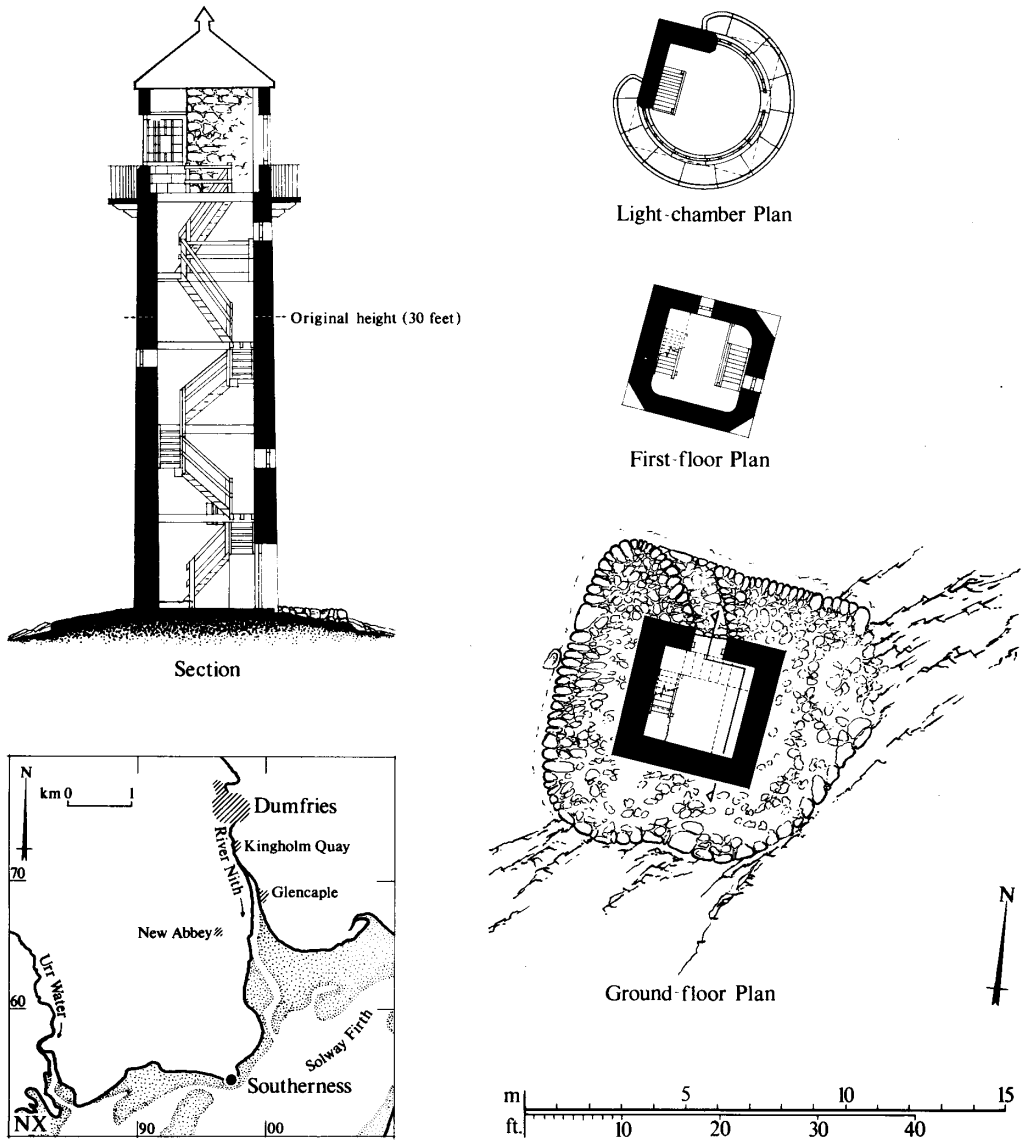


Fig. 2 Southerness Lighthouse: plans and section.

of wooden open string type ascends against the walls through six landings to a timber-lined chamber some 2.9 m square on plan, whence there is a straight-flighted stair to the light-room. A metal plate in the middle of the light-room floor probably marks the position of the lantern, but, apart from six small vents in the ceiling, the room is completely bereft of its fittings. However, the brass frame of the last lantern used in the tower has been set on a concrete plinth within the ruins of a circular limekiln some 35 m NW of the lighthouse. It is inscribed with the maker's name, James Milne and Sons Ltd, Engineers, Edinburgh, and with the date, 1894.

The contract to build a stone beacon on Southerness Point was recorded in Dumfries Town Council Minutes of 12 September 1748, referring to an agreement made on 10 September.[4] The contract was with Peter Milligan, mason in 'Burran', an erstwhile settlement probably in the vicinity of Borron Point (NX 999580) some 4.3 km NE of Southerness. According to the specified dimensions, the tower was to be 14 feet (4.27 m) square over walls 2 feet 6 inches (0.76 m) thick and 30 feet (9.14 m) high 'with a good foundation'. The council was to supply lime, scaffolding and building tackle, whilst Milligan would be paid at the rate of 36 shillings (£1.80) for quarrying and transporting and 35 shillings (£1.75) for building 'each rood of measure containing thirty six yards [32.9m]; he was also to be allowed 10 shillings (50p) for sand and water. He agreed to finish the work by the following Martinmas, 11 November 1749.

In this agreement the burgh were represented by the provost, John Ewart, and members of the council, Bailie Hepburn, Andrew Crosbie, George Bell (both former provosts), Robert Maxwell (merchant), together with Hugh Lawson and James Corbet (merchants). On 17 October the provost reported that Lady Preston, mother and tutrix of the joint heiresses of the lands of 'Saturness', had, on her daughters' behalf, agreed to the erection of the beacon.[5] The work can be reasonably assumed to have been completed according to contract for 'Saturness Lighthouse' is shown on General Roy's mid-18th-century map, the survey for which was carried out between 1747 and 1755.[6] In 1795 the minister of Kirkbean parish stated that part of the tower had been built 'many years ago' by merchants in Dumfries engaged in trade with Virginia.[7] He then went on to explain that 'It was afterwards raised to its present height by the late Mrs Oswald of Auchencruive',[8] but whilst the tower 'is of great advantage to the navigation of the coast, . . . [it] would still be of greater advantage, were lights placed in it'. The heightening amounted to more than 6 feet (1.83m) since the light-room is known *(see below)* to have been 36 feet (10.97 m) high in 1837. Whether the tower carried an occasional and inadequate coal fire before 1795 is not recorded, but in the 1790s — presumably the later 1790s — Dumfries burgh was evidently paying the salary of a keeper and purchasing oil for a lamp.[9]

4. Nithsdale District Archives 1/1/13, Dumfries Town Council Minutes, **13** (10 Oct. 1743-3 Nov. 1748).
5. Ibid. For the identities of the two daughters and the succession to Cavens see McKerlie, P. H., *History of the Lands and their Owners in Galloway*, **4** (1878), 146-7.
6. For the background to the survey see Skelton, R. A., *The Military Survey of Scotland 1747-1755* (reprinted from *Scottish Geographical Magazine*, **83** (April 1967)).
7. *Stat. Acct.*, **15** (1795), 127-8.
8. Cavens was acquired in or after 1773 by Richard Oswald of Auchencruive, Ayrshire, who died in 1784, op. cit., 148. The heightening of the lighthouse by his widow presumably took place between 1784 and her death in about 1790.
9. Graham and Truckell, loc. cit.. Cf., however, a paper issued in 1893 appealing for funds to repair and re-equip the lighthouse. It stated that 'the light . . . was in use for upwards of 60 years', that is, from about 1807, before it was extinguished in 1867. (Nithsdale District Archives, Dumfries, miscellaneous papers of the Nith Navigation Commission, bundle 2).

Responsibility for the maintenance of a keeper and a light at Southerness seems to have been taken over by the Nith Navigation Commission from its inception in 1811, although the lighthouse is not among the detailed list of items transferred from the burgh to the Commission in accordance with the Act of 1811. The early minutes of the Commission in 1811 and 1812 confirmed the appointment of a keeper and fixed his salary, whilst those of 1 May 1813 and 2 October 1815 included instructions for repairs and improvement to the lighthouse itself. The repairs are not specified, but one known improvement was the installation of a reflector which had been inspected and approved by October 1815.[10]

From 1826 onwards the Commission made repeated applications to Trinity House and the Northern Lighthouse Board for financial aid towards the cost of maintaining the lighthouse. By 1830 it was reckoned to be costing about £100 *per annum.* The Commissioners of Northern Lights were at least prepared to give advice, and in October 1837 James Slight, one of Robert Stevenson's 'Bell Rock team',[11] reported on the condition of the lighthouse and recommended some improvements. At that date the light-room was 36 feet (10.97 m) above high-water mark; it was visible over a range of 7-9 miles but only within a limited radius 'towards the English Channel', leaving all other parts in comparative darkness.[12] It had two reflectors: one was a large old-fashioned type 4 feet (1.22 m) in diameter with faceted glass foiled on the back and three lamps in front; the other was a silvered parabolic reflector, 1 foot 8 inches (0.51 m) in diameter and with one lamp placed in its focus. Almost five years after this report, in May 1842, the Nith Navigation Commission finally agreed to heighten the tower and install new reflectors. Walter Newall, engineer for earlier improvements to the River Nith, supervised the building work which was completed by June 1843, and in 1844 two new reflectors were purchased from the Northern Lighthouse Board.[13] Comparing the stated height of the lighthouse in 1837 with its present height it would appear that Newall added about 18½ feet (5.6 m) to the tower.

Faced with increasing financial burdens, the Nith Navigation Commissioners proposed in February 1859 that the lighthouse be transferred completely to the Northern Lighthouse Board. However, following their visit to the station on 22 July of the same year, the Commissioners of Northern Lights were unanimous in their rejection of the proposal; in their view the premises were in a very inefficient state, and they doubted whether it occupied the best site for a lighthouse in that area.[14] The Nith Navigation was finally obliged to extinguish the light in 1867, but with the revival of waterborne trade in the late 19th century the lighthouse was restored and brought back into active use in 1894 at a cost of £250.[15] Repairs and refurbishment of the lighthouse were authorised by the Nith Navigation Commissioners in 1908, and, according to local information, the light was last operated in 1936.

10. Transcripts of entries in Nith Navigation Commission Minutes kindly provided by Mr A. E. Truckell. For a notice of the alterations of 1815 see the *Dumfries Weekly Journal* of 27 June 1815, p.3, col. A.
11. Munro, op. cit., 94.
12. According to an 1891 memorandum on the lighthouse, 'The range of the light was reckoned at twenty miles in clear weather . . . The height of the Light House is 48 feet and the annual cost of maintenance was about £70' (NNC Misc. papers, bundle 2).
13. *Parliamentary Papers 1851,* **52,** Paper No. 18, p.474.
14. *Parliamentary Papers 1861,* **25,** Paper No. 2793, ii, p.169.
15. Groome, F. H., *Gazetteer of Scotland* (1901 edn), 1495. Cf. Mair, A., *A Star for Seamen* (1978), 222. For the reopening ceremony in August 1894 see NNC Misc. papers, bundle 2. The memorandum of 1891 (ibid.) had recommended the adoption of 'a system such as the Trotter Lindberg Light'.

Acknowledgements

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DRAINING THE WANLOCKHEAD LEAD MINES

A Note on the Introduction and Use of Hydraulic Pumping Engines

by
G. Downs-Rose

Introduction

On the 1st May 1983 three old machines were discovered in the underground workings of the Glencrieff mine at Wanlockhead by a working party led by Jeremy Landless when undertaking research on behalf of the Wanlockhead Museum Trust.

The machines are a double-acting pumping engine, a double-drum winding engine and a water-balance winding engine. All made use of water power for their operation. Their discovery stemmed from field-work based on somewhat vague references in old mining records and has led to a wider search for evidence concerning the introduction and use of hydraulic pumping engines at Wanlockhead, which this article summarises. See. Fig. 1 for engine sites.

Background

Water power was used at Wanlockhead for winding, pumping, ore crushing and washing and smelting operations over the whole period of the life of the mines. Although its application at one time involved the attention of John Smeaton [1], as an older energy source it lacked the novelty and early glamour of steam whose introduction there is associated with such engineers as Watt, Symington, Rennie and Murdock.

An adequate supply in an area of high rainfall was to be expected, nevertheless water always proved to be a fickle servant. Without exception the feeder burns of the Wanlock and Mennock water-sheds are steep and quickly carry off storm water, and only near the upper reaches of the Mossy Burn was there ground suitable to build a reservoir to store water against drought conditions. As a power source every stream and spring had to be diverted by means of open lades or clay pipes around hillsides to the point of use. Much of the rain which fell disappeared immediately into the ground because of the highly fractured nature of the country rock and, in the mining area, more was lost as it drained into the early, shallow workings to aggravate pumping problems.

The first of several water-powered bab-gins was erected c.1710 in Whytes Cleuch to drain the north end of the Straitsteps vein complex.[2] They were simple engines and used a waterwheel, via a crank on the wheel shaft to move a pivoted wooden beam to one end of which a lift pump was connected.[3] Given the scale of drainage problems met by deep mining and the unreliable quantity of water power available such engines were only effective to depths of 60 metres,

1. 'General Scheme of Levels & Water Courses at Wanlockhead, 1780', John Smeaton, Drawings, Vol. II, 113B, Royal Society Library, London.
2. Wanlockhead Museum Archives, (W. M. A.), 'Plan of Straitsteps Vein & String', 1766.
3. 'Waterwheel Pumping Engines on the Straitsteps Vein at Wanlockhead', G. Downs-Rose, *Northern Cavern & Mine Research Society Memoirs*, Vol. 2, No. 2., August 1972.

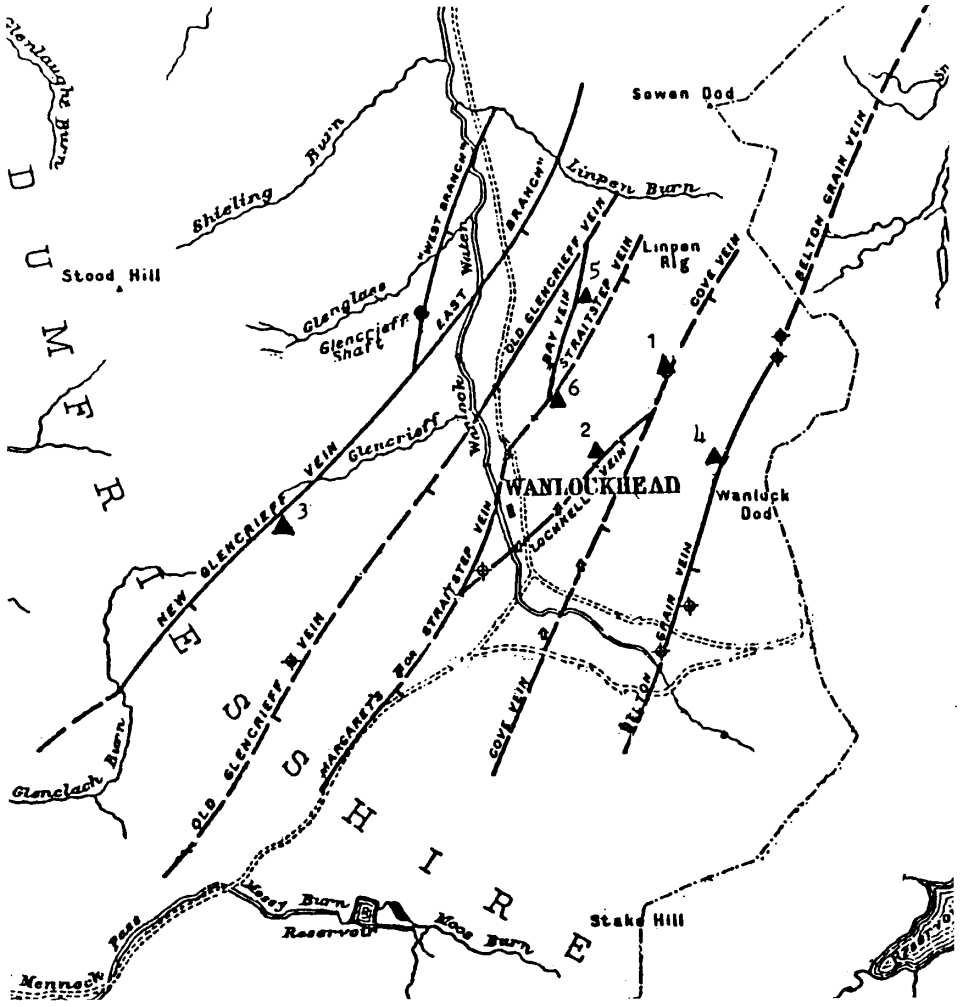

Fig. 1 Sites (shown by black triangles) of Hydraulic Pumping Engines at Wanlockhead.
Approx. scale 1/15000.
1 - North Cove. 2 - Loch Nell. 3 - South Glencrieff. 4 - North Beltongrain. 5 - Bay. 6 - North Straitsteps.

It was the discovery of a rich shoot of ore at the south end of the Straightsteps vein complex at Mennock Hass where no water power was available that induced the mining company to erect there in 1779 the second Boulton and Watt steam pumping engine built in Scotland. This engine was replaced in 1786 by a larger Watt engine and William Symington's first atmospheric pumping engine was erected in 1789 on the Bay mine in Whytes Cleuch following the discovery of rich ore in the Charles vein. Symington and Watt-type engines were used for draining the Beltongrain and Cove veins early in the nineteenth century.[4] This first period of steam pumping at Wanlockhead lasted for fifty years.

