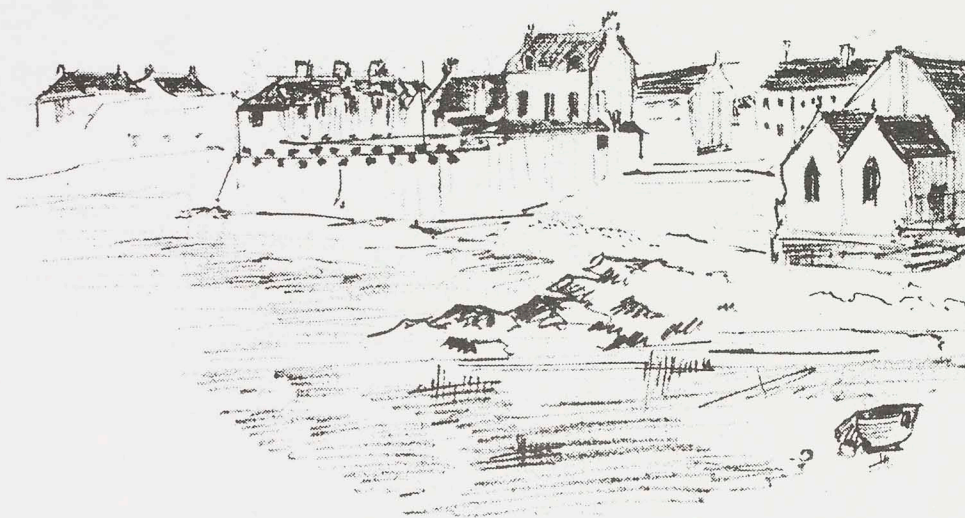


VERNACULAR BUILDING 19

Scottish Vernacular Buildings Working Group

1995



Isle of Whithorn

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**Scottish Vernacular Buildings
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Cover: Isle of Whithorn by Ian Smith

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ISSN: 0267-3088
Edinburgh 1995

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PREFACE

This year as editor of *Vernacular Building* has been of great interest and variety, and I hope that *VB19* will reflect this. I am very grateful to Geoffrey Stell and Elizabeth Beaton for their assistance and encouragement.

The previous issue of *Vernacular Building* contained a tribute to Ian Smith following his tragic death. This issue presents illustrations from his notebooks and slide collection. His notebooks contain a great variety of drawings and notes on a very wide range of buildings. A fascinating time was spent on their perusal, and many more of his beautiful drawings could have been included. Malcolm Bangor-Jones explores the history and vernacular buildings of west Ardnamurchan, in a survey which recalls the 1990 Autumn Conference, which Ian was so much a part of.

Also in this issue is David Robert's scholarly paper on arch construction which analyses the tendency of Scottish arch builders to deviate from standard designs. He draws together ten years of recording in his argument, and readers will be eager to go arch-spotting in the future, with reference to his writing. Robin Callander's recording of buildings on Mull demonstrates how to lay down a building in words, measurements and drawings.

Elizabeth Beaton has developed a course at University of Aberdeen, Buildings and Architectural Traditions in North East Scotland c.1600-1914. She explains the aims and ideas of the course, and we are delighted that two of her students, William Howard and William Hossack, have submitted their essays for inclusion.

Two papers anticipate items of great interest for SVBWG members. Nick Brown outlines his research on the doocots of Moray, which we hope to see more of in the future. Meg Buchanan describes the plans for the exciting exhibition on St Kilda at Glasgow Museum and Art Gallery, a visit to which will be greatly worthwhile.

Anticipating again, I hope to detail in future issues of *VB* notifications of sources of interest to the student of vernacular buildings in the National Monuments Record of Scotland, so that more members may know of and benefit from them. I would also welcome shorter items for inclusion - local items; reports on collections and exhibitions; and letters. These, and articles, reports on works in progress and reviews for the next issue should be sent to me at the address below by 30 April 1996. I would welcome notifications of intentions to contribute as soon as possible.

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OBITUARY

Members will be saddened by the sudden death of Dr Andrew Martynoga, member of SVBWG, on 26 October 1995. He was a consultant rheumatologist by profession, having trained at London Hospital Medical Centre, and he established the new community Rheumatology Unit in Fife. His interests in history, architecture and the countryside were reflected by his residing in an eighteenth century restored manse at Traquair, with a fertile garden. He will be greatly missed by his many friends.