4. W. M. A., Day Books of Messrs Crawford and Company.

Hydraulic Pumping Engines

It ended when, in 1831, the chief shareholder in the Wanlockhead Mining Company, the 2nd Marquis of Bute, sold off the steam engines and introduced hydraulic ones. His decision was the result of a combination of adverse factors, namely, falling lead prices due to imports of cheap Spanish lead, the high cost of coal hauled from the Sanquhar coal-field and the low productivity of the mines caused by deepening workings and poor ore shoots.

For several years the mines had been unprofitable and the only economic reserves lay in the north end of the Beltongrain vein above the water table in workings which had been kept for the employment of miners forced out of the deeper workings by winter flood water. At that time the shareholders were divided over a proposal to close the mines and abandon the lease.[5] In fact, both mines and village were only saved when the landowner agreed in 1823 to accept a much reduced rent in return for the company's undertaking new trials. The trials were to begin immediately, but were not promising and the company appears to have pursued them faint-heartedly. One trial involved driving a level from Mennock Hass through the Black Hill to cut the south end of Old Glencrieff vein. This vein had proved disappointing on two occasions when tried where it crosses the Wanlock valley. The other trial involved sinking deeper on the north end of Cove vein where a small Boulton & Watt pumping engine had been erected underground and was draining workings 20 metres deep. Under the agreement between the company and the landowner a larger engine was erected and the workings deepened eventually to 40 metres.

In 1826, the landowner's law agent commissioned a mining engineer, Matthias Dunn, to investigate progress under the agreement and it was found that the company while paying the lower rental had deliberately delayed investment in the development work.[6]

The North Cove Engine

Several sources reported that the second Watt steam pumping engine was replaced in 1832 by a hydraulic engine built by a 'Mr Dean of Hexham'.[7] Messrs Dean and Company, engineers and owners of a small iron manufactory at Hexham, made mining machinery and equipment on a small scale.[8] The firm obtained its castings from Hexham Foundry. A valuation in 1833 of the foundry following the death of its owner, a William Bates, includes sundry debts owed by Dean & Co., and the foundry's ledgers for 1832/33 record some work done for that engineer.[9]

Dean's engine was placed in the North Cove vein at the top of the 40 metre shaft, which it was intended should be sunk deeper. It is clear that the introduction of water power for draining the Cove vein was a deliberate change of policy and stemmed from visits made by Matthias Dunn, the consulting engineer retained by the landowner's law agents. Dunn had wide experience of coal and lead mining and was

5. 'Account of Lead Mining in the Lowthers, 1838, in *History of Sanquhar*, p430, J. Brown, Dumfries, 1891.
6. Reports by Matthias Dunn, T. E. Forster Collection, Mining Institute, Newcastle.
7. See 5 above, p431; also: *Dumfries Courier*, 9 October 1833; *Mining Journal*, 25 November 1837.
8. Lockhart Ms., Northumberland Record Office.
9. Ibid.

familiar with the use of hydraulic engines in the Derwent lead mines, Durham. He later became one of the first appointees to the Coal Mines Inspectorate. It is also probable that the company's senior overseer, James Barker Stewart,[10] through Dunn established contact with Dean prior to 1831 and himself saw such engines at work in the Derwent Company's lead mines. That he spent some time in that area is evident from correspondence concerning the design of the Meadowfoot smelting mill in 1843.[11] This mill used the Pattinson process for silver recovery — a development first tried in that area.

The Engine built by Dean was designed to operate in the double-acting mode. The power cylinder was fixed horizontally in the Cove drainage level and could work two sets of pumps from piston rods which extended through each end of the cylinder from the working piston. The latter was moved by admitting water at high pressure to either side of the piston alternately. Exhaust water, and that pumped from the workings drained away along the Cove level into Milligan's level, an adit whose mouth is near the old graveyard at Meadowfoot.

The double-acting arrangement allowed the engine to pump from the old steam engine shaft and by means of connecting rods from a second shaft sunk 80 metres deep 180 metres north of the engine where a large shoot of ore had been found. When, later, another ore shoot was discovered beneath the Cove level 60 metres south of the engine, the pumps in the old engine shaft were withdrawn and transferred to a third shaft tank sunk 30 metres deep on the new shoot.[12]

The North Cove trials, though persisted with, never proved very productive and in 1842 Stewart, now manager, recommended that the workings there should be abandoned and the engine moved to new trials elsewhere. The implications of this suggestion will be discussed when dealing with the Glencrieff engine. By 1844 work ceased in the North Cove vein and in 1972, when the author made a very wet trip through Milligan's level, the Cove level was found impassable because of collapsed stopes.

Loch Nell Engine

In 1837 a second hydraulic pumping engine was installed in the south end of Cove vein on a branch of that vein called Loch Nell. According to the writer of a letter to the editor of 'Mining Journal' in November 1837 this engine was built by Messrs Dean of Hexham and was a horizontal type working one set of pumps.

The south end of the Cove vein had been tried by the Quaker Company between 1710 and 1755 without success after driving Williamson's drift north from the Wanlock burn and High Drift 130 feet above into the Dod Hill.

The Wanlockhead Mining Company made an unsuccessful attempt there shortly after entering their lease in 1759 and successfully after 1793 when they drove a low drainage level called Thomson's 90 feet below Williamson's drift — the latter now provides access to the Wanlockhead Museum Trust's Visitor Mine.

10. James Barker Stewart managed the Wanlockhead mines from 1842 to 1870, he was succeeded by his son, Thomas Barker Stewart as manager from 1870 to 1900.
11. Scottish Records Office (S.R.O.), GD 224/506, Letter from J. B. Stewart to Messrs. Gibson and Hume, agents for the Duke of Buccleuch, 8 May 1843.
12. S.R.O. GD 224/506, Manager's Report, 5 October 1842.

A substantial shoot of ore was discovered and worked until, in 1831, up to 24 men were needed to operate hand pumps night and day in the lower workings 35 metres under Thomson's level, and work temporarily ceased[13] because of floodings.

Preparations were in hand in 1835 to build a waterwheel pumping engine but in April of the following year, after an inspection by Matthias Dunn, a decision was taken to instal the second hydraulic pumping engine built by Messrs Dean & Company at Wanlockhead.[14] The new engine was placed in Thomson's level at the mouth of Walker's shaft and water to power it was taken in by pipes along Williamson's drift.

By 1842 the workings below Thomson's level had been deepened to 68 metres[15] in good ore. In 1858 Stewart reported that the engine was not able to deal with the flood water and needed repairs and alterations to the pumps, but any great outlay was not warranted as the mine was "nearly wrought out". The workings were abandoned in 1861, at a depth of 154 metres.

The South Glencrieff Engine

The New Glencrieff vein has a proved strike length of 1600 metres, extending through the Black and Green hills and passing under the Wanlock burn before it enters the Limpen hill and Sowen Dod. The vein divides in the Green hill and a branch strikes to the west of the main vein. Conventionally, the vein to the south of the junction is known as 'South Glencrieff', the main vein as it continues northwards as the 'East Branch'. The main drainage level has its portal below Meadowfoot and serves the whole of the vein system.[16]

Commercial mining on the South Glencrieff part of the vein began c. 1710, though its existence was known to George Bowes, a gold prospector, in 1604.[17] This part of the vein was last mined during the 1920's, and the East and West Branches up to the closure in 1934. Short-term operations from 1952 to 1958 were restricted to the West Branch.

In 1842 the lease of the Wanlockhead Mining Company expired after 87 years of continuous working. Unable to attract another company, the landowner appointed James Barker Stewart to manage the mines on his account. Stewart, who had previously been senior overseer there, was expected to work the mines profitably and thereby save the mining community from threatened extinction.

Stewart, drawing on his local experience and on the earlier records he had access to, concluded that much good ore had been abandoned in several of the old mines because of the cost or lack of adequate machinery for draining them. The recent introduction of hydraulic pumping engines in the North Cove and Loch Nell mines pointed the way to new trials on the old workings, and he began in South Glencrieff.

In 1848 Stewart placed a hydraulic pumping engine in the main drainage level at the mouth of an old shaft 300 metres south of the vein junction. He met with some success there, but in 1855 the discovery of a very rich ore shoot some 200 metres further south induced him to move the engine to the new mine.

13. S.R.O. GD 224/506, Manager's Report: 'General Sketch of the Wanlockhead Lead Mines', 14 July 1835.
14. W. M. A., Borron-Stewart Letters, 28 March 1836.
15. S.R.O. GD 224/506, 'Supplement to the 1835 Sketch', 5 October 1842.
16. A history of mining on the New Glencrieff vein is in preparation by the author.
17. Public Records Office, London, 1603-4, Vol viii, p45; letter from George Bowes to Lord Essenden.

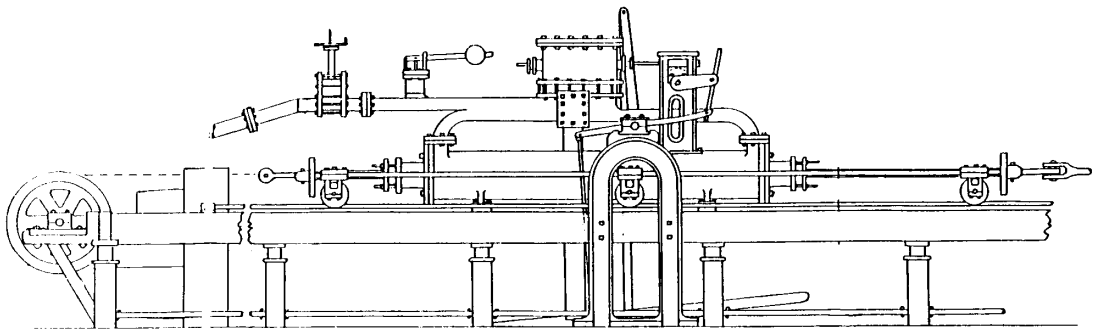

Fig. 2 A sketch of the late Water Pressure Pumping Engine in the Glencrieff Mine.
Scale approx. 3/16th in. to the foot.
Reproduced by courtesy of Wanlockhead Trust.

Both these engine sites were several hundred metres below the surface, and so posed major problems in providing water to work the engine. The supply for the first site was carried in open lades from a small dam above the Mossy Burn reservoir round to Glencrieff Glen. There it was taken through iron pipes along an old water tunnel and down two shafts to the engine. This supply proved to be inadequate when the engine was moved to the new mine and an unusual solution to the problem was chosen. Water stored in the Mossy Burn reservoir was directed into the Mennock Hass water crosscut[18] and piped along the skirt of the Black hill to Glencrieff glen. There "the largest working Siphon in Scotland"[19] lifted it into the water crosscut to be piped to the new engine site.

Field work undertaken in 1981 to search for any remains of this siphon led eventually to the discovery of the hydraulic machines in South Glencrieff.

The hydraulic pumping engine there stands in the drainage level at the mouth of the South mine shaft. The machine (see Fig. 2) is 39 feet long overall and 9 feet high. The largest component is the cylinder which is 10 feet in length and is supported by a sturdy wooden frame and cast-iron pillars. The engine is double-acting, water at high pressure being admitted at each end of the cylinder to move the reciprocating piston. Twin piston rods, one on each side of the piston, are attached to wheeled crosshead-carriages which traverse on rails fastened to the base frame. In operation, cams on the crosshead-carriages moved a tumbling lever which controlled the movement of the slide-valve which directed the water, under pressure, to each side of the piston in turn.

The function of the engine on the South mine shaft was to work a set of pumps connected to the crosshead nearest the shaft. A counter-balance weight was attached, by means of a chain which passed over a pulley, to the other crosshead.

The engine, being double-acting, was designed to work two sets of pumps in separate shafts and examination of the means of attachment of the counter-balance pulley suggests the engine was adapted to single shaft working on the South mine.

18. See footnote 3 *supra*.
19. 'On the Scientific Application of the Siphon to Purposes of Industry', T. B. Stewart in *Trans. Royal Scottish Society of Arts*, 1857-1858, p69.

Whether the engine had been used previously in the North Cove mine where two shafts were pumped by such a double-acting engine will be considered below.

The following data is given in a report of 1906:

"South Glencrieff —

A hydraulic engine with an 11.3/4 inch cylinder, 6 ft. stroke, worked with a pressure of 132 ft. of water which is collected on the surface and discharged by the day level. It runs 3 strokes per minute all the 24 hours and drives the following pumps, the one throwing to the other and discharging the water to the day level:

at the 20 fathoms, a 9.1/4 inch pump bucket throwing 51 gallons per minute,
at the 38 fathoms, a 8.3/8 inch bucket throwing 42 gallons per minute,
at the 59 fathoms, a 5.3/8 inch bucket throwing 17 gallons per minute,
at the 77 fathoms, a 4.5/8 inch bucket throwing 13 gallons per minute,
at the 89 fathoms, a 3.1/2 inch bucket throwing 7 gallons per minute."[20]

The 6 h.p. engine was operating at the limit of its capacity at that time and preventing the further deepening of the shaft. The problem was later overcome by driving drainage levels from workings to the north to allow the South mine water to flow to the North mine pumps. After that, the South Glencrieff pumping engine was used only when the shaft was being deepened, and since the closure of the South mine c. 1925 it has remained undisturbed.

The Beltongrain Engine

Beltongrain is the eastern-most major vein at Wanlockhead. Its southern end, in Stake Moss Hill, passes under Peter's Syke-head and through the Dod Hill into Whytes Cleuch Glen. It was ore-bearing along most of its length.

The Quaker Company, shortly after taking a lease in 1710 operated on the south end of the vein for a time. They sank a shaft beside the Wanlock burn, erected a waterwheel pumping engine and drove a level 28 metres below the surface towards the north to the Pirn Hill shaft, which they sank for ore-winding.

Their successors, Crawford and Company worked the north end of the vein by means of shafts and levels above the water table in the Dod Hill. By making a drainage level called Milligan's from the Wanlock burn at the foot of Whytes Cleuch Glen they cut, in turn, Straitsteps, Cove and Beltongrain veins. The workings in the north end of Beltongrain vein, being above the drainage level, provided employment for miners driven out of deeper workings by flood water.

In 1799 Symington's atmospheric engine from the Bay Mine was moved to a shaft at Peter's Syke-head on the south end of the vein and levels were driven off north and south on the vein. Very rich ore shoots were found as the workings deepened, and the Symington engine was succeeded by two larger Boulton and Watt engines. However, at a depth of 225 metres from the surface, the knots of ore gave out and the high cost of pumping — it required 20 cart-loads of coal daily from Sanquhar to steam the engine — led to the mine being abandoned in 1826.

20. British Petroleum Archives, Grangemouth, Report by R. T. Moore and J. Gammell to R. A. Murrary, 8 January 1906.

Meanwhile, mining continued at the north end of the vein, and Milligan's drainage level was driven southwards to clear the mine water. When the mining company ended their lease in 1842 the landowner's new manager, T. B. Stewart, decided to advance the drainage level towards the south workings and when they were reached in 1848 he installed a hydraulic pumping engine in Milligan's level. This was a horizontal, single-acting machine and it worked pumps by means of slide rods down an inclined drift into the south workings.

To power the hydraulic engine surface water was taken into Tate's Drift, a day level in Whytes Cleuch, providing a head of 56 metres pressure on the piston. The name of the manufacturer is not recorded, but a report by Stewart in 1857 stated that work in Beltongrain had been halted: "in consequence of repairs and improvements . . . made on the engine and a portion has been sent to Haydon Bridge, Northumberland, for that purpose",[21] which suggests it was made there. As Haydon Bridge is only seven miles from Hexham it is possible that, like the Cove engine, its manufacturers were Messrs Dean and Company.

Workings below the engine in Milligan's level only put down some 40 metres, so the engine was probably smaller than that in the Cove vein. It remained in use until the early 1880's.

The Bay Mine Engine

By 1857, while still pursuing a policy of mining deeper on the old workings of previous companies, J. B. Stewart had turned his attention to the northernmost part of Straitsteps vein and the workings known as the Bay Mine.[22] There, in 1789, William Symington's first atmospheric pumping engine had been erected to drain workings to a depth of 80 metres below Milligan's drainage level. At that depth the ore shoots seemed to terminate and the mine was abandoned in 1799.

Reasonably detailed records of the old workings were available to Stewart and once again he decided in favour of a hydraulic engine to pump the mine. By 1867 he had drained it to a depth of 80 metres and began to sink deeper.[23]

Contemplating the re-opening of the mine in 1857, Stewart reported that he had an old engine on hand for the purpose.[24] Because of the Haydon Bridge/Hexham connection it may be that a second-hand engine was bought in from there.

A report by the manager in 1883 stated that the hydraulic engine was of 33 horse-power and at that time was pumping from 120 metres below the drainage level, using three lifts of pumps of 14.75 ins., 11.5 ins., and 9.5 ins. diameter. It eventually pumped to a depth of 160 metres.

Water power was supplied to the engine from the Whytes Cleuch and Limpen burns. Behind the concrete-capped shaft mouth stands a dressed stone pillar. This, according to Hastings[25] carried an old Watt engine iron beam weighing seven tons and was some 30 feet in length. To this beam was attached a rod which passed down the shaft to the upper side of the engine's piston. At the other end of the beam was

21. S.R.O. GD 224/506, Manager's Report, 25 September 1857.
22. 'The Bay Mine, Wanlockhead, Scotland', W. S. Harvey and G. Downs-Rose, British Mining No. 2, *Northern Mines Research Society Monograph,* 1976.
23. Ibid, p19.
24. S.R.O. GD 224/506, Manager's Report, 25 September 1857.
25. W. M. A., Ms. History of Wanlockhead, Rev. T. Hastings, 1869.

suspended a cast iron cradle which, when the engine was working, was piled with lead bars. The device served to counter-balance the weight of the pump rods which weighed 1578 kilograms.

As was the case at other mines in Wanlockhead, much of the mine water entered the workings from the surface through shallower mines. Providing an adequate supply of water to power the engine was an acute problem. At the Bay mine, in times of drought the hydraulic engine was de-coupled and the pumps were attached to a small steam engine which normally wound the ore, and in times of heavy rains the pumps could be coupled to a waterwheel sited near the mine-head.

In its hey-day the Bay mine provided an unusual example of the application of a variety of technological alternatives for dealing with drainage problems. Most of the structures and artifacts used survived after the mine was abandoned in the second decade of this century.

It is ironic that the hydraulic engine itself remained intact in the pumping shaft until the mid-1950's at which time it was demolished for scrap during operations there when a futile attempt was made to re-open the mine. In correspondence later the manager of the mines at that time spoke of the massive engine having been found fixed vertically in the shaft between the surface and Milligan's drainage level and having all its pumping apparatus still in place.[26] It is highly regrettable that the engine, though then recognised as an important relic, was not preserved as a memorial to a bygone technology.

The North Straightsteps Engine

The middle section of the Straightsteps vein, which passes under the floor of the Wanlock valley below the village was worked intermittently from 1691 to 1782. The deeper workings were drained by two waterwheel pumping engines, the larger of the two being placed on the main Straightsteps shaft, now the site of the beam engine which is preserved as an industrial monument by the Secretary of State for Scotland.

The erection of the hydraulic pumping engine on the Bay mine in 1867 made it possible to drain workings below the Straightsteps shaft via a level which connected the two mines. This dependence on the Bay engine for draining Straightsteps proved unsatisfactory in drought or flood conditions and Stewart, the manager, considered using a hydraulic engine on the old Straightsteps shaft.[27]

Discovery of a promising ore shoot beneath the connecting level some 400 metres north of the Straightsteps shaft and somewhat nearer to the Bay shaft led him to discard that plan by placing another hydraulic engine on the ore shoot.

In 1869 a retired local minister, the Rev. Thomas Hastings, recorded that a new mine had been started and had reached a depth of 8 metres having "the appearance of keeping well. . . . It is kept clear of water by a water pressure engine . . . being the invention of Mr T. B. Stewart. . . . The engine stands perpendicular and it works extremely well."[28]

26. Letter from J. R. Foster-Smith to W. S. Harvey, 14 August 1972.
27. S.R.O. GD 224/506, Manager's Report, 15 September 1867.
28. See footnote 25 *supra*.

An 1883 report by T. B. Stewart, who followed his father as manager in 1870, gives an account of mining below Sadler's String junction. The workings were 80 metres below level, having a connection at that depth with the Bay mine workings, thus allowing ore to be wound up the Bay shaft. Rich ground was being worked to the south of the engine shaft which was referred to as 'North Straightsteps Mine'.

No other description of the North Straightsteps hydraulic engine has been found so far. Being a vertical engine, it would be simple in design, and Hastings stated: "the valves are different from other (i.e. horizontal type) engines". As it was designed by the mines manager probably only the cast iron work — the cylinder, piston and valve-chest — would be made at a foundry, and the remaining parts, being of brass or wrought iron, forged or cast in the mines workshops.

The water supply to work the engine was taken from the Mossy Burn reservoir, through the Mennock Hass crosscut and carried in large clay pipes to the mouth of another crosscut driven into the Dod Hill, and then taken down a shaft to the engine, the head of water in the shaft providing the necessary pressure.

Leathers for the pistons of the pumps of the North Straightsteps engine and that at the Bay were still being made at the mines in the 1890's, according to a correspondent whose father was pump repair-man at that time, but the North Straightsteps engine was out of use by the early 1900's.[29] During field-work at Pates Knowes smelt mill in 1976 a large quantity of scrapped pump leathers were found, which suggests that the old smelting site had been used for such maintenance work.

How old is the Glencrieff Engine?

The South Glencrieff engine is the only example of an intact hydraulic pumping machine found on a Scottish mine. This gives it a unique place in Scotland's industrial heritage. But has it also an important place in the general history of the development of this particular kind of engine? An obvious point is to decide its age, and this is not directly established from the following data:

A CHRONOLOGY OF HYDRAULIC PUMPING ENGINES AT WANLOCKHEAD

Site	*Type*	*Pumping Mode*	*Dates Working*
North Cove	Hor., d-a	d-a	1833-1844
Loch Nell	Hor., s-a	s-a	1837-1861
Sth. Glencrieff	Hor., d-a	s-a	1848-1920s
Beltongrain	Hor., s-a?	s-a	1848-1880s
Bay	Ver., s-a	s-a	1867-1900s
North Straightsteps	Ver., s-a	s-a	1869-1900s

(Abbreviations: Hor. = horizontal; Vert. = vertical; s-a = single acting; d-a = double acting)

Two immediate questions arise concerning the above information: who were the engine makers or designers? How many different engines were involved?

Three of the engines, on present evidence, can be firmly attributed to named makers or designers, namely, the North Cove and Loch Nell engines built by Messrs Dean of Hexham and the North Straightsteps engine designed by T. B. Stewart. Evidence points to a long-lasting relationship between the mines management and engine builders in the Hexham/Haydon Bridge locality. No doubt other engines

29. Correspondence from W. Wilson to author, 20 October 1971.

were supplied from there though not necessarily by Dean, for Pattinson, Davidson and Spencer of Hexham are reported to have built horizontal and vertical engines for the nearby Leadhills mines in 1861.[30]

As to the number of different engines involved the evidence, taking account of dates in use, type, pumping mode and work load, three were only used on their original sites, those in Loch Nell, Bay and North Straightsteps. Of the other three engine sites, that of South Glencrieff is of particular interest because of the possible age of the engine found there.

It was noted above that in 1842 the manager recommended the transfer of the double-acting, horizontal engine in North Cove, where it had pumped two separate shafts, to a new site. It is most likely that, when North Cove closed in 1844, given the reluctance at that time to incur unnecessary capital expenditure, that the recommendation was adopted. Subsequently, two new sites were developed — those in South Glencrieff and Beltongrain veins.

At neither of these sites were hydraulic engines used to pump for more than one shaft at the same time. However, a double-acting engine would be a sensible speculation in South Glencrieff where ore shoots were widely separated, requiring the sinking of separate shafts. In Beltongrain, on the other hand, the task was a specific one of pumping from flooded old workings to get access to ore left there.

Certain design aspects of the South Glencrieff engine favour its having been the one transferred from the North Cove mine, both regarding particular details of its construction and the overall 'look' of the engine, which suggest a prototype. Finally, preparations for starting South Glencrieff mine were in advance of those for the Beltongrain mine and, given Stewart's expectation of finding a rich ore shoot in the former mine, the use of a tried engine and not one likely to face commissioning problems was attractive.

A search for conclusive evidence on these points has so far proved unfruitful, but it has uncovered one incident which may strengthen the New Glencrieff case. It occurred two years after the engine was installed on the North Cove mine.

By 1833 the Wanlockhead mines had a very uncertain future, one hundred men had lost their jobs and, with their families, had left the village. The remaining men were in dispute with the company over arrears of unpaid wages. Short of money to buy food, they illegally shared out the capital of their Friendly Society. Lord Bute, the main shareholder in the company, sent his Law Agent to investigate this and other problems.

In a letter written in May 1833 the agent reported an allegation made by the senior overseer, J. B. Stewart, that a large stone had been thrown into the mechanism of the North Cove water pressure pumping engine and the machinery had been damaged. The culprits, according to Stewart, were the father and brother of the mines' surgeon, Dr. Watson, being the last workmen to leave the engine prior to the discovery of the damage.[31]

30. For details of Leadhills pumping engines see 'Pumping Engines on the Leadhills Mines', W. S. Harvey, *British Mining* No. 19, 1980-82, pp5-14.

31. Bute Muniments, Mount Stuart, Rothesay, Letter from John Muir to second Marquis of Bute, 17 May 1833.

When the South Glencrieff engine was rediscovered in 1983 it was found that the crosshead casting at the counter-balance end had been broken where it was bolted to its carriage, and subsequently repaired. Did aggrieved miners cause the damage by dropping a lump of rock between the cylinder end plate and the crosshead when the latter was moving on its return stroke? Was this the engine made by Dean in 1831, or one built some 16 years later?

Acknowledgements

I am grateful to J. Landless for undertaking the underground research and record of the South Glencrieff engine, and to W. S. Harvey for his sketch of the machine; also to J. Hall for research on Dunn and Dean in archives at Newcastle. I am indebted to Mr A. Hunter for information from the Marquis of Bute's archives at Mount Stuart and Dumfries House.

SURVEY OF GARROCH WATERPOWER SYSTEM, CLOSEBURN, NITHSDALE

by
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Introduction

This paper records the first stage of a project undertaken by Mid Nithsdale History Society, Thornhill, to investigate and record an old industrial system in Park Village, Closeburn, powered by water brought from 10 km. away. The main purposes of this paper are: to set down the visible features of the scheme, as a record for posterity; to identify all the available documentary evidence; to identify matters that require investigation; and to focus attention on subjects for restoration. The paper is called Survey because it is broad rather than deep and is intended to point to possible further work in many areas, which can be reported in later papers.

The Garroch system appears to have been built about 1790-1810, in connection with the development of limeworking in Closeburn — a very significant activity at that time of agricultural improvement. To provide waterpower for the lime quarries an extensive system of waterways was built, to give year-round supplies. Other plants were built on the system to use the water. Every stage of the system shows a very high standard of engineering, and in places substantial investment in earth-moving. No part of the system is now in use, but most of it is sufficiently preserved for its former use to be seen. In a few cases the plants may be unique historical examples. If the will is there, large parts of it could be restored to nearly their original forms.

History

The Garroch water scheme appears to have been built mainly to provide power at the Park limeworks, in winding wagons up from the quarry to the kilns. Around 1800, the time of building, lime was in important part of the agricultural improvements taking place all over the country.

The 1791 *Statistical Account* tells of Sir James Kirkpatrick, owner of Closeburn, developing a limeworks in 1772-4, and a second one in 1783. At the latter date the Stuart-Menteath family became the proprietors and the 1845 *New Statistical Account* speaks of developments including a waterwheel driven by water brought six miles from the hills. Singer's *Agriculture in Dumfries* of 1812 describes the water wheel working with a railway — claimed to be the first in the county.

Several sources quote the ability and creative skill of Charles Stuart-Menteath, and his energy in improving the estate. This makes it probable that he was the builder of the water scheme, rather than Kirkpatrick at an earlier date. This sets the earliest building date as 1783, the date of Menteath's purchase. The latest date can be established from two points: the *New Statistical Account* says that the population of Park declined from 1811, after the completion of the improvements; and the comment given above from Singer, which is dated 1812. It thus seems likely that the scheme was built between 1790 and 1810.

1. This paper has been written by the author as Chairman of the Project Sub-Committee of the Mid Nithsdale History Society.

The scheme served other plants, the sawmill being the largest user. The earliest record of the sawmill is a valuation roll of 1840, the earliest year for which a roll is available, but its siting gives the impression that it was a part of the first design. Likewise the water runs right past the Smithy and this was probably a piece of deliberate siting, to provide both power and cooling water. At a later date, around 1900, the joiners shop installed a water turbine. The Garroch water supply was also taken for domestic use

The limeworks closed in 1895, so the prime use of the water ceased then. But it continued to serve the other plants, at least until the break-up of the estate in the 1920s, and probably into the '30s. Domestic water was drawn until the district scheme was built in the 1930s.

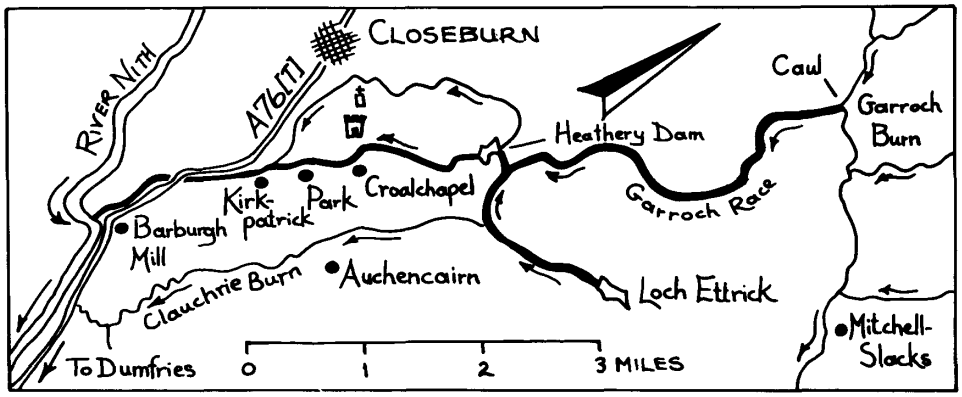

Fig. 1 The Garroch Water Power Scheme.

Design of the Scheme

At many points the scheme gives evidence of considerable skill. With wagon haulage from the workings as its prime purpose, it was essential to have a large and reliable supply of water. Supplies in the immediate district are not totally reliable, so recourse was made to the Garroch Water, which to present knowledge never fails, as it drains a large area over 600 metres high, facing West.

From the Garroch a watercourse was built to cross a watershed. The Garroch joins the Water of Ae, and hence the Annan, while the Park scheme drains into the Nith. The crossing was done by careful following of the contours, achieving a steady flow without weirs or similar discontinuities for at least 5 km.

A further notable point is that the watercourses run along the side of hills and are quite watertight. Presumably the races are lined with clay — a formidable task to locate, dig, transport and lay.

Figure 1 is a sketch map of the scheme. The original works are almost wholly visible on the ground, except for two stretches which have been ploughed and planted with trees.

A further input of water was obtained by developing Loch Ettrick with a dam and sluice, then taking the water off from the Pothouse Burn which drains Loch Ettrick, running it in contoured races to join the flow from the Garroch.

There are two limeworks in Closeburn. One, at Limebank, near Croalchapel, worked and transported the lime largely on the level. It has large and impressive kilns, but made no use of water. The other quarry is at Park and uses water because the lime is in sloping strata and had to be hauled out of the workings by power. The latter limeworks is the subject of this paper.

Figure 2 is a sketch plan of Park Village, showing the dam at Puddockhole, the sawmill, the smithy, the Limeworks Dam, the Joiners Shop and the limeworks, with the drain to the Lake Burn.

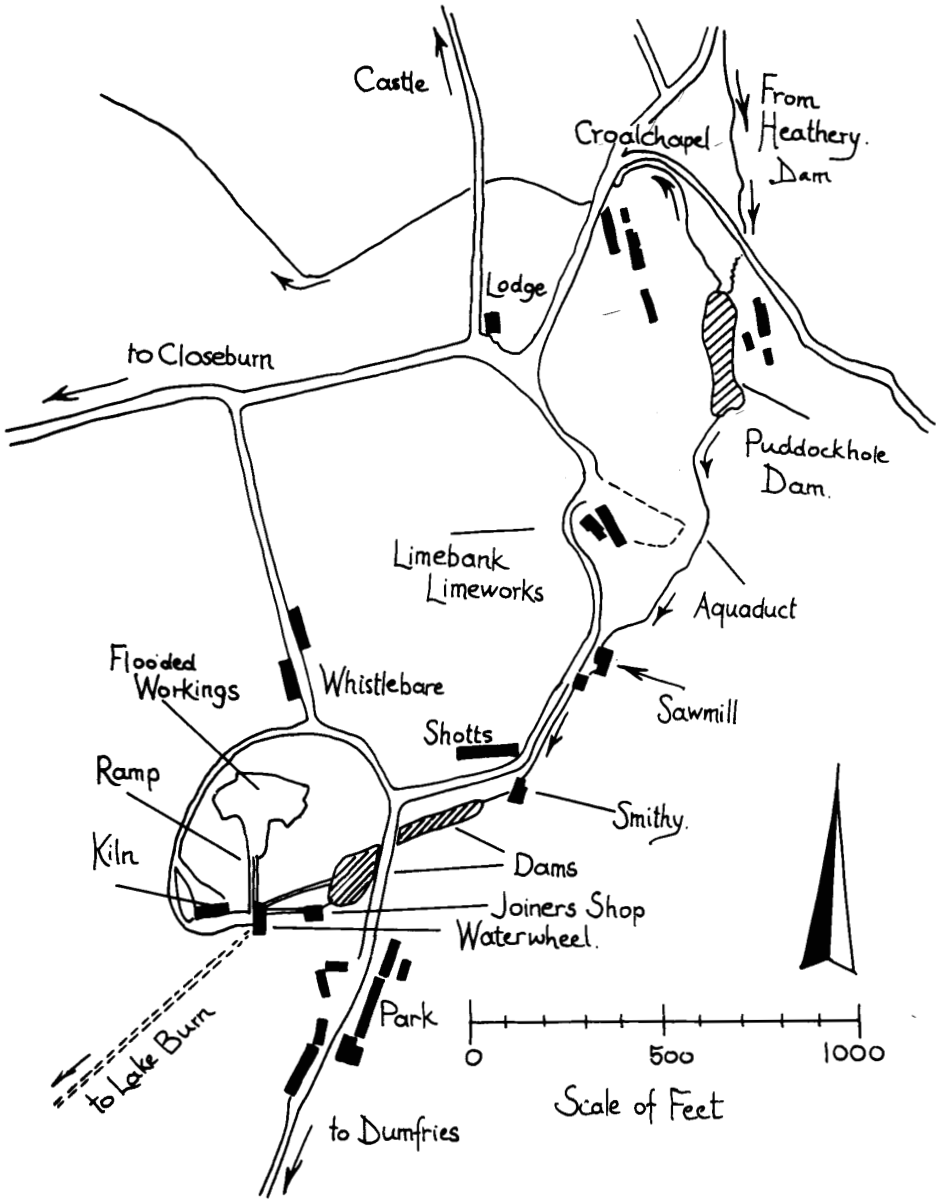

Fig. 2 Park Village, Closeburn.