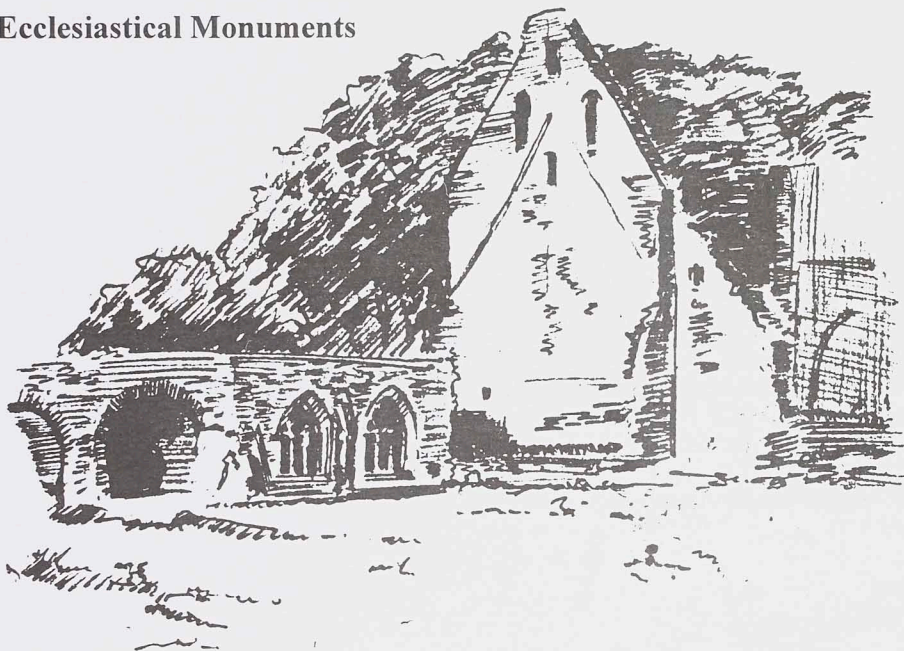
LEAVES FROM IAN SMITH'S NOTEBOOKS

Geoffrey Stell and Veronica Steele

The sudden shock of Dr Ian Smith's untimely death in the summer of 1994 is still a matter of disbelief to many of his friends and colleagues. On behalf of SVBWG, Dr Malcolm Bangor-Jones paid a warm tribute to Ian on the Obituaries page in *Vernacular Building* 18 (1994). Our purpose here is to supplement that tribute simply by sharing with Group members copy-extracts of some of the delightful sketches that are to be found throughout the pages of Ian's field notebooks. We dedicate them to Ian's widow, Pamela, as further testimony to Ian's skill and energy, and we thank her and the Royal Commission on the Ancient and Historical Monuments of Scotland for permission to use and reproduce this material.

In the selection of illustrations we have attempted to reflect Ian's wide range of interests in buildings and monuments. The captions identify the subjects and cite the NMRS reference numbers for the photographic copies. The sketches have been grouped into categories but otherwise we felt it was appropriate to let them speak for themselves with the minimum of commentary. The original notebooks are available for consultation in the National Monuments Record of Scotland, (Crown Copyright: RCAHMS). The authors and SVBWG gratefully acknowledge the financial assistance of RCAHMS in the production of this article.

Ecclesiastical Monuments



Glenluce Abbey, Wigtown District [C62658]

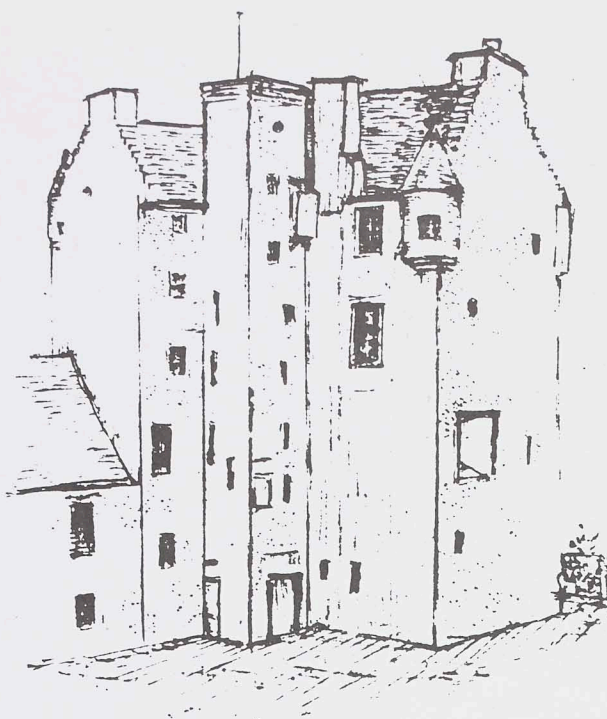


Portpatrick Old Parish Church, Wigtown District [C62666]

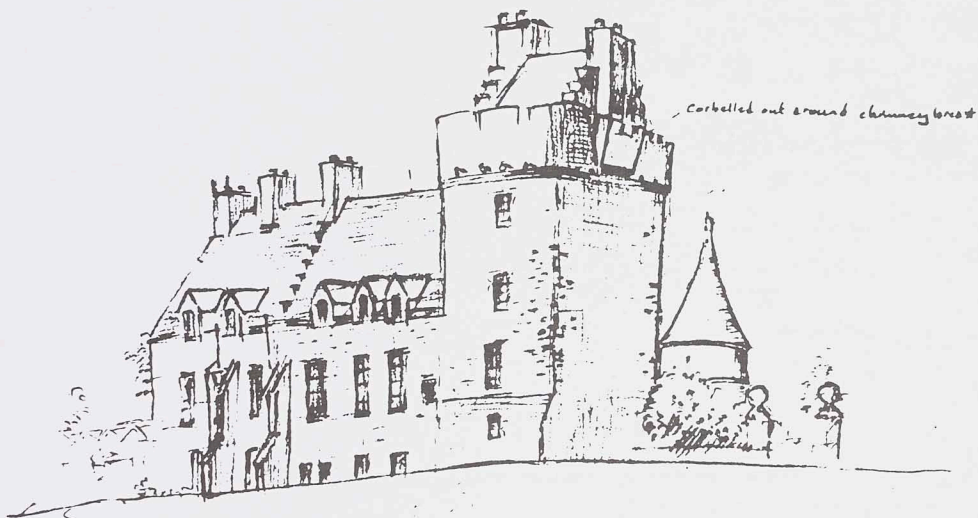


Effigy, Coupar Angus Abbey, Perth and Kinross District [C62655]

Castles, Towers and Fortifications



Killochan Castle, Kyle and Carrick District [C62663]

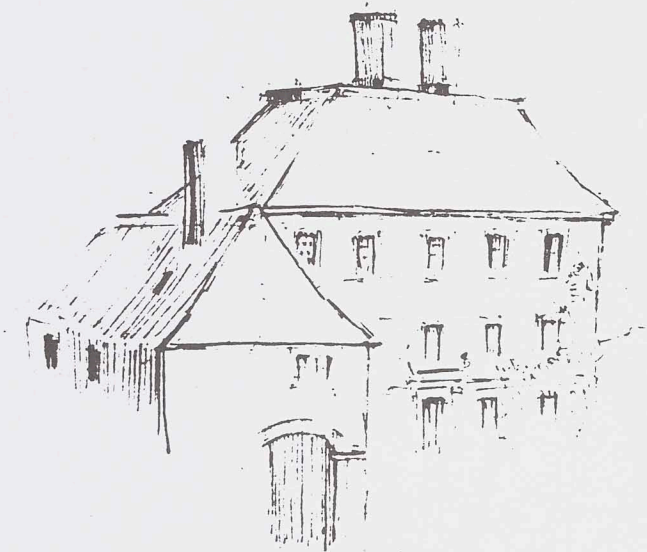


Lochnaw Castle, Wigtown District [C62664]

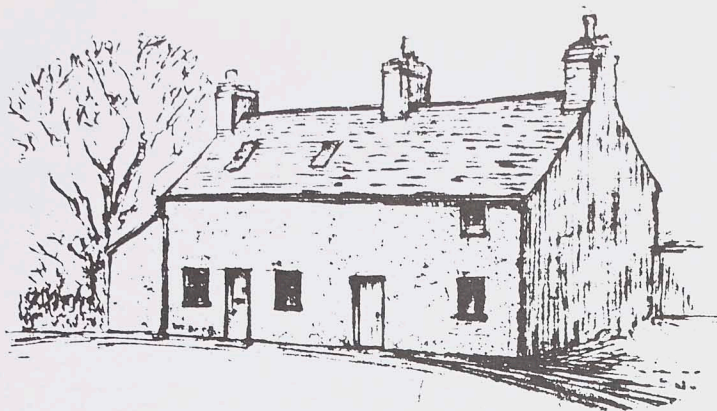
Domestic and Vernacular Architecture



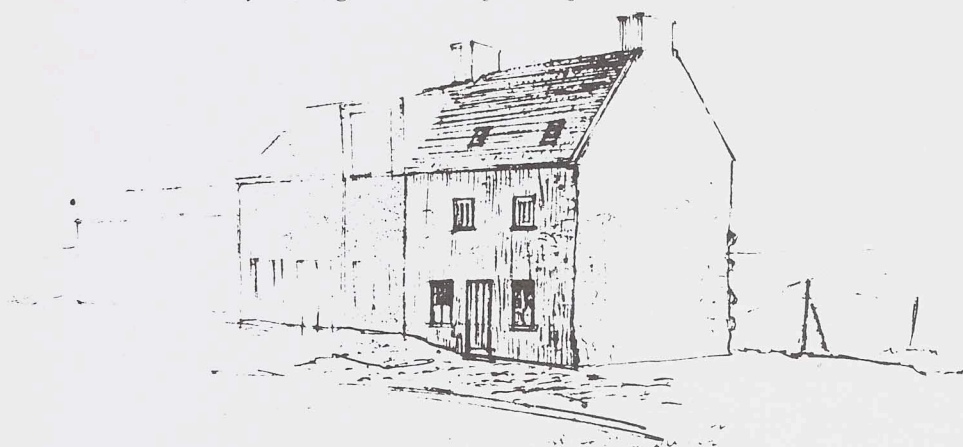
Isle of Whithorn, Wigtown District [C62658]



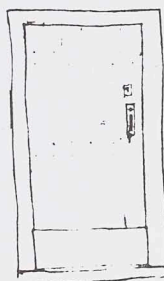
Moffat House Hotel, Annandale and Eskdale District [C62665]



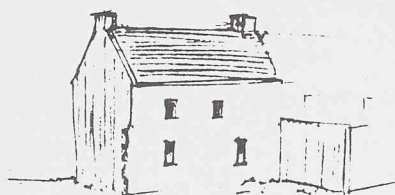
Church House, Stoneykirk, Wigtown District [C62660]