The Limeworks

Quarrying

Park quarry is a large hole, about 200 metres across and 70 metres deep. The records do not make the methods clear. A paper by Stuart-Menteath in 1845 described stall-and-pillar working, which is an underground technique, leaving blocks of lime to support the roof. The Park quarry looks like a large opencast mine, which has been completely excavated. There is a ramp running into the now drowned workings, which indicates where the wagons were hauled, but it is not apparent whether there was underground working beyond the limit of the opencast area. The quarry is full of debris and it is most unlikely that it can be investigated now.

The flooding seems to maintain a fairly steady depth at all times, which implies that it has some natural drainage. But when in use it may have been drained by power from the waterwheel, as mentioned in the *Statistical Account.*

Rampway

The material from the workings was hauled on rails up the rampway, using power from the waterwheel. Menteath claims these few hundred yards as the first railway in the county. There is no information on the type of truck, but it would probably resemble the small colliery tub generally used in mining. The rampway is clearly visible, running down from the high bank at the kiln-top level and disappearing into the flooding in the centre of the quarry. It is about 4 metres wide.

The ramp drops 1 metre in 2.83m horizontal distance. If it continues under water straight across the pit, it would be about 21 metres under the surface at the other side. The ramp probably goes on further along the same line, into genuine underground workings.

There is evidence of the position of sleepers on the ramp, in the form of tree roots that have grown out horizontally. It is not clear what occurred at the top of the ramp, to enable the trucks to be moved to the kilns. And there is little evidence of the winding gear and means of haulage.

Kilns

From the top of the ramp the tubs would be run, possibly by manpower, perhaps by gravity, along to the top of the three kilns. The limestone was there mixed with coal and charged into the kilns. The coal came by horse-and-cart from Stuart-Menteath's colliery at Mansefield, near New Cumnock. It was brought up the gentle ramp to the west of the kilns, and at the top mixed with the lime. The charge was dropped into the kilns, which were already burning lower down, in a continuous process. Charles Stuart-Menteath concerned himself with the methods of loading and controlling the kilns, since these affected results. After the reaction, the charge emerged at the bottom as quicklime. The bottom fire-bars and grates are in position and in quite good condition, and most of the refractory bricks are still in place. At the bottom of the kiln bank there is road access, enabling the finished lime to be picked up by horse-and-cart and taken for use, passing over a weighbridge.

The *New Statistical Account* mentions a second water wheel, used for forced draught and pumping. There is neither evidence of this wheel nor of a means of applying draught to the kiln.

The kilns are in fairly good order and would justify efforts to preserve them as being of outstanding quality.

Fig. 3 Waterwheel, Park Village Limeworks, about 1900-1910.
Note the two gear rings — the smaller probably for haulage, the larger for blowing.

Waterwheel

The site of the waterwheel is clearly shown by a large pit, 10 metres long, 2m wide and 8m deep, tapered down, which lies along a line parallel to the rampway. Nothing remains of the wheel or the water troughs, but the structure can be clearly seen with the help of an old photograph (Fig. 3), dated by internal detail at around 1900-1910. The overshot wheel was about 9 metres diameter, with the water feed carried in a trough on trestles from the sluice in the mill dam.

Stonework structures on the West side of the wheel may have housed the winding gear and controls for truck haulage; also the pumping and blowing gear if it existed. The photograph shows two gear rings, one at a smaller radius, presumably for haulage; the others at a larger radius, presumably for blowing. This may explain the comment in the *New Statistical Account* about a second wheel. Alternatively the photo may show the the 1880 version of a wheel system developed from that reported on in the early 1800s.

Some digging in the ground between the wheelpit and the head of the ramp may shed some light on this. It may also give some indication of the working at the top of the rampway and explain why the wheelpit is so far offset from the line of the ramp.

At the bottom of the wheelpit is a drain hole, at present blocked by rubbish. This led off the spent water, to flow into the Cundy (conduit) running down to Lake Burn.

The waterwheel is stated to have been broken up during the 1914 War. Nothing remains now but the pit, which is remarkably well preserved.

Cundy

The cundy, or conduit, is the structure which carried the water from the waterwheel to the Lake Burn. Because of the lie of the land it was necessary to make a tunnel for about 250 metres. Its course can be traced at several places where there are headings and the water can be heard or seen below. The tunnel is stated to be big enough for a human to pass and animals have falled in and been rescued. There is no direct evidence of how the cundy was built or its maximum depth. Local people say it is made of sandstone slabs, the tunnel measuring about 1½m high by 1m wide and at a maximum depth 8m.

The cundy flows out as an open burn for 100m and then drops into the Lake Burn, which has flowed down from the old Wallace Hall School. The burn continues down the valley, to Barburgh Mill, where at earlier times it flowed into the mill dam, to be used to drive the textile machinery. This use of the water may also have been part of the original design by Stuart-Menteath.

The Joiners Shop

History

The Joiners Shop was formerly driven by the Garroch water supply, but it has had electric drive since the 1930s. It is the only plant on the scheme which still operates, being used in the normal course of business by Messrs James Kirkpatrick and Son, Joiners. They can trace four generations of the family as joiners in Park or nearby Kirkpatrick Villages.

There are no documents on the development of the water-driven mill, but indications in Valuation Rolls are that it took place about 190C The machinery, some of it unusual and interesting, is unchanged from that installed in that era, with all the shafts and belt drives. The building itself, made of wood, appears to have been a grain store and to have been extended when the machinery was installed.

Work from the joiners shop was incorporated in a number of local buildings, such as Barjarg, the original Wallace Hall school and the former Kirkpatrick factory in Thornhill.

Machinery

The wood-working equipment comprises: tenoning machine; planer/thicknesser; router; small sawbench; bandsaw; wood-turning lathe; large sawbench. All these machines are driven from the line-shafting driven by the electric motor, which replaced the original water turbine.

Water Power

A sluice in the limeworks dam directed the water through a pipe into the water-turbine chamber, situated just outside the building. The turbine unit was sited at the bottom of a vertical water channel, giving a head of about 4 metres. The spent water was carried away by a wooden trough and dropped into the pit of the limeworks waterwheel. The turbine speed was controlled by a valve sited near the turbine, a feature not now available with the electric drive.

The turbine runner was at the bottom of a vertical shaft which rose nearly to the roof line of the building, held by a bearing on brackets. A pulley on this shaft was connected by a crossed belt to the main line-shafting inside the building. This

coupling has disappeared, as has the shaft and pulley, now that the drive is electric. But the turbine itself is still in a casing at the bottom of the shaft, from which position it used to be lifted periodically for maintenance. It could no doubt be lifted again if the debris is cleared.

Additional Power

Some time after the original construction a single-cylinder paraffin engine was installed to supplement the turbine and cover periods of water shortage. This is no longer in existence.

The Smithy

History

The Smithy was owned by the Closeburn Estate and obviously would have been the engineering workshops for the limeworks as well as the estate. When the estate was sold the smithy was bought by the tenant, Mr Andrew McKinnel, who still owns it, although he is retired and the Smithy was closed in 1958.

The tools and equipment are still much as they were on closure, although rusted, and a lot of rubbish has accumulated. But the building still gives an excellent impression of a smithy of the first half of the 20th century.

Equipment

There are two forges, hand-blown by bellows mounted at the rear. Associated with them are numerous small tools such as pincers, tongs and swages, of many sizes. There are punches, dies, a hand drilling machine and a hand-operated metal saw; workbenches, vices and many storage drawers of blacksmith's equipment. There is also a power-operated drilling machine and a long-bed lathe, used for turning cart axles. These were driven from a line-shaft which is stated to have been connected at former times to an undershot water-wheel operating in the Race which passes the door. Some excavation will be required to locate the line of this waterwheel shaft. An interesting point is that the line-shaft is mounted at an angle of about 5° to the building, and all the machines connected to it are angled accordingly. This angling may be explained by the alignment of the burn and waterwheel in relation to the Smithy, and the desire to eliminate gears or couplings. In recent times the lineshaft and machines were driven by a 'hit-and-miss' paraffin engine, which would still probably run. It is also aligned at an angle, to match the lineshaft.

Outside the building the watercourse runs in a channel, covered over in places. One item is the 'ringing plate', a circular plate about 1.5m diameter with a big hole in the middle, used when fitting the red-hot iron tyres to the wooden wheels.

Building

The building is a typical random stone building roofed with the local square stone slabs, probably dating from around 1800. It is in fairly good condition, requiring some work to make it fully weather-proof.

Restoration

This is a most interesting and attractive example of a 'fossilised' piece of rural industry. In co-operation with the owners every step should be taken to clean up the building and contents and make it a worthy and interesting place to visit.

The Sawmill

General Comments

The sawmill is a large and impressive stone building, somewhat ruined but probably capable of restoration. Like the limeworks wheelpit it shows a high quality of stonework, and hence durability.

It is sited on a steep bank, so that the water gets a direct drop of about 5 metres with the minimum of civil engineering work. The main construction, which gives the fortress-like appearance, is the wheel chamber and the retaining wall for the upper floor of the building. The sawing operations take place on the upper level, at the top of the bank, and only the waterwheel and the drive shafts and pulleys are at the lower level, giving a two-storey effect in part of the building.

Building

The mill has been out of use for about 50 years. Fairly recently it housed battery hens. The original roof was removed and a lighter one substituted about 1950. The latter has largely collapsed, so that much of the site is now open to the sky. As a result, most of the floor timbers of the two-storey part of the building have decayed and collapsed, burying anything that may remain of the old machinery.

The waterwheel pit is clearly visible, largely choked with debris of roof and upper floor. Nothing can be seen that looks like remains of the waterwheel, and it is probable this was recovered as 1939 War salvage. Only an excavation will show what remains.

History

The date of the sawmill is uncertain. The *New Statistical Account* mentions sawing machinery, but in direct connection with the Park limeworks waterwheel. Consideration of that wheel, its position and water flow makes the conjunction unlikely and it seems more probable that the author did not express things very clearly and that he is referring to this sawmill. A sawmill features in the 1846 *Valuation Roll*, the first year for which a roll exists, so this gives a latest building date. The Ordnance Survey maps of 1858 and 1861 show the mill in its present position. From its construction and site we could assume it was built around 1800, with the rest of the scheme, by Menteath.

Operation

Although the sawmill is in ruins, most of its operation can be visualised by reference to similar water sawmills in the district. It would have had two large saws, breaker and runner-off, set in the saw-tables running the length of the upper storey. Bogies ran on rails alongside these, and the track on the west side was loaded at the north end with full-size logs. These were put through the two saws in succession and brought out as sawn planks at the south end. The power for the saws came by belts up through the floor, from pulleys on the main waterwheel shaft, which ran right across the building, at the lower level.

The inlet water for the wheel enters through a slot in the north wall, 1.5 metres wide and 0.5m deep. The outlet is at the bottom of the 'tower', a port 2 metres wide and 0.8m deep. The maximum drop available was thus about 5.5 metres; in practice it was probably about 4.5m. The wheel width would have been about 1.6 metres. The masonry in this part of the structure is very solid, from 850 to 1400mm thick, with close jointing of the dressed stones on the inside.

Construction

The building is mainly random-laid sandstone blocks, of a pinkish shade. There are bold red sandstone corner stones about 450mm high, and corner stones are also used at doorways and some windows. The sides of other windows are single red sandstone slabs, and the lintels and sashes are made of the same material. Some windows have a second, shorter stone above the lintel stone.

The conduit bringing the water the last few metres to the inlet port has disappeared with the collapse of the bank. The discharge is by an open ditch about 2 metres wide, which runs from the port towards the cottage and is understood to have run underneath it.

Watercourses

Garroch

The start point of the system is the caul on the Garroch Water, National Grid Reference NX938941. From here the watercourse can still be traced the whole way to Park.

All that remains is a concrete slab, the former bed for the spillway, originally made of worked stones. The Garroch at present runs about 20 metres east of this line, at a level 4m below the caul. This new path has been cut by the burn in the 50 years since the system was in use.

Immediately above the caul a waterway — the Race — branches off as the start of the system. It is overgrown with grass and reeds but can be clearly seen as a trench, originally about 2m wide and 1m deep.

The Garroch is stated by the local people to have a fairly steady flow, even in dry seasons. It was clearly seen to run all through the dry summer of 1983. This is probably the reason for selecting this water source.

Cross country

The Race runs across the hillside towards the south, without embankments or cuttings. To follow the contours it winds, dropping very gently. According to the map, it drops 60 metres in 6 km of hillside travel, a gradient of 1 in 100, which is very shallow for an earthen watercourse.

The watercourse can nearly always be located by rushes growing in the bed, indicating it is waterlogged. This raises the question of whether the whole Race was lined with clay — a matter for research. If the whole system, including the reservoirs, was lined, there was clearly a big demand for clay. It is of course found in this glacial district but there are no obvious indications of clay pits nearby.

Parts of the upper section of the Race have been obscured by drainage ditches and woodland planting. It would be a good idea to plant a few markers before all traces are lost.

In the first 3 km the watercourse crosses the watershed between the Garroch Water, which is in the Water of Ae-Annan system, and the Nith catchment. This is achieved entirely by skilful following of the contours without any weirs or falls.

Flood water

At places the Race crosses the line of a natural burn. Originally the extra water would have been welcomed, but measures would have had to be taken to prevent

flood waters damaging the banks of the Race. There are a few examples of worked stones sited to act as holders for boards to brake the flow and spill excess water. We would expect to find a stone sill at such a point, over which the flood waters would spill without damaging the banks, but these are not apparent. There are some other collections of stones which have no obvious purpose, possibly concerned with flow control. Some digging may reveal the function of these features.

Dollard Hill

The steady drop of the watercourse over many kilometres is interrupted at two places on Dollard Hill. One is quite small, at National Grid Reference NX927946, where the Race abruptly drops 2 metres, with a number of pieces of stone which presumably reduced the damage from flood water. The next is a clever piece of engineering, at National Grid Reference NX928941, where the Race is run into a natural watercourse, having a gradient of 1 in 12. By using the natural falls on this burn over 350 metres, the engineers dropped the level of the Race by 30 metres, without having to provide measures against the rapid water flows that occur in such a stream, especially in spate. At the lower end of this drop there is a sluice which takes the water off the burn and routes it into the normal contoured watercourses, on its way to Heathery Dam.

Ettrick and Pothouse

A second source of water for the scheme is Loch Ettrick, *via* the Pothouse Burn. Loch Ettrick looks large — 500m by 250m — and we might have expected it to have sufficed for the limeworks, without Garroch. But it has quite a small catchment area and, even though spring-fed, it probably would not have yielded enough water to maintain the quarries, with their important demands for ample and steady winding, pumping and blowing. However, Ettrick has some contributions to make and it was fairly easily tapped, by troughs placed in the run of the Pothouse Burn at National Grid Reference NX932929. From there, contour ditches led the water past Blawbare and Gilchristland Cottages, to join the Garroch Race near Heathery Sheds at National Grid Reference NX 924934. Ettrick is a man-made lake, although it was perhaps originally a glacial lake. Ramage's book tells us that the dam failed in 1828, which provides another confirmation that the scheme was fully operating at that date.

Heathery Dam

Heathery Dam is the first storage reservoir of the complete system, clearly designed to hold a good supply of water. It is man-made in a natural ravine, with a dam about 10 metres high. It is 300m long and before it silted up it would have held nearly 10m depth of water at the deep end.

The main flow from the dam was through a sluice and by a pipe through the bottom of the dam, at which point the input into the system at Park could be controlled. Now there is only a simple overflow a little distance below the top of the dam. At the shallow, north end, there is a watercourse to take overflow water when the dam is full. This burn, called Town Burn, ran north, over the fields into Barraby woods, thence *via* Closeburn Old Hall to the Lake Burn.

Gilchristland

From Heathery Dam the Race makes a short, steep descent, crossing the road, then flows into contour ditches round the side of the hill at Gilchristland. This section, dredged in 1983, probably gives the best impression of the appearance of the Race when it was in use, with the ditch deep and clear. In places there are signs of the clay which was probably the original lining. A test is required to see whether it features all along the watercourse. From Gilchristland the water runs down a natural glen to Nethermains, where a specially constructed watercourse carries the stream towards Puddockhole.

Puddockhole

Puddockhole is the storage pool for the sawmill, which has no other reservoir. It is a large pond, 100m long by 30m wide, possibly originally 5m deep, but hard to assess now because of the overgrowth. It requires study to assess how much of its structure is natural. The main retaining bank on the west side looks too steep to be a natural bank, so possibly the pool is a natural glacial hollow which has been reshaped as part of the water scheme.

The dam also receives water from a burn which drains from Barnmuir Hill.

At the northern, inlet end there is an outlet watercourse flowing north towards Closeburn Castle, which carried overflow water when the dam was full.

The visible parts of the sluice at the outlet end of Puddockhole are in quite good repair. From this sluice the water ran straight into the clay pipe to feed the sawmill.