G Floor Window
1/2 shuttered



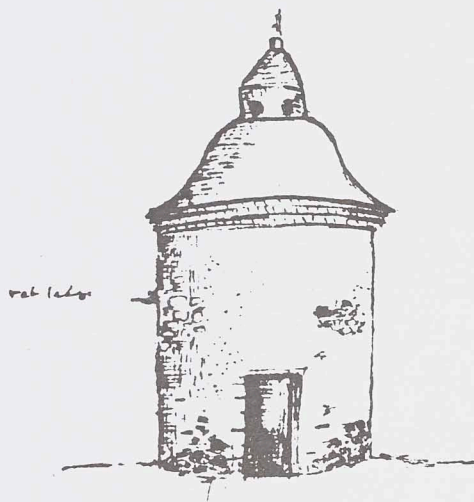
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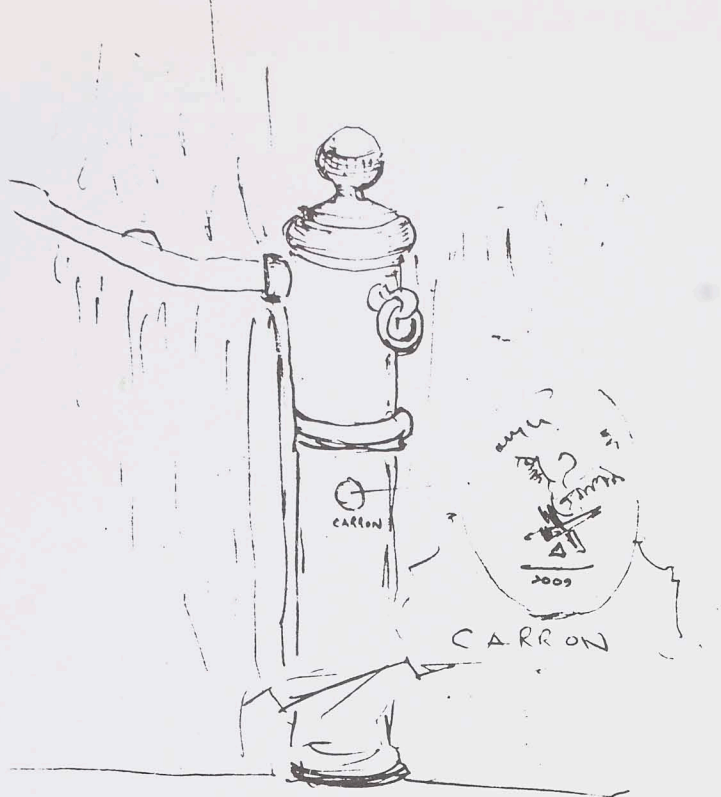
Mains of Larg, Wigtown District [C62659]



Upper Fenton, Annandale and Eskdale District [C62654]



Dovecot, Genoch Mains, Wigtown District [C62656]



Stable trevis post, Mossknowe, Annandale and Eskdale District [C62667]

Architectural Fragments



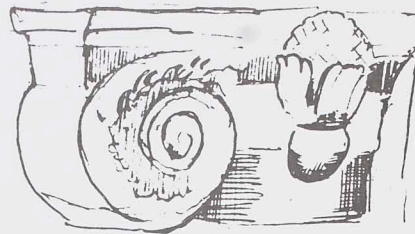
Scone Mercat Cross, Perth and Kinross District [C62661]



Sundial, Arthurstone, Perth and Kinross District [C62662]



Capitals, Arthurstone, Perth and Kinross District [C62657 and C62662]



Ian bequeathed a large collection of transparencies too, many of which relate to buildings and to SVBWG annual conferences. As many of you know, Ian always thoroughly enjoyed these occasions and had a sharp eye for photographs of groups and individuals, recording through his camera the pleasure and stimulus that he derived from the companionship of SVBWG members.



SVBWG 1985 Spring Conference, Bettyhill; members at Rosal, Strathnaver [C62671]



SVBWG 1985 Spring Conference, Bettyhill; Mrs Jane Durham at Skelpick [C62669]



SVBWG 1985 Spring Conference, Bettyhill; Dr David Roberts and sundial, Tongue House [C62672]



SVBWG 1988 Spring Conference, Ayr; group members with Mr Hunter Blair outside The Black Bull at Straiton [C62670]

LANDHOLDING, SETTLEMENT AND VERNACULAR HERITAGE IN WEST ARDNAMURCHAN

Malcolm Bangor-Jones

The remote peninsula of Ardnamurchan contains spectacular scenery and is of world-wide geological renown. It has also had a long history of settlement and among the crofting townships, clearance ruins and farms, possesses a fine and varied collection of vernacular buildings. This paper is a speculative survey of the vernacular heritage set within the context of the history of landownership and settlement. It arises from the visit which SVBWG made to west Ardnamurchan in the autumn of 1990 and brings back memories of Ian Smith exploring the ruins of Glendrian or clambering about in Mingary Castle. This is but a stone on his cairn.

Landownership

The lands of Ardnamurchan, equivalent to the pre-Reformation parish of Kilchoan, formed one of the ancient districts of the West Highlands and were among the territories of the medieval kingdom of the Lordship of the Isles¹. In time the district came to be held by the MacIans or MacDonalds of Ardnamurchan, a branch of the Clan Donald, who attended the Council of the Lord of the Isles as one of the 'four great men' of the 'royall blude' of Clan Donald. Mingary Castle was the MacIan's stronghold. The lands of Grigadale and Ormsaigbeg were included among the estates of the abbey of Iona - appropriate in that Columba is said to have baptised a child in Ardnamurchan - but were acquired by the MacIans probably during the sixteenth century².

Ardnamurchan was eventually taken over by the expanding clan Campbell; it was the last major MacDonald possession to fall into Campbell hands. The Earl of Argyll had been granted the superiority of Ardnamurchan in 1519 but it was not until 1611 that the Campbells moved in to take possession from the MacIans. Resistance against the Campbells' 'tightening grip' culminated in open rebellion and led to the ruthless suppression of Clan Ian. In 1626 the lands were given to the leader of the Campbells, Donald Campbell of Barbreck-Lochow, a man 'fleshd in blood from his very infancie'. Sir Donald Campbell of Ardnamurchan played a major role in the wars of the Scottish revolution, as one of Argyll's leaders³. When he died without issue in 1651 the lands reverted to Argyll. The financial troubles of the Argyll family after the Restoration of Charles II saw Ardnamurchan placed in the hands of creditors. In the 1680s the Marquis of Atholl held a locality of Ardnamurchan and part of Sunart while Alexander Campbell of Lochnell held a wadset over part of Sunart including Strontian⁴. A dispute over the lands subsequently arose between Campbell of Lochnell and Cameron of Locheil. This

was eventually settled in favour of Lochnell who assigned his wadset over Sunart to Cameron of Glendessary and in 1696 was granted the lands by the Earl of Argyll⁵.

In 1722 Sir Duncan Campbell of Lochnell sold Ardnamurchan and Sunart to Alexander Murray, the heir to Stanhope in Peeblesshire. Sir Alexander (as he became) was a typical improver with a hopelessly optimistic vision for the Highlands; the whole of the Argyllshire coast possessed 'advantageous Prospects of great Improvement by Husbandry, Planting, iron-works, Mining and Fishery'⁶. He began the development of lead mining in Sunart but also engaged in extensive schemes of land reclamation in west Ardnamurchan. The purchase of Ardnamurchan had included the payment of a substantial annual feu duty of £333 to Campbell of Lochnell based on the expected return from the mines and thus unrelated to the agricultural value of the land. When added to wadset rights of Campbell of Ardslnish and Cameron Dungallon, only a small proportion of the gross rental of the estate was left for Sir Alexander's own use⁷. The failure of the lead mines placed Sir Alexander in financial difficulty and in 1733 he had handed over his estates to his brother Charles⁸. Matters did not improve and the estates of both brothers were sequestrated in 1738 and remained so until 1767 when they were bought by the Lord Advocate, James Montgomery who sold Ardnamurchan and Sunart to James Riddell of Caister in Norfolk.

Riddell was the third son of George Riddell of Kingloss, Linlithgow. Though he brought a fresh infusion of lowland ideas of estate management, neither James nor initially his grandson and successor, Sir James Milles Riddell, did much to alter the pattern of farms and settlement on the estate. However, the economic depression which followed the end of the Napoleonic War, when Highland landlords were faced with what was to them a redundant small tenant population, saw the initiation of clearances in Ardnamurchan and the establishment of crofts. In 1841, having expended over £24 000 on estate improvements in Sunart and Ardnamurchan and with a £19 000 debt secured on the estate, Sir James secured a private Act of Parliament to raise loans and vest the estate in trustees⁹. The estate suffered particularly badly during the Potato Famine of the late 1840s, the rent arrears of the small tenants soared, and by 1848 Sir James had accumulated debts of about £50 000¹⁰. His lands were placed in the hands of trustees who took a hard-nosed attitude to estate management and ordered extensive clearances before selling Ardnamurchan to John James Dalgleish in 1855. Dalgleish held the estate until 1896 when it was sold to Charles D. Rudd for £106 738. Rudd, who was a very wealthy diamond magnate, built Glenborrodale Castle and invested heavily in the estate.

Settlement history

Documentary material relating to the history of settlement in Ardnamurchan is limited; the earliest list yet to be discovered of the various lands dates from 1667¹¹. Moreover, the documentary evidence can be deceptive. Charters list landholdings

rather than settlements, and each could contain a number of settlements. The lands of Achosnich, for instance, included Achosnich, 'Edin' and Sanna (1725). A small settlement is shown at Sanna on Roy's Map (c.1755) and a single house appears on William Bald's estate plan of 1806 but Sanna was not let as a separate landholding until some years later. Similarly, Faskadale was part of the lands of Achateny. However, the collective evidence provided by archaeology, history and early land assessments (pennylands and merklands) suggests that Ardnamurchan was a well-settled area, with the better land all occupied, by the late medieval period. The more fertile land on the south side of the peninsula provided the setting for Mingary Castle and its mains or home farm. In the eighteenth century the church and manse were at Kilchoan where there was also a mill and changehouse or inn. There were also mills at Achateny and Glenbeg, a changehouse at Glenborrodale where there was a ferry to Doirlin in Morvern and a smiddy at Torr na Moine¹². As might be expected the turbulent history of the district in the seventeenth century may well have led to land being left waste and settlements abandoned. Indeed after the dispossession of the MacIans the Campbells are said to have 'planted sundrie others in ther tounes and countries'¹³.