The Pipe

From the outlet of Puddockhole the water runs in a 500mm internal diameter glazed clay pipe, for about 250 metres. The pipe is damaged about 50 metres down, and discharges any water it carries into a deep ravine which is part of the old Limebank workings. This is rapidly removing the pipe's foundations and it requires early attention.

At National Grid Reference NX911915 the pipe is carried over a stone embankment about 3 metres high, spanning a ravine. This ravine is the line of the road connecting the old Limebank Quarry workings with the kilns at Limebank, National Grid Reference NX911905. Clearly this embankment could not have been in position when Limebank was working, as it blocks the haulage way. The local people say that formerly there was an aqueduct, in wooden troughs, in this section, which would have been carried on piles, permitting transport to pass beneath. The aqueduct is stated to have been changed to the pipe during the 1914 War. It is not clear whether the whole pipe from Puddockhole to Sawmill was installed at that time. It all looks the same, which supports the idea of one conversion from troughs.

The pipe continues right to the sawmill, except for the last 4 metres where the bank has fallen away. Probably this would have been a wooden trough, designed to spread the water over the full width of the waterwheel, passing through the 1.5m slot in the north wall.

Smithy

After leaving the sawmill by the ditch, the water goes under the cottage, then down the side of the road to the Smithy. First it passed the 'ringing plate', then the waterwheel which drove the lathe. It would also have provided water for quenching, etc., inside the Smithy.

Limeworks ponds

From the Smithy the water flowed into the Upper Limeworks Pond, about 100m long by 30m wide. Determining the depth would require a survey. At the foot of the pond the water flowed through a culvert into the Lower Limeworks Pond, the main reservoir for the quarry. This was 60 metres long by 30m wide and about 5m deep. These two ponds are in fact one, as there is no weir separating them. They are completely overgrown now and seldom show water.

The lower dam is retained on the west side by a massive bank, apparently of sandstone, which forms the east side of the Quarry pit. This bank seems entirely natural but the lower pond itself may have been excavated. There is a sluice in the pond from which the water goes through a pipe to emerge about 10 metres down from the top of the bank. From here the water would have been carried in troughs on wooden supports over to the big waterwheel. As it approached the wheel the troughing went through an angle of about 60 degrees, to line up with the wheel.

Joiners Shop

Another sluice from the lower pond controlled the water for the Joiners Shop water turbine. When spent, this water ran into the wheelpit, down a wooden trough.

From the wheelpit the water went into the Cundy and ran to the Lake Burn, as described above.

Preservation and Development

These have only occasionally and briefly been referred to above. Fuller recommendations and suggestions may be obtained from the author.

Acknowledgements

The author is grateful to the members of Mid Nithsdale History Society, especially Mrs Hyslop, Mr and Mrs Sands and Mrs Weir, for help in investigating and compiling this paper, to Mr J. Williams for drawing figures 1 and 2 and to Mr James Kirkpatrick for the loan of the photograph reproduced as figure 3.

J. M. CORRIE, ARCHAEOLOGIST

by
D. M. Reynolds

It micht hae been waur is aft in my min',
E'en when I am tempted tae murmur and whine,
And whatever the crosses fate sends in my way,
It micht hae been waur is aye what I say.

From *It micht hae been waur*, a poem by J. M. Corrie

John Maitland Corrie was born in 1882, the son of John Corrie of Burnbank, Moniaive, Dumfriesshire. He published many papers on historical and archaeological subjects and carried out a considerable amount of archaeological investigation, but his major fieldwork contribution as archaeologist to the Royal Commission on the Ancient and Historical Monuments of Scotland has been largely unrecognised.

Corrie's early interest in archaeology and history must have been acquired from his father who was an antiquary, naturalist and poet. John Corrie senior, born at Coatstone in Glencairn, Dumfriesshire in 1856, took an early interest in antiquities and natural history and was a member of the 'Society of Enquiry' founded and run by Dr Grierson of Thornhill (Maxwell Wood 1921, 61; Truckell 1966, 65). He later became an active member of the Dumfriesshire and Galloway Natural History and Antiquarian Society and from 1887 when he joined, until 1908, he contributed thirteen papers, exhibited objects of interest and, on two occasions, helped to organise field meetings of society members to Glencairn. He remained a member of the society until his death, recorded in the Transactions for 1935-6. His interests ranged from archaeology to ornithology, botany, and folklore, all centred on Dumfriesshire, in particular the parish of Glencairn, and in 1910 he published a book, *Glencairn, Dumfriesshire. The annals of an Inland parish*, which he dedicated to 'The memory of my mother, who early instilled in me a love of Glencairn and all that concerns its history'.

John Corrie senior was also a poet, a talent which he passed on to his son, and manuscript copies of their poems survive (NMRS MS/374/12). Some of John Corrie's poems were published (Corrie, J. 1903a; 1903b; 1924; 1929) and were of sufficient local interest for an article on his life and work to appear in a series entitled 'Poets of the South' (Maxwell Wood 1921).

In 1911 he was elected a fellow of the Society of Antiquaries of Scotland and there published the results of an investigation into the cairn at Stroanfreggan, Kirkcudbrightshire, carried out in November 1910 (Corrie, J. 1911). This seems to have been his last antiquarian publication, and his son, who was elected a fellow of the Society of Antiquaries of Scotland in 1912, was to take up his example of putting the results of research into print.

John M. Corrie's first paper was published in 1909 in the Transactions of the Dumfriesshire and Galloway Natural History and Antiquarian Society (Corrie, J. M. 1909), two years after he had become a member. He had been exhibiting objects to

Fig. 1. John M. Corrie from a photograph in the possession of Miss P. Corrie

the Society from the time he joined, and in 1909 was made Curator of the Antiquities of the Society, a post which he held until 1911 when he moved from the district. His early work was centred on the history and archaeology of Dumfriesshire, an interest which he retained throughout his life, and he continued to publish papers on the antiquities of the South-west and to donate artefacts to the Society's collections until 1931.

Corrie's early archaeological career was as an amateur. In 1901, at the age of nineteen, he joined the Post Office, working first in Dumfries, moving to Newton St. Boswells, Roxburghshire in 1911, and, to Dalry, Ayrshire in 1922, where he was sub-postmaster until 1925. To alleviate what was perhaps unstimulating employment, he published papers on 'Andrew Wardrop, Chartist, Politician and Postman' (Corrie, J. M. 1910), and 'A History of the Dumfries Post Office 1642-1910' (Corrie, J. M. 1912). In the preface of the latter he wrote 'In the preparation of these pages the writer has found a pleasant relaxation from the severer duties of a subordinate position in the postal service'. In 1915 he published *The Droving Days in the South Western District of Scotland* (Corrie, J. M. 1915), which has the sad dedication 'to the memory of my son Jackie. 'Born 5th November 1908, Died 17th June 1912'.

It may have been his training in the Post Office that accounts for one of the most immediately noticeable features of his notebooks — his beautiful copperplate handwriting; even his pencil field-notes are neat and legible!

John M. Corrie's main archaeological interest was in portable antiquities rather than monuments. Between 1911 and 1925 his published archaeological papers concentrate on the description and analysis of a series of objects found in Roxburghshire and Berwickshire, and, from about 1914, he had been making a personal collection of artefacts. One of his notebooks (NMRS MS/374/3) contains a catalogue of the objects in which each item is described with its provenance, date and circumstances of discovery, and many are illustrated. The collection consisted of stone and flint artefacts many of which were discovered by Corrie during field-walking in Roxburghshire, Berwickshire and Wigtownshire, although some were presented to him and a few were purchased. His father's influence is again present when he records 'a spindle whorl found at Peelton, Glencairn, Dumfriesshire in 1892. My father returned it to my own keeping when I commenced to form a collection of my own'.

Private collections of antiquities were common at the time, when there were fewer public museums. Corrie believed that this stemmed from 'a public spirited desire to ensure their preservation' (Corrie, J. M. 1931b). Many of the items listed in his collection were discussed by Corrie in published articles (eg. Corrie, J. M. 1914; 1916; 1925), and wherever he worked throughout his life, he made a point of visiting and corresponding with collectors and persuaded many of them to donate their discoveries to museums or allow him to publish an account of them (eg. Corrie, J. M. 1926, 32-4; 1931b). His own collection appears to have been dispersed in 1924. Some items were deposited in the National Museum of Antiquities of Scotland, others in the collections of the Dumfriesshire and Galloway Society, and a pencil note in the back of Corrie's notebook records 'a good many of the items in this catalogue were disposed of to A. H. Bishop Esq., Glasgow'. The Bishop collection is now in the Hunterian Museum University of Glasgow.

Corrie's interest in artefacts had begun in Dumfriesshire and he was aware of many private collections including that of Dr Grierson of Thornhill. In 1914 he began to compile a notebook entitled 'Notes on the Portable Antiquities of Dumfriesshire: Compiled to assist me in a more exhaustive study of the subject and with the intention of being contributed to the Dumfriesshire and Galloway Natural History and Antiquarian Society in a revised form.' (NMRS MS/374/4). It must have been a considerable disappointment to Corrie when J. G. Callander, Director of the National Museum of Antiquities of Scotland, published a paper in the Transactions of the Society on 'Dumfriesshire in the Stone, Bronze and Early Iron Ages' (Callander 1924). Corrie read the paper and responded by sending his notes to Mr G. W. Shirley, secretary and editor of the Transactions, with a letter in which he states 'I have read Mr Callander's paper very carefully and with very much interest. My list of "portables" would have given him some additional records. I send vol. I herewith for your perusal... I hope the book sent will be helpful for your purpose but please make it clear to whoever may consult it that it is merely a rough jotting book with the records dashed off in a crude way just as I came across them. I hoped to revise the whole thing and put it into better form.' In fact the volume is neatly laid out

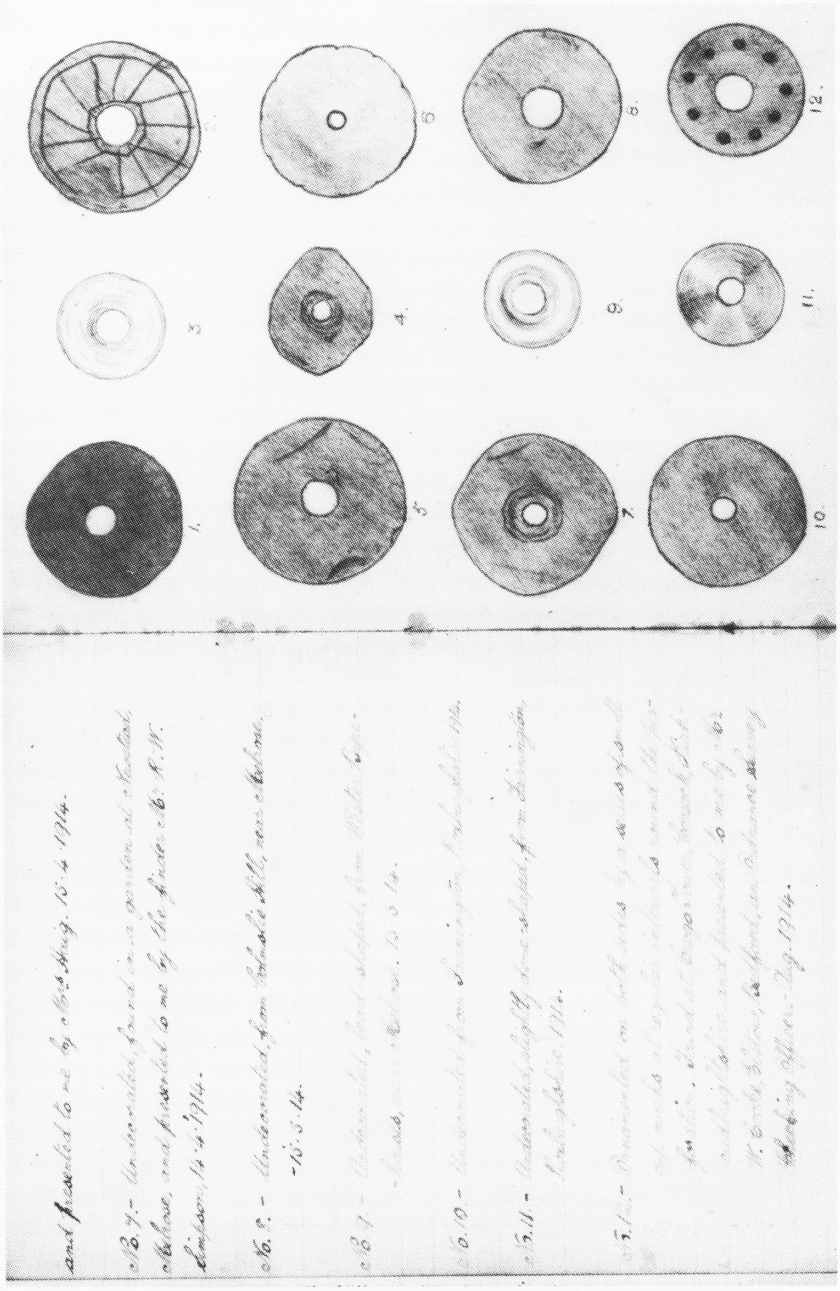

Fig. 2. Page of J. M. Corrie's Notebook in the possession of Miss P. Corrie.

and divided into its relevant sections with well-formulated introductions to each section. Callander saw the book before the final publication of his article and credits both Corrie and his father in a footnote for 'supplying me with information about discoveries of which I had no record'. Corrie now abandoned this enterprise on which he had been working over a period of ten years and turned his attention to a similar work on Kirkcudbrightshire, probably at the instigation of Mr Shirley. This took less time to compile and was presented to the Society on 18th November 1927 (Corrie, J. M. 1928b).

By the end of 1924, Corrie had published five archaeological papers with one forthcoming, had narrowly missed publishing a major summary of the antiquities of Dumfriesshire, had another major work underway and held a large personal collection of artefacts. All his work reflected his knowledge of prehistoric objects and he does not seem to have taken much interest in field monuments or excavation except as a background to the finds. It is strange, then, that in 1925 he was appointed as archaeologist to the Royal Commission on the Ancient and Historical Monuments of Scotland, a body which was primarily concerned with recording monuments. In retrospect, one suspects that his talents would have been put to better effect in a museum, but, at the time, the distinction between the analysis of finds and the survey of field monuments was less marked.

This is perhaps exemplified by previous officers of the Commission who may have been instrumental in the appointment of Corrie. A. O. Curle was the first secretary of the Commission, appointed in 1908, producing, more or less single-handed, the Inventories of Berwickshire, Sutherland and Caithness (RCAMS 1909; 1911). He resigned in 1913 to become a Commissioner and Director of the National Museum of Antiquities of Scotland. His attitude to the importance of artefacts is summed up by Angus Graham (Graham 1981, 216) when he says of Curle 'excavation, as he saw it in those days, was largely a matter of securing a body of relics as examples of typology and dating; and studies of this kind he was admirably fitted to carry out, as he possessed what may be called a museum mind, trained and sharpened in an earlier phase of his career by contact with Joseph Anderson.'

Callander had also been a member of the Commission's staff as archaeologist from 1913 until 1919 when he was appointed successor to Curle as Director of the National Museum of Antiquities of Scotland. His work also reflects the emphasis placed on the examination and recovery of artefacts in archaeological research.

Corrie knew both these men and perhaps hoped that he, like them, might use the Commission as a stepping stone to the National Museum. Both Curle and Callander may have been aware of Corrie and his father from the time of the Galloway Inventory (RCAMS 1912; 1914), and Callander certainly knew of Corrie's work from the time of his lecture to the Dumfriesshire and Galloway Society in 1924. Corrie was also probably known to James Curle, a Commissioner, and to Sir Herbert Maxwell of Monreith, Chairman of the Commissioners and a native of Wigtownshire, both of whom were members of the Dumfriesshire and Galloway Society. As an active fellow of the Society of Antiquaries of Scotland, Corrie would also have been a well-known figure to the archaeological world of the time.

The post of archaeologist had remained vacant since the Commission, disbanded during the First World War, had resumed its work in 1919. After repeated representations to the Treasury, finances were allocated to reinstate the post, although at a much lower salary than the Commissioners had wished for a position which 'besides requiring special training . . . requires a special gift'.

John M. Corrie was appointed to the post and began work on 1st April 1925. All the field-notes from his work in the Commission are preserved in the National Monuments Record of Scotland (NMRS MS/36). The Secretary of the Commission was Dr W. Mackay Mackenzie and Corrie's other colleagues were Mr G. P. H. Watson, the architect, C. S. T. Calder, junior architect and Miss Maclaren, shorthand-typist.

On the 22nd April 1925, he began working on the fieldwork for the Inventory of Fife, Kinross and Clackmannan (RCAMS 1933) with Calder and Watson. Most of his fieldwork early in 1925 was assisting Calder to record architectural monuments and make plans of various sites, but he soon started visiting sites on his own and by the end of the 1925 field-season had recorded over 150 monuments in Fife. While visiting the East Lomond Fort during the course of his work, he came across a Pictish symbol stone in the possession of a local resident and persuaded him to donate it to the National Museum (Corrie, J. M. 1926, 32-4). It may have been at this time that he began to compile notes on the representations of fish in Pictish and early Christian sculpture (NMRS MS/374/7) which never appears to have been published.

When Corrie joined the Commission, the Inventory of Midlothian and West Lothian (RCAMS 1929) was in preparation and the fieldwork for Midlothian had been completed. In 1926, Corrie finished the fieldwork for West Lothian. Amongst his papers is a notebook in which he records that he became interested in the medieval cist found at Patieshill, Midlothian in 1801, while collecting information for the Inventory. He prepared an undated paper entitled 'Some unusual urn-types from Scottish Mediaeval and Prehistoric Burial Deposits' (NMRS MS/374/6) which, though complete, was also apparently never published.