Sir Alexander Murray not only repaired and reroofed the castle, but also built farm buildings and undertook drainage and land improvement at Mingary and at the moss of Glendrian. Most of the townships were under tacksmen but there were some townships such as Bourblaige and Skinid, which were under small tenants¹⁴. It does not appear that the influx of population associated with the lead mining at Strontian had any effect apart from introducing gonorrhoea to the district¹⁵. However, despite some emigration, there was marked population growth during the eighteenth and early nineteenth centuries. In general it appears that the formation of new settlements was limited; most, if not all, of the expansion was accommodated in existing settlements. The colonisation of shieling ground and more marginal land through spade- as opposed to plough-cultivation played an important part in this process. Such land, now long since abandoned to rough grazing, is very evident in the landscape today.

The adoption of more commercial attitudes followed the rising prosperity brought by the cattle trade. The Murrays bought a 'considerable number of sheep and black cattle at a very great expence', let them as a steelbow stock on the townships of Bourblaige, Coiremhuillin and Skinid, and Mingary Moor (that part of the farm of Mingary outwith the parks) and obtained a good return¹⁶. The tacksmen in particular prospered from the droving of cattle. In 1771 Riddell appears to have made a clear-out of many of the tacksmen and tenants including John Campbell of Ardslignish who went to farm in Tiree and Morvern¹⁷. Ardslignish and other lands were taken by Lieutenant Alexander Grigorson and his brother Dougal who, in 1774, were reported to have invested in building and enclosing. Donald Campbell was engaged in similar improvements at Mingary, for which he would have been allowed half value of by the landlord at the end of the lease¹⁸. The move towards more commercial livestock farming may have

encouraged some tacksmen farmers to move their subtenants to the worst parts of their farms or remove them altogether. An indication of the general trend is provided by the designation of a glebe for the minister at Kilchoan in 1782 which was enclosed at considerable expense¹⁹.

The origins of sheep-farming in Ardnamurchan are as yet unknown. Lowland sheep appear to have been introduced into the district by the 1790s but they were probably restricted to tacksmen farms such as Mingary and Ardslnish²⁰. Although the landlord was advised in 1807 to turn a number of townships over to sheep, it was not until 1828 that about twenty families were cleared from Bourblaige and Torr na Moine and the lands taken over by the sheep-farmer from Mingary²¹. This was followed by the eviction of a further twenty-three families from Coiremhuillin and Skinid in 1836. The lands of all four townships became part of Mingary sheep-farm tenanted by John McColl. While some townships were occupied by farm workers and remnants of their original populations, Bourblaige was abandoned completely.

When the estate passed to trustees, more drastic measures were taken. Sanna, previously held as a single tenant farm, was divided into twenty holdings in 1851. In the next few years the following farms were cleared: the three Swordle townships and Ockle; Ormsaigmore (where there had been eight tenants and two cottars in 1851), and Glenmore (where there had been seven small tenants and nine cottars). There appears also to have been a thinning of subtenants and cottars on farms such as Achateny and Ardslnish. Most of the clearances appear to have taken place under the brief but rigorous management of the Riddell trustees. Those who chose to remain on the estate were apparently resettled in newly created settlements at Portuiark and Plocaig.

The small tenant presence in Ardnamurchan, however, was to remain a strong one. The abolition of runrig, whereby the holdings of tenants were made up of intermixed strips possibly subject to periodic reallocation, appears to have been carried out in a haphazard and partial manner. Crofts, consolidated holdings with common grazings, had been created at Ormsaigbeg where twenty crofts are mentioned in 1829 and crofts were also laid out in the 1850s although a form of fixed runrig may have pertained in some townships.

Dagleish does not appear to have made any further clearances; between 1856 and 1883 the number of small tenant holdings on the Ardnamurchan estate only diminished from 200 to 185²². A firm check, however, was imposed on the subdivision of holdings and in some townships possessions were not relet after they had been vacated but added to large farms. This happened at Glendrian (see below) and may well have been true of Grigadale, which had three tenants and four cottars in 1851 but was subsequently converted into a small sheep-farm. This process was effectively halted by the Crofters Holdings Act of 1886 which confirmed the pattern of settlement. Ormsaigmore was resettled by crofters probably after the First World War. Since then, holdings have been subject to both consolidation and abandonment.

Building traditions

As Allen has emphasised, most houses in the Highlands in the mid eighteenth century were known as 'creel' or 'turf wattled with timber' houses²³. This was particular true of a well-wooded area such as Ardnamurchan and, indeed, creel houses were lived in by tacksmen and could be relatively sophisticated. Cameron of Glendessary's house at Achacharn in Morvern was described as

a creel house, formed of oak beams placed at regular intervals, the intervening spaces being closely interwoven with wickerwork. The outside was wholly covered with heath, and the interior divided into several apartments, and finished in a style of taste and elegance corresponding with the enlightened refinement of the occupants²⁴.

Murray, however, wished to preserve the woods on his estate and considered that the provision of timber made to the tenants was too generous. He was determined to get rid of all creel or 'watl'd houses' and attempted to get any new houses built of stone. In 1725 the factor reported that

tho' they make a great rout about the trouble & Expence they'll be at in building of Stone houses, yet there is no just reason in this pretence of theirs for lmo Stone houses are mostly every where cheaper built then the Creel houses 2d they last much longer whereby the tennents will be saved of the constant yearly slavery they are at in building new and repairing of the old Creel houses

- time which could be better spent on useful employment such as improving the ground²⁵. It was difficult to persuade people to change their habits and Murray's campaign appears to have been a failure. For, as the naturalist James Robertson found when he travelled from Mingary to Arisaig in 1768,

the houses in which they live they call basket houses, the method of building them is this, they first mark out both breadth & length of the house, then drive stakes of wood at nine inches or a foot distance from each other, leaving four or five feet of the them above ground, then wattle them up with heath and small branches of wood upon the outside of which they pin on very thin turf, much in the same manner that slates are laid. Alongst the top of these stakes runs a beam which supports the Couples, & what they call Cabers, and this either covered with turf, heath, or Straw²⁶.

Riddell also gave high priority to the improvement of the houses. A set of printed articles and regulations for the tenants, tacksmen and possessors of the barony of Ardnamurchan which may be provisionally dated to about 1780 specified

that the walls of all those dwelling-houses and office-houses wanting to be new-built or repaired, excepting the hay barns, shall be made of stone and lime, or of stone and clay, or mortar, and no feal used in any walls or houses, neither shall the same be covered with turf or divot, but properly covered with thatch, fearn, heather, or some better materials, with one sash'd glaz'd window at least.

All timber had to be paid for but meliorations were payable by the incoming tenant²⁷.

Riddell's intentions appear to have been largely achieved over the following thirty year period although it is a matter of conjecture whether this was because of the regulations or because of the relative prosperity of the Highlands during the Napoleonic Wars. There is, however, an apparent gap between the creel houses documented in the 1760s and the dry-stone houses of the township of Bourblaige which was cleared in the late 1820s. It is possible that there were intermediate forms with walls of turf or stone and turf, perhaps in alternating layers²⁸. This is quite likely given that some creel houses had non load-bearing turf walls rather than walls formed by turfs pinned to wattle²⁹. It has been suggested that some ruins among the deserted townships of Sunart possessing low foundations with no evidence of tumble are the remains of creel houses³⁰. There are ruins on Mingary farm which are little more than stone footings. However, these could well be the robbed out remains of structures dating from the 1820s. The clearances came later in west Ardnamurchan and it may be that firm evidence of creel houses will be difficult to find. Moreover, sometimes houses were demolished after the people were cleared³¹.

By the 1820s a house type had developed which, with modifications, was to last until well into the twentieth century. This was the dry-stone round-angled rectangular house with thatched roof, generally supported by crucks or Highland couples and with hipped gables. Earlier versions had a central open hearth and often only had a single room or were divided into two by a simple partition. Some fine examples of what is sometimes known as the Skye-type of house are to be found at Bourblaige. Some contain evidence of crucks including end-crucks. There are also a corn-drying kiln and traces of a horizontal mill³².

For much of the nineteenth century there was a strong contrast between the houses of the small tenants described above and the buildings of the minister, large farmers and estate. The beginnings of higher quality were apparent in the 1790s when there were said to be five cottages built or cast with lime in Ardnamurchan³³. A new manse and farm was built for the minister in the 1830s. Neil Fletcher and William Pender from Tobermory built houses at Mingary (1839-40) for £535 and Glenborrodale (1840) for £140³⁴. New steadings were built for the farms at Achateny, Swordle, Ormsaigmore and Grigadale in the 1850s. The houses of shepherds and farm labourers were built by local masons and were naturally more

modest but, as the examples noted below demonstrate, they were still very much better than the dwellings of the small tenants.

In time the houses of the crofters and cottars were improved by the addition of canopied chimneys or hanging lums, perhaps of clay and wicker or wooden boards, set against a centre partition or gable wall. Fireplaces were later inserted in gable walls. Other improvements included enlargement to create the standard design of two rooms and a closet or press, with a corresponding increase in the number of windows, raising the walls to form one and a half storey houses with attic bedrooms and replacing thatch with corrugated iron and other manufactured roofing materials.

Under Dalglish wood was generally made available for roofing at reduced prices. Leases, however, were from year to year³⁵. Rudd offered interest-free loans to crofters for improvements to houses but the take-up was extremely limited. This may have been due to anti-landlord feelings - there had been an active branch of the Land League in the parish - but it may also have been due to the fact that Ardnamurchan was not a Congested District and was therefore not entitled to any assistance from the Congested Districts Board established in the 1890s. The townships of Sanna and Plocaig, which in 1901 had a population of about 130, were without township roads. The children walked over the hills to the school at Achosnich and provisions which were landed at Kilchoan were carted to Achnaha and then carried on people's backs to Sanna³⁶. There was apparently much greater use made of the grants made available under the Housing (Rural Workers) Act of 1926 and associated loans from the Department of Agriculture. There was only one inhabited thatched house in the district by the mid 1950s³⁷.



figure 1 House at Camas nan Geall

Camas nan Geall (NM 561617)

With a chambered cairn, standing stone (with later Christian motifs) and promontory fort, Camas nan Geall has had a long history of settlement³⁸. Three farms bordered the inlet of Camas nan Geall - Torr na Moine, Camas nan Geall and Ardslnish³⁹. All are listed as separate settlements in the seventeenth century although Camas nan Geall tended to be let with Ardslnish. The Campbells of Ardslnish lived at Camas nan Geall and were buried in the small cemetery there. Alexander Campbell of Ardslnish who was known as 'am Papanach Mor' (the big Papist) had the distinction of being the only Campbell of consequence to enter the '45 Rebellion⁴⁰. After the clearances Torr na Moine was occupied by a shepherd until the 1860s. Camas nan Geall supported a small but steadily declining population. In 1851 there were six households; two shepherds and four cottars. By 1881 there were only two agricultural labourers and a shepherd.