1927 saw the fieldwork for the Counties of Clackmannan and Kinross completed.

By the summer of 1928, Corrie was in Orkney to begin the fieldwork for the Inventory of Orkney and Shetland (RCAMS 1946) where his main contribution as a professional archaeologist was to be. His first field-season lasted from 2nd June to 18th September 1928, a continuous stretch of three and a half months. A further season of two months in 1929, followed by two weeks in 1930, completed his field-notes for Orkney. The weather seems to have been consistently poor, and he makes frequent complaints in his notes: '29/6/28. Caught in a deluge of cold driving rain while taking . . . notes and returned to Hotel to change. The afternoon has set in very wet; Friday 29th June 1928. Another wretched morning with cold driving rain. Unless it clears and wind subsides impossible to get out. Slightly better after lunch so have decided to risk it and get something done at North end of Island'. A week of this, followed by a fine Sunday proved too much: 'Sunday 1st July 1928. A really fine morning and very anxious to go out but have been advised otherwise. The inhabitants I am told are very religious and resent Sunday working. . . . Have therefore decided to explore the area after lunch without making any apparent show of working.'

Although he occasionally hired a car to get around the Mainland, many of the sites were visited by bicycle which could be easily transported to the islands, although this had its own problems: 'Tuesday 17th July 1928. Again wet, though not continuously. But stayed in to attend to last week's mail and give Cycle a thorough cleaning. It was greatly in need of it after Saturday's rough passage from Papa and lying neglected since. Visited library in evening to take a few notes.'

Corrie seems to have carried out most of the work alone visiting local museums and libraries, contacting local people to find previously unknown sites and, characteristically, making notes on all finds held in private hands. '5.9.29 Mr J. Spence, Overabist, has a small collection of antiquities from his farm including several arrowheads, whorls and a fine whetstone.' His working practice is illustrated by the entries in his notebook for August 1928: 'Monday 13th August 1928. Again visited Skaill Bay this forenoon with Professor Childe to see the further excavations carried out at that important site [Skara Brae]. Later in afternoon cycled from Stenness to Finstown to commence work on that area, calling on the way to inquire about some finds that had been reported from Lochside, Harry. Saw some fine photographs supplied by Mr Kent, Photographer, Kirkwall of the cists discovered on this farm in the spring of this year. On arrival at Finstown in afternoon spent the rest of the day in consultation with Mr Alfred Wood, P. O. Finstown regard[ing] sites that are not recorded on map. Tuesday 14th August 1928. Set out on foot to explore the Hill of Heddle thoroughly'. He also looked for sites by walking likely areas, for example when on Eday he records: '3.9.28 Searched the southern end of the island generally for unnoted items and later, according to arrangement, visited Mr Nevison U.F. [United Free] Minister and discussed the parish list. He was unable to give any additions.'

Sites are frequently referred to as 'items' in his notes and his method of recording them was very similar to that which he had previously adopted for describing artefacts. Each site was visited in turn and a detailed report was made with measurements and occasionally, sketch plans; those which required a more detailed survey were noted. Where possible existing plans were to be used to illustrate the published description but many sites were planned by the Commission, Corrie returning to assist Calder with the surveys done prior to 1932.

Calder and Watson were also working on Orkney, mostly from 1929, and joint visits sometimes took place. Two of the Commissioners, A. O. Curle and Sir George Macdonald also took an active part in the fieldwork: 'Sunday 22nd July 1928. Visited standing stones of Stenness and Ring of Brodgar with Mr Curle and Professor Childe, later going to Maeshowe and walking over hill range in front of Stenness hotel'. While working near Finstown he records: '16.8.28 On returning to Hotel for lunch I phoned Sir Geo. Macdonald at Stromness Hotel in reply to a card received from him by morning post. It was then arranged that I should cycle across to Stromness in the afternoon to report progress to him and have a talk about the survey generally'.

In July 1930, Corrie moved on to Shetland, spending two and a half months there in that year and a further two months in 1931. Fieldwork here was also dogged by poor weather and the inaccessibility of some of the islands made work difficult at times: 'Monday 28th July 1930. After much difficulty about getting to the island of

Foula arranged with a local fisherman to start early today for a visit to Foula in the hope of completing the island at one visit. Fortunately the morning was favourable and start was made at 4am and Foula reached about 8am. Here the assistance of Thomas Isbister, Cathechist, Leirabeck was obtained as guide to the various points of interest.'

Corrie's fieldwork was finished in 1931 and he began writing up his notes for publication, continuing to amass information and check points of detail by letter with local correspondents. A. O. Curle was directing the excavations at Jarlshof during the period 1931-1935 and visited some of the Shetland sites at that time; Calder continued with the site surveys on both Orkney and Shetland, and later carried out some excavations, and Sir George Macdonald visited the Islands again in the summers of 1932, 1933 and 1935 to re-examine some of the more important sites, but Corrie never seems to have visited the Islands again.

During his work, Corrie had carried out two excavations, both salvage exercises on cists, done through necessity rather than by design (Corrie, J. M. 1929b; 1932, 69-75), and had published two papers on objects from Orkney and Shetland (Corrie, J. M. 1931a; 1932, 75-85). However, it was Shetland that really seemed to capture his interest and the Shetlanders who took him to their hearts. He made many friends and contacts there, as his correspondence indicates.

In 1931, he was invited to contribute a paper to a proposed publication *The Shetland Book*, to be modelled on the style of *The Orkney Book* (Gunn 1909), and designed 'to fulfil the functions both of a school text-book and of a book for adults, dealing authoritatively, though not exhaustively, with all the main aspects of the Shetland Islands' (Manson 1932-6, 5). This publication did not materialise but Corrie's paper was published posthumously in the *Shetland Folk Book* (Corrie, J. M. 1951). In the foreword the editor, E. S. Reid Tait, says 'Needless to say we are fortunate to have this authoritative account from one whose knowledge of the subject was unquestioned and whose early death deprived us of one who, had he lived, would undoubtedly have added considerably to our store of information on Shetland Archaeology'. This is the only archaeological obituary Corrie ever received and it is fitting that it was in Shetland that he was remembered.

Corrie also contributed archaeological notes to *Manson's Guide to Shetland*, first published in 1932 and revised annually until 1936. In the preface to the last edition the editor states 'special attention may be called to the personal revision every year since 1932, by Mr J. M. Corrie, FSA Scot, of his notes on Archaeology, which call for more frequent revision than any of the other special articles on account of the considerable archaeological activity going on in Shetland at the present time'.

In 1934, Corrie was invited to speak to the Edinburgh and District Shetland Association. The text of the lecture, which was illustrated with lantern slides, is preserved in one of his notebooks (NMRS MS/374/8) and the lecture was published in full in *The Shetland News* (Corrie, J. M. 1934). It was a great success and he received many letters of congratulation.

Although the Commission was still working in Orkney and Shetland, Corrie's field involvement was no longer required and he was sent to Roxburghshire where he spent two full field seasons in 1932 and 1933. The contrast between the Border country and the Northern Isles was considerable and Corrie's style of recording changes, the comments in his notebooks disappear and there are fewer enthusiastic

adjectives for the monuments. It was clear to him that many of the sites would require detailed plans and many were far too large to cope with single-handed. He was never to see the fieldwork completed, far less the published Inventory (RCAMS 1956). Sadly, he did not see the Orkney and Shetland Inventory published either, and his last few years with the Commission were far from happy.

In 1933 the Inventory of Fife, Kinross and Clackmannan was published; a year later, Sir Herbert Maxwell retired and Sir George Macdonald became Chairman of the Commissioners. He was to begin the change in the Commission's approach to fieldwork and Inventories but in so doing seems to have alienated the staff to such a degree that in 1933 the Secretary, Mackay Mackenzie, retired early, and it was intimated that the situation in the Commission was also affecting Corrie. In Sir George's obituary James Curle records 'the services that he rendered to the Commission were of great value. He had an unrivalled knowledge of the ways of Government Departments and, what was still more important, he possessed the confidence of those in office. He threw himself heartily into the work of the Commission, writing and revising its reports, and watching its surveys in progress' (Curle 1940, 131).

Angus Graham records that 'Mackay Mackenzie held that the reports of the outdoor staff should be printed more or less as they stood without editorial polishing or shaking together' (Graham 1981, 214). Whether this is strictly true is uncertain for few, if any, of Corrie's articles in the Fife Inventory are unrevised versions from his field-notebook, although it is likely that each field record was edited for publication by Corrie himself. Whatever the previous situation, the personal involvement of Sir George Macdonald in the Commission's work shook the old regime. 'Sir George plunged head-over-heels into the improvement of the Commission's Inventories' — taking advantage of the recently appointed Secretary, Angus Graham, who submitted to this new editorial policy — 'He read and amended all the typescript of Orkney and Shetland' (Graham 1981, 215).

While some of Sir George's colleagues recognised what he was trying to achieve, those at the receiving end of his 'new broom' approach, such as Corrie, must have found his actions overbearing. Nevertheless, many of Corrie's field reports lose little in their edited version, although some were rewritten in the light of later detailed planning or excavation and some were radically cut. In the latter category are the records of dykes which were omitted entirely, apart from an explanatory note in the introduction (RCAMS 1946, 57) but which have come to archaeological attention in more recent years (Lamb 1983).

Another group of monuments, little understood at the time, which were recorded but frequently reduced to one line entries in the published volume, are the burnt mounds; it is ironic that Corrie's field-notes for these are now of more significance than the published entries. In spite of the directing hand of Sir George, which may be detected throughout the publication, there is no doubt that Corrie's painstaking groundwork forms the basis of the archaeological content of the Inventory.

From 1934 Corrie's health began to fail. He developed tuberculosis which, although treated, recurred two years later. He spent 3 months in hospital in 1936 but later became severely depressed, and in June 1937 was again admitted to hospital where Addison's disease was diagnosed. While there he requested the proofs of the

Orkney and Shetland Inventory which the Secretary sent with some comments for his attention but on the understanding that he should not allow them to worry or inconvenience him. It was expected that he would only remain in hospital for three months but he was not discharged until January 1938. Even then his condition did not improve and he was readmitted in April. He resigned from the Commission in May and died not long afterwards at the age of 56.

The Orkney and Shetland Inventory, although printed in 1939, was not published until 1946, delayed by the Second World War. In a review Marwick states 'it may be described at the outset as in itself a monumental work, and when one recalls the insular and inaccessible nature of the area surveyed, the difficulties and delays of transport and the vicissitudes of the northern weather, it is impossible to praise too highly the work of the Commission's officers who have been able to produce such a magnificent record of what they have seen, measured and photographed. The standard of their work as revealed in the Inventory proper is worthy of all praise, and one can but express regret that in a communal work of this nature it is evidently impracticable to ascribe credit to those to whom credit is primarily due' (Marwick 1947).

There is no obituary for Corrie in either the Proceedings of the Society of Antiquaries of Scotland or in the Transactions of the Dumfriesshire Natural History and Antiquarian Society, but the Inventory of Orkney and Shetland stands as a fitting epitaph.

Acknowledgements

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MANUSCRIPTS OF J. M. CORRIE

While we were carrying out some research on Orkney, the work of J. M. Corrie came to the attention of my colleague Dr Graham Ritchie and myself, and we determined to discover more about him. By a strange set of coincidences we made contact with Miss Pamela Corrie, John Corrie's granddaughter, who lives in Dumfries. Although she never knew her grandfather, Miss Corrie was aware of his work, and we were delighted to learn that manuscript notebooks survived. Miss Corrie very kindly made these available to us for copying. The copies may be consulted in the National Monuments Record of Scotland where a full catalogue is available, a summary of which is reproduced here.

MS/374/1 Bound volume *Archaeological Papers 1912-34* by J. M. Corrie F.S.A. Scot.
MS/374/2 'Mock-up' of bound volume of *Archaeological Papers 1912-34* by J. M. Corrie F.S.A. Scot.
MS/374/3 Notebook. *Catalogue of the collection of Scottish Antiquities and Prehistoric Relics.* A catalogue of Corrie's personal collection of artefacts.
MS/374/4 Notebook. *Notes on the Portable Antiquities of Dumfriesshire.* Notes for an unpublished paper.
MS/374/5 Notebook. *Kirkcudbrightshire in the Stone, Bronze and Early Iron Ages.* Text and notes of a published paper (Corrie, J. M. 1928b).
MS/374/6 Notebook. *Some Unusual Urn-types from Scottish Mediaeval and Prehistoric Burial Deposits.* Text of an unpublished paper.
Celtic Art as represented on Relics found in Dumfriesshire and Galloway. Notes from published sources.
MS/374/7 Notebook containing notes from published sources on representations of fish in Pictish and Early Christian art.
MS/374/8 Notebook. *The Shetland Islands, Antiquarian Gleanings and Reminiscences.* Text of a lecture given to the Edinburgh and District Shetland Association on 13th February 1934 and published in *The Shetland News* (Corrie, J. M. 1934).
MS/374/9 Notebook containing notes from published sources relating to brochs and to Shetland.
MS/374/10 Notebook containing notes relating to the history and customs of S.W. Scotland.
MS/374/11 Notebook containing notes from published sources on miscellaneous topics.
MS/374/12 Collection of poems by J. Corrie and J. M. Corrie.

The other manuscripts referred to in the text are held in the archives of the National Monuments Record of Scotland.

MS/36 Field Notebooks relating to work carried out by R.C.A.M.S.

Correspondence: Letters relating to work carried out by R.C.A.M.S. are held in correspondence files by County.

PUBLICATIONS BY JOHN CORRIE 1856-1935

Corrie, J. 1890a 'A Bronze Ewer found near Moniaive', *TDGNHAS,* 2nd series, vi (1887-90), 51-2.
Corrie, J. 1890b 'An Ornithological list for the Parish of Glencairn', *TDGNHAS,* 2nd series, vi (1887-90), 68-76.
Corrie, J. 1890c 'Notes on Birds', *TDGNHAS,* 2nd series, vi (1887-90), 215-216.
Corrie, J. 1891 'Folk Lore of Glencairn', *TDGNHAS,* 2nd series, vii (1890-1), 37-45 and 75-83.
Corrie, J. 1892a 'Leach's Petrel (Procellaria Leachii)', *TDGNHAS,* 2nd series, viii (1891-2), 27.
Corrie, J. 1892b 'Folk Riddles', *TDGNHAS,* 2nd series, viii (1891-2), 81.
Corrie, J. 1894 'A Note on Birds', *TDGNHAS,* 2nd series, x (1893-4), 55-6.
Corrie, J. 1896 'Rare plants of N.W. Dumfries', *TDGNHAS,* 2nd series, xii (1895-6), 148-54.
Corrie, J. 1897 'Glencairn Folk Riddles', *TDGNHAS,* 2nd series, xiii (1896-7), 115-122.
Corrie, J. 1900 'On the Nesting of the Nightjar in Glencairn', *TDGNHAS,* 2nd series, xvi (1899-1900), 26.
Corrie, J. 1903a 'The Deil's Stane', *The Gallovidian,* No. 17, v, 32.
Corrie, J. 1903b 'At the Grave of Joseph Thomson', *The Gallovidian,* No. 18, v, 95.
Corrie, J. 1905a 'Phenological Observations taken at Moniaive during 1901', *TDGNHAS,* 2nd series, xvii (1900-5), 164-5.
Corrie, J. 1905b 'The Loch Urr Crannog', *TDGNHAS,* 2nd series, xvii (1900-5), 242-6.
Corrie, J. 1908 'Cup and Ring-markings in West Kilbride', *TDGNHAS,* 2nd series, xx (1907-8), 30.
Corrie, J. 1910 *Glencairn, Dumfriesshire. The Annals of an Inland Parish,* Dumfries.
Corrie, J. 1911 'Notice of the discovery of a Stone-Age cist in a large cairn at Stroanfreggan, Parish of Dalry, Kirkcudbrightshire', *PSAS,* xlv (1910-11), 428-36.
Corrie, J. 1924 'February Fill-dyke', *The Gallovidian Annual,* (1924), 19.
Corrie, J. 1929 'The song and story of "Bonnie Annie Laurie"', *The Gallovidian Annual,* (1929), 39-40.

NOTICES, EXHIBITS AND DONATIONS

TDGNHAS, 2nd series, vi (1887-90), 274-5: John Corrie guided a party of society members round Glencairn during a field meeting on 2nd August 1890.

TDGNHAS, 2nd series, xvii (1900-5), 441: John Corrie guided a party of Society members during a field meeting at Moniaive on 9th September 1905.

TDGNHAS, 2nd series, xx (1907-8), 210: John Corrie exhibited a 'stone hammer found near Auchenstroan, Glencairn, 24th May 1907 by, and the property of Mr Hyslop; curious old knife found near Lorg, Dalry, the property of Mr Thomas Kerr, Holmhead'.

PSAS, lix (1924-5), 234: John Corrie donated 'a flat bronze axe from Brockhillstone, Dunscore, Dumfriesshire' to the NMAS.

TDGNHAS 3rd series, xx (1935-6), 10: Notice of death.

PSAS, lxxiii (1935-6), 3: Notice of death.

PUBLICATIONS BY JOHN M. CORRIE, 1882-1938

Corrie, J. M. 1909 'The Cup-markings at Stone Circle on Hills Farm, Lochrutten', *TDGNHAS,* 2nd series, xxi (1908-9), 42-3.

Corrie, J. M. 1910 'Andrew Wardrop, Chartist, politician, and postman', *The Gallovidian,* No. 47, xii, 120-2.

Corrie, J. M. 1912a 'The Dumfries Post Office, 1642-1910. A record of progress and development', *TDGNHAS,* 2nd series, xxiv (1911-12), 38-118. (Also published as a monograph).

Corrie, J. M. 1912b 'Notice of two early Christian Monuments from the Parish of Dalry, Kirkcudbrightshire', *PSAS,* xiv (1911-12), 158-163.

Corrie, J. M. 1914 'Notes on a Collection of Polishers and other objects found on the site of the Roman fort at Newstead, Melrose', *PSAS,* xlviii (1913-14), 338-43.

Corrie, J. M. 1915 *The Droving Days in the South Western District of Scotland,* Dumfries. (Also published in instalments in *The Gallovidian* Nos. 59-65, xv-xvii (1912-14)).

Corrie, J. M. 1916 'Notes on some Stone and Flint Implements found near Dryburgh, in the Parish of Mertoun, Berwickshire', *PSAS,* 1 (1915-16), 307-13.

Corrie, J. M. 1920 'Pigmy Flint Implements found in Roxburghshire and Berwickshire', *Transactions of the Hawick Archaeological Society,* (1920), 13-16.

Corrie, J. M. 1925 'Notes on a Group of Chipped Stone Implements from Roxburghshire and Berwickshire', *PSAS,* lix (1924-5), 29-33.

Corrie, J. M. 1926 'Notices of (1) Certain Bronze Implements from Dumfriesshire; and (2) A Symbol Stone from East Lomond Hill, Fife', *PSAS,* lx (1925-6), 27-34.

Corrie, J. M. 1928a 'Notices of (1) A Bronze Rapier-like Blade found in the Parish of Tynron, Dumfriesshire, with Notes on a hoard of Bronze Rapier Blades from Kirkcudbrightshire; and (2) A small perforated hammer recently discovered in the Parish of Dunscore, Dumfriesshire', *TDGNHAS,* 3rd series, xiv (1926-8), 49-56.

Corrie, J. M. 1928b 'Kirkcudbrightshire in the Stone, Bronze and Early Iron Ages', *TDGNHAS,* 3rd series, xiv (1926-8), 272-99.

Corrie, J. M. 1928c 'Notes on Scottish Bronze Rapiers, on an Incense Cup from Kirkcudbrightshire, and a Bronze Chisel from Dumfriesshire', *PSAS,* lxii (1927-8), 138-152.

Corrie, J. M. 1929a 'Two interesting Bronze Age Relics from Southern Scotland. i An "incense cup" from Cairngill, Kirkcudbrightshire. ii A Bronze Chisel from Kirkconnel, Dumfriesshire, *TDGNHAS,* 3rd series, xv (1928-9), 50-7.

Corrie, J. M. 1929b 'A short Cist at West Puldrite in the Parish of Evie and Rendall, Orkney', *PSAS,* lxiii (1928-9), 190-5.

Corrie, J. M. 1931a 'Interesting Steatite vessels found in Orkney', *Proceedings of the Orkney Antiquarian Society,* ix (1930-1), 47-8.

Corrie, J. M. 1931b 'Notes on a Small Collection of Antiquities at Broughton House, Kirkcudbright', *TDGNHAS,* 3rd series, xvii (1930-1), 94-100.

Corrie, J. M. 1932 'Notes on (1) A Two-storeyed Grave at Little Asta, Shetland; (2) Certain Prehistoric Relics from Shetland; and (3) A Viking Brooch of Silver from Skaill Bay, Orkney', *PSAS,* lxvi (1931-2), 69-85.

Corrie, J. M. 1932-36 'Archaeological Notes' in Manson, T. M. Y. *Manson's Guide to Shetland,* Lerwick 1932. Revised editions 1933, 1934, 1935 and 1936.

Corrie, J. M. 1934 'The Shetland Islands: Antiquarian Gleanings and Reminiscences — A lecture to the Edinburgh and District Association, 13 February 1934', *The Shetland News,* Lerwick.
Corrie, J. M. 1951 'Prehistoric Shetland', *Shetland Folk Book,* 2(1951), 43-51.

NOTICES, EXHIBITS AND DONATIONS

TDGNHAS, 2nd series, xix (1906-7), 206: John M. Corrie exhibited a 'Sword blade of rapier-like form of Andrea Ferrara'.
TDGNHAS, 2nd series, xx (1907-8), 211: John M. Corrie exhibited a 'Stone axe'.
TDGNHAS, 2nd series, xxi (1908-9), 233: John M. Corrie exhibited a 'bronze ewer found in an old quarry at Cannell, St. Mary's Isle, Kirkcudbright and Stone hammer'.
TDGNHAS, 2nd series, xxii (1909-10), 235: John M. Corrie exhibited a 'stone sinker (or possibly charm stone), found in bed of Nith near the Caul in the possession of Mr Rae, Queen St'.
TDGNHAS, 2nd series, xxiii (1910-11), 195: 'Council agreed to thank Mr John M. Corrie for his services as Curator of the Antiquities, which office he had now resigned on his removal to Newton St. Boswells'.
TDGNHAS, 3rd series, iii (1912-15), 357: John M. Corrie presented a 'specimen of vitrified rock from Stroanfreggan Fort, Dalry' to the Society.
TDGNHAS, 3rd series, xii (1924-5), 263: John M. Corrie presented 'flint cores, scrapers and flakes with fragments of urns collected at Torrs Warren, Dunragit' to the Society.
PSAS, lix (1924-5), 74: John M. Corrie donated 'Six pigmy flints from Dryburgh, Berwickshire' to the NMAS.
PSAS, lix (1924-5), 234: John M. Corrie donated 'rim and wall fragments of two vessels of hand-made pottery from Glenluce Sands, Wigtownshire' to the NMAS.
TDGNHAS, 3rd series, xiii (1925-6), 9: 'The president' congratulated Mr J. M. Corrie upon his appointment as Archaeologist to the Scottish Commission on Ancient and Historical Monuments'.
PSAS, lx (1925-6), 13: John M. Corrie donated a 'stone whorl from E. Lomond Hill, Fife' to the NMAS.
PSAS, lx (1925-6), 97: John M. Corrie donated a 'Crossraguel penny from Glenluce Sands, Wigtownshire' to the NMAS.
PSAS, lx (1925-6), 216: John M. Corrie donated 'four pigmy flints from Dryburgh, Berwickshire' to the NMAS
TDGNHAS, 3rd series, xiv (1926-8), 374: John M. Corrie presented 'an anvil-stone found at Mid-Torrs, Glenluce 26.8.25' to the Society.
PSAS, lxi (1926-7), 12: John M. Corrie donated 'two hammer stones of white quartz with other flakes and chips found at Torrs, Glenluce Sands; half a perforated stone found on the fort at Greencraig, Creich, Fife' to the NMAS.
PSAS, lxii (1927-8), 11: John M. Corrie donated an iron fork with two prongs and a bone handle from Anstruther, Fife; a pewter egg-cup to the NMAS.
PSAS, lxiii (1928-9), 17: John M. Corrie donated a 'rude club-like implement' of stone found at the Broch of Redland, Orkney; a whetstone from Tingwall, Evie, Orkney; a hammer stone from the Broch of Burrian, Orkney; a scraper from the kitchen midden at Knap of Howar, Papa Westray; clay luting from a cist at West Puldrite, Rendall, Orkney, to the NMAS.
PSAS, lxiv (1929-30), 214: John M. Corrie donated a vessel of red pottery from the chambered mound at Kirbister, Orkney to the NMAS.
PSAS, lxv (1930-1), 10: John M. Corrie donated a quartz pebble polisher found on the site of a new school at Inveresk, Midlothian; fragments of a pottery vessel with crushed steatite from a burnt mound at Beosetter, Bressay, Shetland to the NMAS.
PSAS, lxvi (1931-2), 13-14: John M. Corrie and A. O. Curle donated two hollow beads of black glass from the fort at East Lomond, Fife. John M. Corrie donated iron slag and a sandstone mould found on East Lomond Hill; A stone polisher found near Asta Quarry, Tingwall, Shetland; A Whetstone from Sandwick Bay, Unst, Shetland; Pottery, an iron pot fragment and a stone disc from Breckan Sands, North Yell, Shetland to the NMAS.
PSAS, lxviii (1933-4), 15: John M. Corrie donated two stone implements from Ungistae, Unst, Shetland, to the NMAS.

PSAS, lxx (1935-6), 21: John M. Corrie donated a Whetstone from Newstead Roman Fort; three burnishers from a) Newstead, b) Dryburgh Mains, c) Ancrum Mains, Roxburghshire; a flint borer from Fairnington, Kelso; Flint scrapers from Crichton, Midlothian, and Walkerstone, Gorebridge, Midlothian; Five flint flakes from Whitrighill, Berwickshire, Fairnington, Roxburghshire, Dryburgh Mains, Orchard Field, Berwickshire; Fragment of jet ring from Ardeer Sands, Ayrshire; Knee fibula of bronze from Newstead Roman Fort to the NMAS.

PSAS, lxxi (1936-7), 16: John M. Corrie donated a hussif, or bag worn under a woman's skirt to hold odds and ends, from Moniaive, Dumfriesshire, to the NMAS.

PSAS, lxxii (1937-8), 8: John M. Corrie donated a piece of cramp from Papa Stour, Shetland to the NMAS.

PSAS, lxxiii (1938-9), 2: Notice of death.

OTHER REFERENCES AND ABBREVIATIONS

Callander, J. G. 1924 'Dumfriesshire in the Stone, Bronze and Early Iron Ages', *TDGNHAS,* 3rd series, xi (1923-4), 97-119.

Curle, J. 1940 'Sir George Macdonald, K.C.B.: 1862-1940. A Memoir', *PSAS* lxxiv (1939-40), 123-32.

Cluness, A. T. (ed.) 1967 *The Shetland Book,* Lerwick.

Graham, A. 1981 'In Piam Veterum Memoriam', in Bell, A. S. (ed.) *The Scottish Antiquarian Tradition,* Edinburgh.

Gunn, J. 1909 *The Orkney Book,* London.

Lamb, R. G. 1983 'The Orkney Trebs', in Chapman, J. C. and Mytum, H. C. (eds.) *Settlement in North Britain 1000 B.C.-A.D. 1000,* British Archaeological Reports, no. 118, 175-84.

Manson, T. M. Y. 1932-6 *Manson's Guide to Shetland,* Lerwick 1932. Revised editions 1933, 1934, 1935 and 1936.

Marwick, H. 1947 'Review. The Ancient Monuments of Orkney and Shetland', *The Scottish Historical Review,* xxvi, (1947), 100-101.

Maxwell Wood, J. 1921 'Poets of the South, John Corrie, Moniaive', *The Gallovidian Annual,* (1921), 61-4.

NMAS National Museum of Antiquities of Scotland, Queen Street, Edinburgh.

PSAS Proceedings of the Society of Antiquaries of Scotland.

Reid Tait, E. S. (ed.) 1951 *Shetland Folk Book,* 2 (1951).

RCAMS The Royal Commission on the Ancient and Historical Monuments of Scotland, 54 Melville Street, Edinburgh.

RCAMS 1909 *First Report and Inventory of the Ancient and Historical Monuments and Constructions in the County of Berwick,* Edinburgh.

RCAMS 1911 *Second Report and Inventory of Monuments and Constructions in the County of Sutherland,* Edinburgh.

RCAMS 1911 *Third Report and Inventory of Monuments and Constructions in the County of Caithness,* Edinburgh.

RCAMS 1912 *Fourth Report and Inventory of Monuments and Constructions in Galloway, Vol. I, County of Wigtown,* Edinburgh.

RCAMS 1914 *Fifth Report and Inventory of Monuments and Constructions in Galloway, Vol. II, County of the Stewartry of Kirkcudbright,* Edinburgh.

RCAMS 1929 *Tenth Report with Inventory of Monuments and Constructions in the Counties of Midlothian and West Lothian,* Edinburgh.

RCAMS 1933 *Eleventh Report with Inventory of Monuments and Constructions in the Counties of Fife, Kinross, and Clackmannan,* Edinburgh.

RCAMS 1946 *Twelfth Report with an Inventory of the Ancient Monuments of Orkney and Shetland,* three volumes, Edinburgh.

RCAMS 1956 *An Inventory of the Ancient and Historical Monuments of Roxburghshire with the Fourteenth Report of the Commission,* two volumes, Edinburgh.

TDGNHAS Transactions of the Dumfriesshire and Galloway Natural History and Antiquarian Society.

Truckell, A. E. 1966 'The Grierson Collection, Thornhill, and its Dispersal', *TDGNHAS,* 3rd series, xliii (1966), 65-72.

ADDENDA ANTIQUARIA

PROVOST GRAHAM OF LOCHMABEN

by
James D. P. Graham,
24 Broad St., Hay on Wye

Lochmaben was made a Royal Burgh by charter of James VI dated the 16th of July 1612. The Minutes of Council are complete with the exception of a seven year gap centred around the Jacobite Rising of 1745. The first 130 years list 28 provosts; on 22 occasions they are Johnstones, the dominant family in Annandale. The mean duration of office was 4.6 years but as only 16 people shared it, they enjoyed 8 years on average. After 1750 the provosts were plebean, not that the local folks sought to democratize the election or refrained from partisan politics. Until the abolition of the Council in 1976 there are recorded 47 provostships, a mean of 4.8 years, shared between 32 persons. Some served repeatedly, others for a prolonged period, tc average 7 years. Of these worthies four were Grahams.

In 1766 William Graham (1745-1823) of Broomhill, a farm to the northeast of the Burgh, was elected Councillor at the age of 21. On several occasions he was Dean of Guild, or second Baillie. He had his son in support as a Councillor from 1797 to 1804, but never attained the provostship. During his time on Council the finances of the Burgh were in decline. In 1806 he failed to attend the annual electoral meeting and was replaced. He objected in a spirited letter but was over ruled and resigned in a huff. His son had been turned out the year previously. In 1732 the 'stint roll' for Burgh property listed 47 items of an annual value of £1498; but by 1777 only 11 lots, and the Burgh owed £200 as its share of the cost of the highway from Dumfries to Moffat. By the end of the century Council had borrowed £100 from Jardine of Priesthead, one of its own properties, with which to stall off Johnstone, an Edinburgh writer who administered its loans. They then borrowed from the Councillors, including William Graham, who refrained from minuting the sum owed him.

The first Graham to be elected Provost was John (1759-1832) of Braegate, now Bruce St., where he resided with his spouse Elizabeth Jardine (1759-1843). His means of livelihood is not recorded. His name first appears in 1790 on the margin of the minuted account given by Provost Maxwell of the schism in Council which led to the kidnapping of John Walls, a member of the opposition (Wilson 1974). This same year John was elected Councillor. There were now three Grahams on Council and John advanced rapidly. He was second Baillie at the age of 38, and Provost 1800-1804. The financial affairs of the Burgh were worsening and Council 'resolved to sell the land of Priesthead' — for £1400 with 20/- per annum feu duty, but no purchaser came forward.

John Graham was not fortunate in his family. His first son William (1793-1809) is remembered on a headstone in the Old Churchyard, with the Provost, his wife and unmarried daughters. Fortunately they had a second son Mathew (1801-1830) who lived at Priesthead, the unrealised Burgh asset. He had two sons, one of whom died young, but the other may have survived. Meanwhile the Provost and his wife had another son William (1809-1833). There is no record of continuance of this line.

William Graham (1792-1878) was elected Councillor in 1843 and kept his seat for a decade, during which time he rose to be Dean of Guild, Senior Baillie and Provost in 1854. This place he retained until 1867 except for the traumatic year of 1862 when he was deposed and 'purged' from Council altogether. At the next election he was returned and restored to the provostship all in one day. As an elder he must have been deeply exercised by the Great Schism of 1843, but neither he nor the incumbent, Thomas Marjoriebanks, seceded. By 1855 the annual income of the Burgh was £25.2.7, nevertheless the Council appointed a Registrar of Births and Deaths in 1856, and a Procurator Fiscal. It seems characteristic of what the family canon remembers of him that the minutes record a solemn debate on the size of the contribution to be made to the memorial fund to the late Prince Consort, 'neither too much nor too little, but decent'.

Born, probably in late 1792, at Marjoriebanks near to his putative father in Broomhill, and baptised as 'natural son' of Isabella Davidson, he was reared in a cottage in East St., Lochmaben, now Queen St. On his death certificate his father's name is given as William Graham. He married Jean Melville (1790-1878) of Markinch in Fife and they had five of a family, the elder son Thomas being killed accidentally in Birkenhead, and the younger son John remaining in Lochmaben. William was a 'poor scholar' from 1800 to 1803, educated by the parish. In 1832, on the baptismal record of a daughter, Isabella, he is referred to as 'mole catcher', and yet that same year he was registered on the £10 franchise, which denotes a regular if modest income; the 'moudie warp' must have been a sideline. By 1841 he is

designated 'grocer and spirit merchant' in the first national census, and by 1871 'landed proprietor', owning a smallholding called Watchill. He died in 1878, much respected in the Burgh; a real Samuel Smiles story.

His son, John Graham (1835-1927) called himself John Melville in honour of his mother, a Victorian custom now neglected. First elected Councillor in 1885 he became Treasurer but was off Council in 1887. Returned next year he progressed to Dean in 1893 and was Provost for 1894-1895, a dignity which was rewarded with a gas lamp-post bearing the Burgh arms in colour outside the door of no. 6. Despite his election *nem. con.* to the Chair (he was returning officer that day) he was much less popular than his father, bottom of the poll next year, and turned out in 1895. His principal feats were to move the appointment of a Burgh Medical Officer of Health, and to introduce gas lighting outside the branch line station of the Caledonian Railway Coy.

John Graham married at 22 years of age Mary Little White (1837-1913), daughter of a joiner from Applegarth; they had 14 children, six of whom failed to reach their majority. From the smallholding behind no. 6 High St. they produced and sold milk, butter and cheese, eggs and bacon, despite the fact that a number of their family died of typhoid fever contracted in youth from the well in the yard. After it had been closed, not without protest from John Graham, his family thrived; three sons emigrated to Canada.

The last Graham Provost of Lochmaben was William (1861-1939), no relative of the above; a brief notice appears in *Scottish Biographies* (1938). He was born at Springfield near Gretna but lived at Park House, Lochmaben, as had his father George Graham before him. He was 63 years of age when first elected Councillor in 1924, and unlike the other Grahams had experienced a full life before he entered Burgh politics. He served as second Baillie from 1925 to 1929, again as Councillor 1929 to 1933, after which he was promoted to first Baillie and Provost 1934 to 1937, when he retired. He died in 1939. He had been interested in national politics to the extent of being chairman of the local Conservative Association for a quarter of a century. His cast of mind was similar to that of his Graham predecessors in the provostship — upright and fair within his lights, presbyterian, perhaps lacking in apparent gaiety; gravitas was the attribute which gained public esteem at the time. He was an involved and concerned churchman, an elder, superintendent of Sunday School for a decade, representative on Presbytery for 20 years, Parish Council, School Board, active in the Temperance Movement, Chairman of the Licensing Court, and J.P. for 25 years.

All this he combined with an active business life related to agriculture. In 1884 he married Elizabeth Hutchinson, and they had a son and daughter, the former emigrating to Australia. Clearly he was a conscientious, not to say a tenacious man, but as became a largely XXth century man, of wide interests. His period of office saw a steady improvement in the amenities of the Burgh, but a decline in civic authority. William Graham was the third last Provost of the Royal Burgh, the Council being abolished in 1976. Such men — pious, parochial, partisan and proud but public spirited, are not likely to emerge in future.

References

Minutes of the Town Council of Lochmaben, 1612-1975. Town Hall, Lochmaben.
Scottish Biographies (1938). Thurston, London.
Wilson, J. B. (1974). *Lochmaben; its historic past.* Grieve, Dumfries.

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LIEUTENANT GENERAL WILLIAM FERGUSSON, K.C.

by
J. B. Wilson

Study of history takes the student down many unexpected and unexplored paths. One of the most difficult characters to trace in Lochmaben's long history was the object of this short biographical sketch — General William Fergusson. The only mention of him occurs in *Lochmaben 500 Years Ago* where, on page 143, in the section on the famous sons of Lochmaben, he is described as "General Fergusson who had risen from the ranks".[1] The first clue came from reading of the career of his brilliant nephew and namesake Sir William Fergusson who is described by Mr Graham in the same sentence as "his nephew the well known Dr. William Fergusson of King's College". Only after reading of Sir William Fergusson's illustrious career in the *Book of the Fergussons*[2] was further mention found of the General. Thereafter the search was soon narrowed down and the Royal Marines Historical Section produced the General's fascinating record of service.

William Fergusson was the younger son of James Fergusson, a Lochmaben Town Councillor, whose family had been prominent in Lochmaben for generations. He entered the Royal Marines and was commissioned in 1798; he did not, so far as can be ascertained, as claimed by the Rev. Mr Graham in *Lochmaben 500 Years Ago*, rise from the ranks. His first sea-going appointment was in 1799 to the "Queen Charlotte", a 100-gun ship of the line. On board her he saw a great deal of active service and in 1800 when she went on fire off Leghorn he was one of the few survivors, making his escape through the stern port when it became obvious, despite the heroic efforts of the crew, that the blaze was out of control. Fergusson was severely injured by a splinter of wood from the wreck and spent three hours in the water before being rescued. The captain and over 650 of his crew perished in the disaster.[3]

Thereafter he was transferred to the "Santa Dorothea" in which he again saw a great deal of action. At one point he served on shore with the Army in Egypt under Sir Ralph Abercrombie and completed his period of service in the Mediterranean by taking part in the recapture of H.M.S. Bulldog from under the batteries of Gallipoli.[4]

In 1804, Fergusson, now a First Lieutenant, was again afloat, patrolling off Brest and Ferrol, then, after a spell ashore, he served in the Mediterranean for four adventurous years, on the "Apollo", a frigate. During her commission he took part in many daring boat actions, the most spectacular being one in which a French brig moored near Tarentum and laden with guns and Ordnance Stores, was cut out. For his part in this action Lieutenant Fergusson received the thanks of Sir Sydney Smith, Commander of the Station, publicly read on the Apollo's quarterdeck.

Like so many of his fellow officers, Fergusson was, in 1814, retired on half pay, with the rank of Captain. During the next few years he languished ashore, for part of this time serving as County Magistrate for Dumfriesshire. During this period of forced inaction he, no doubt, renewed acquaintance with his Lochmaben friends and relatives and probably met the redoubtable Captain Hugh Clapperton, R.N. who was living in Lochmaben on half pay at this time. What stories these two would be able to exchange to the admiration and delight of all who heard them. Probably from this period too dated his lifelong interest in his nephew and namesake whose potential talents he quickly recognised.

Recalled to the Active List in 1823, Fergusson had a spell recruiting in Dumfries where he must have been a well known and much respected figure, and then a period (1826-29) afloat, this time on the "Ramillies". On his appointment in 1837 to the Royal Marine Headquarters at Chatham the tempo of his promotion suddenly quickened for he was appointed Major and six months later Lieut. Colonel. His career must have been closely followed in his home town for in September 1838 he was made a Freeman of the Royal Burgh along with Dr Andrew Johnstone. In 1846 he was second in command of Royal Marines at Plymouth and three years later was promoted Colonel Commandant.

On the 26th January 1851 Colonel Fergusson retired on full pay, being promoted Major General in 1854 and Lieutenant General three years later. He died, unmarried, in London on 26th December 1861 at the age of 83.

Such then are a few incidents from an adventurous and successful career from which, apart from his injury at the sinking of the "Queen Charlotte", he miraculously emerged unscathed. This injury must, however, have caused him considerable trouble for in 1810, on his discharge from the "Apollo", he was given four months sick leave because of it. Little is, however, known about the man himself though the *Records of the Clan and Name of Fergusson* describe him as a genial old man with many stories of life in

Lochmaben in his younger days — would that someone had written them down! As a boy he would probably have witnessed the disturbances in the Burgh during the Elections of 1790 and have many a tale to tell of this time. Not even a portrait exists which might give us a more complete picture of this much travelled son of Lochmaben.

Throughout his life the General seems to have taken a close interest in the surgical career of his brilliant nephew.[5] No doubt, too, after Dr Fergusson's appointment to the Chair of Surgery at King's College in 1840, the old Royal Marine, then stationed at Chatham, would be a regular visitor at Sir William's hospitable board — a hospitality he doubtless enjoyed till his death.

General Fergusson's Naval General Service Medal is preserved in the Officers' Mess at Lymphstone in Devon. The medal has two bars — "Boat Service 20 December 1799" (the recapture of the "Lady Nelson" from the Spanish privateers), and "Egypt" (the invasion of Egypt prior to the defeat of Napoleon's Army in 1801).

Acknowledgement

I have to thank Major A. J. Donald, Royal Marine Historian, for his assistance in the compiling of this article.

1. *Lochmaben 500 Years Ago*, 1865. W. Graham; Nimmo, Edinburgh.
2. *Records of the Clan and Name of Fergusson*, 1895. Edited by James and Robert M. Fergusson; Douglas, Edinburgh.
3. *Record of the Royal Marine Forces*, 1845. P. H. Nicolas, page 262; Boone, London.
4. Record of Service.
5. Sir W. Fergusson, 1976. J. B. Wilson.

REVIEW

Between and beyond the Walls: Essays on the Prehistory and History of North Britain in Honour of George Jobey, edited by Roger Miket and Colin Burgess (John Donald, Edinburgh), 1984; £25.

As might be expected, the bias of a book in honour of George Jobey is towards prehistoric archaeology, and within that towards northern England and southern Scotland. Joan Weyman surveys the Mesolithic of NE England, whilst Lionel Masters lists and discusses the Neolithic long cairns of Cumbria and Northumberland, with several valuable new plans. Alex Gibson is concerned with the problems of North British Beaker assemblages, discussing the evolution of Beakers in the north and emphasising the importance of the material from settlement sites. By far the longest contribution (50 pp.) is by Colin Burgess, who conducts a "speculative survey" of the prehistoric settlement of Northumberland. This is a major and detailed summary of the archaeology of the region, which will be of lasting value. It may be noted how greatly George Jobey has contributed to the raw material assembled by Burgess. Alastair MacLaren's account of the excavation of a Bronze Age cairn at Limefield, Lanarkshire, Lesley Macinnes' discussion of the settlement and economy of East Lothian and the Tyne-Forth province, and Alfred Truckell's inventory of some Lowland native sites in western Dumfriesshire and Galloway go readily with the general framework outlined by Burgess.

Several contributions relate to the Iron Age and Roman period. Dennis Harding tackles the function and classification of brochs and duns, arguing that brochs and what he calls dun-houses were completely roofed. Humphrey Welfare lists and describes the souterrains found south of the Forth-Clyde isthmus. D. J. Smith discusses a Romano-Celtic head from Lemington, Tyne and Wear. Heads, "baleful and benign", and their significance to the Celts, are discussed by Anne Ross and Richard Feachem. Kenneth Fairless shows how three religious cults from the northern frontier region, all of gods of native origin, might attract worshippers from contrasting native and Roman backgrounds. David Breeze considers demand and supply on the northern frontier, and points out the requirements and the problems of maintaining a permanent Roman force of up to 30,000 men. John Gillam reviews the evidence for the deployment on the German frontier of the *numeri Brittonum*, now known to have been raised in the Flavian period. In an analysis of Roman coinage of the 4th century in Scotland John Casey concludes that chance finds are not reliable for assessing the degree of Roman involvement in affairs north of Hadrian's Wall. Stuart Piggott reveals the difficulties of early antiquarians in reconciling finds of "brass" artefacts with accounts of Britain in classical sources. Roger Miket discusses, with some interesting illustrations, John Collingwood Bruce and the Roman Wall controversy during the formative years of 1848 to 1858. Beryl Charlton and John Day pay tribute to another 19th century student to whom the archaeology of the north is much indebted — Henry MacLauchlan, the surveyor and field archaeologist.

There are three other contributions. Norman McCord describes how his work in aerial photography has broadened from investigation of limited archaeological objectives to include photographs of interest to historians of the recent past. Charles Thomas summarises his excavations at Abercorn, the seat of a short-lived 7th century Anglian bishopric. Constance Fraser reviews plants associated with Northumberland which are known to have been used as food or medicine since the 16th century. Margaret Mitcheson contributes a bibliography of George Jobey's publications, whilst R. Charlton lists his excavations. Colin Burgess and Roger Miket give an affectionate and amusing introduction to the man and the book.

It is gratifying that the book should have a Scottish publisher and a Scottish printer. But, alas, the drawbacks of phototypesetting are all too obvious. The typeface used is unattractive, whilst uneven registration mars both text and diagrams. Many of the drawings have clearly not been prepared to suit their scale of reduction. The half-tones are flat and lack contrast: some are quite unacceptably reduced — illustrations of cigarette card size will not do. Nevertheless, it is ultimately the matter which counts, and the book is a valuable publication, packed with information. George Jobey will surely not be displeased with that.

J.G.S.

PROCEEDINGS 1983-84

21 October 1983
Annual General Meeting.
Mr D. Adamson elected President of the Society.
Mr A. E. Truckell elected an Honorary Member.
Presidential Address by Mr A. Anderson — The Scottish Pilgrim's Way.

4 November 1983
Speaker: Mr A. Greenwood — Eskdalemuir Observatory.

18 November 1983
Speaker: Mr M. Wright — Caerlaverock Nature Reserve and the Natterjack Toad.

2 December 1983
Speaker: Mr R. Clarke — Water at Work around Closeburn.

16 December 1983
Speakers: Mr D. Rose, Mr A. Howatson — Farming, Forestry and Wildlife Advisory Group.

6 January 1984
Members' Night.
Speakers: Mrs Dobie — Communion Tokens.
Dr J. Wilson — Lochmaben Town Council Minutes.

20 January 1984
Speaker: Mr D. Lockwood — History of Dumfries Museum.

3 February 1984
Speaker: Mr D. Urquhart — The Southern Upland Way.

17 February 1984
Speaker: Mr L. Thyer — Clerk Maxwell.

2 March 1984
Speaker: Mr M. MacCarthy — Carlisle Excavations.

16 March 1984
Special General Meeting — It was decided there would be no change in the rates of subscription for the coming year.
Speaker: Mr D. A. H. Grayling — Antiquarian Books.

Publications of the Society

Transactions and Journal of Proceedings: 1st Series—(a) 1863-3*, (b) 1863-4*, (c) 1864-5*, (d) 1865-6*, (e) 1866-7*, (f) 1867-8*. New or 2nd Series—(1) 1876-8*, (2) 1878-80*, (3) 1880-3*, (4) 1883-6, (5) 1886-7, (6) 1887-90*, (7) 1890-1, (8) 1891-2*, (9) 1892-3*, (10) 1893-4*, (11) 1894-5*, (12) 1895-6*, (13) 1896-7*, (14) 1897-8*, (15) 1898-9*, (16) 1899-1900*, (17) 1900-5 (in 4 parts)*, (18) 1905-6*, (19) 1906-7, (20) 1907-8*, (21) 1908-9, (22) 1909-10*, (23) 1910-11*, (24) 1911-12*. 3rd Series — (i) 1912-3*, (ii) 1913-4*, (iii) 1914-5*, (iv) 1915-6*, (v) 1916-8*, (vi) 1918-9*, (vii) 1919-20*, (viii) 1920-1*, (ix) 1921-2*, (x) 1922-3*, (xi) 1923-4*, (xii) 1924-5, (xiii) 1925-6*, (xiv) 1926-8*, (xv) 1928-9, (xvi) 1929-30*, (xvii) 1930-31, (xviii) 1931-33*, (xix) 1933-35*, (xx) 1935-36*, (xxi) 1936-38*, (xxii) 1938-40*, (xxiii) 1940-4*, (xxiv) 1945-6*, (xxv) 1946-7, (xxvi) 1947-8, (xxvii) 1948-9*, (Whithorn Vol 1), (xxviii) 1949-50*, (xxix) 1950-1 (with Index of Vols i to xxvii)*, (xxx) 1951-2*, (xxxi) 1952-3* (Hoddam Vol.), (xxxii) 1953-4, (xxxiii) 1954-5, (xxxiv) 1955-6* (Whithorn Vol. 2), (xxxv) 1956-7, (xxxvi) 1957-8, (xxxvii) 1958-9, (xxxviii) 1959-60, (xxix) 1960-1 (with Index of Vols. xxvii to xxxviii), (xl) 1961-2 (Centenary Vol.), (xli) 1962-3, (xlii) 1965 (new format), (xliii) 1966, (xliv) 1967, (xlv) 1968, (xlvi) 1969, (xlvii) 1970, (xlviii) 1971, (xlix) 1972 (with Index of Vols. xxxix to xlviii), (l) 1973, (li) 1975, (lii) 1976-77, (liii) 1977-8, (liv) 1979 (Wanlockhead Vol.), (lv) 1980, (lvi) 1981, (lvii) 1982, (lviii) 1983.

Prices: Single Volumes (to Members) — To Vol. 53, £3; Vol. 54 on, £5, all plus postages.

Runs of Volumes (and prices to non-members) — On application to Hon. Librarian.

A List of the Flowering Plants on Dumf. and Kirkcud. by James McAndrew, 1882.*

Birrens and its Antiquities, by Dr. J. Macdonald and James Barbour, 1897*

Communion Tokens, with a Catalogue of those of Dumfriesshire, by Rev. H. A. Whitelaw, 1911.*

History of Dumfries Post Office, by J. M. Corrie, 1912.*

History of the Society, by H. S. Gladstone, 1913.*

The Ruthwell Cross, by W. G. Collingwood, 1917.*

Records of the Western Marches, Vol. I, "Edgar's History of Dumfries, 1746," with illustrations and ten pedigree charts, edited by R. C. Reid, 1916.*

Recods of the Western Marches, Vol. II, "The Bell Family in Dumfriesshire," by James Steuart, W.S., 1932.*

Records of the Western Marches, Vol. III, "The Upper Nithsdale Coalworks from Pictish Times to 1925", by J. C. McConnel, 1962, £2.00 plus postage.

Notes on the Birds of Dumfriesshire, by Hugh S. Gladstone, 1923.*

A Bibliography of the Parish of Annan, by Frank Miller, F.S.A.Scot.*

Index to Transactions, Series 1 and 2. £2 plus postage and packing.

The Marine Fauna and Flora of the Solway Firth Area, by Dr. E. J. Perkins, 1972. 112pp. £2 plus postage and packing. **Corrigenda**. Free on receipt of s.a.e.

Birrens (Blatobulgium), by Prof. A. S. Robertson (1975), 292pp. 88 figs. 12 plt. £5.50 post free to members; £7.70 to non-members. Obtainable from Hon. Librarian.

Cruggleton Castle, Report of Excavations 1978-1981 by Gordon Ewart, 1985. 72pp. 33 figs. £3.50 post free to members; £4.50 to non-members.

*Indicates out of print, but see Editorial.

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