Around the bay there is an interesting collection of ruins which can be related to the history of settlement. On the west side (on the former lands of Ardslnish) there is a traditional rubble-built house (incorporating a very large boulder in the wall) with round-angled corners. There are two small associated buildings including a small outhouse set into the bank. Nearby is an improved dwelling with gable fireplace and walled garden.

Most of the stones from the houses of Torr na Moine were incorporated into a sheep fank and little survives of the township beyond stone footings. Lower down there are several improved buildings, including a substantial three-roomed house presumably inhabited by a shepherd which had gable fireplaces and, if nearby debris is anything to go by, a slated roof.



figure 2 House at Camas nan Geall, west gable



figure 3 House at Camas nan Geall, cruck slot adjoining window opening

Glendrian (NM 478687)

Glendrian was one of the original townships of Ardnamurchan. Occupied by six families in c.1725, it appears to have experienced little growth until well into the nineteenth century. The number of tenants rose from four in 1829 to six in 1840. There appear to have been one or two landless households. Between 1841 and 1861 the number of households varied from seven to eight; there usually being a shepherd and a cottar in addition to the small tenants or 'farmers in common'. The lands were probably reorganised into crofts in the 1850s. However, during the 1860s some twenty acres of arable and over 2600 acres of hill grazings were taken from the crofters to form a large farm. The crofters were compensated by having their rents reduced and were apparently allowed to graze horses and cows on the farm grazings. The estate then pursued a policy of not reletting the crofts whenever they fell vacant. As a witness to the Brand Commission stated in 1894 the lands of Glendrian were 'taken by a farmer, and every croft that became vacant was added to his farm, and no crofter was put in the place of the crofter who left'⁴¹. As a result houses were abandoned as the population gradually diminished. This process continued until the remaining two crofters in Glendrian were granted security of tenure. Fair rents were fixed by the Crofters Commission in 1890 when the two

Of greatest interest, however, is the building at Camas nan Geall on the east bank of Allt Torr na Moine. This is a single storey, two-roomed house which measures internally 12.3 metres by 4.2 metres. The walls are of dry-stone bonded at least in part with clay mortar and also with lime. One gable has collapsed but each gable would appear to have had a fireplace and cupboard. Much of the back wall has also collapsed but there are five cruck slots in the front wall which, assuming an additional missing slot near the doorway, are spaced about 1.7 metres apart. Projecting from the surviving gable are several stone pegs used to fasten the ropes for securing the thatch. The building, which was probably lived in by a shepherd, is an excellent example of a semi-improved farm cottage and would repay further study.



figure 4 House at Camas nan Geall, west gable with stone thatch

crofts amounted to just over seven acres arable and four acres outrun in addition to grazing rights over Glendrian Farm⁴². The landlord took the farm over at about the turn of the century. Glendrian was deserted in about 1942 when the farm shepherd and the last remaining crofter left.

Glendrian contains the ruins of several traditional one- or two-roomed buildings; detailed survey would probably reveal more features such as the possible corn-kiln set in a bank to the north of the main group of

buildings. The main farmhouse is an improved traditional house of the mid nineteenth century which has been raised to form a one and a half storey three-bay house. The round-angled corners have been corbelled out to take the upper storey and corrugated iron roof. There are gabled fireplaces at either end and in the north attic and the interior has been panelled. The adjoining barn and byre were formed from a converted traditional house with round-angles and a cruck slot in the wall near the north doorway. The slot of an end cruck was left when the north gable wall was raised and a square angle formed at the wall head. An extension was made



figure 5 Glendrian farmhouse

at the south end at or after the conversion. The last abandoned crofthouse, an upgraded traditional house, lies amongst the group of buildings to the south of the main farmhouse. The north end contains a gable chimney but the south end evidently had a hanging lum attached to two stones protruding from the wall. There is a probable cruck slot in the east wall and the stump of an end cruck close to the hanging lum.



figure 6 Glendrian farmhouse



figure 7 Croft house at Glendrian



figure 8 Croft house at Glendrian, south gable with remnant of end cruck and protruding stones to

Conclusion

It is hoped that this survey of the vernacular buildings of west Ardnamurchan has revealed something of the range of building types, the constructional techniques and the ways in which buildings have been changed and modified. Further study should assist the search for more complex but more adequate classifications of vernacular buildings in the Highlands. It may also assist in the recovery of a rapidly vanishing way of life.

Acknowledgements

I would like to thank Jane Durham who organised the Ardnamurchan conference and stimulated my interest in

Ardnamurchan, Jim Kirby of Forest Enterprise Lochaber and members of the working group of Ardnamurchan who compiled the excellent local history *Ardnamurchan: Annals of the Parish*.

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ARCHAISMS AND ABERRATION IN SCOTTISH ARCH DESIGN

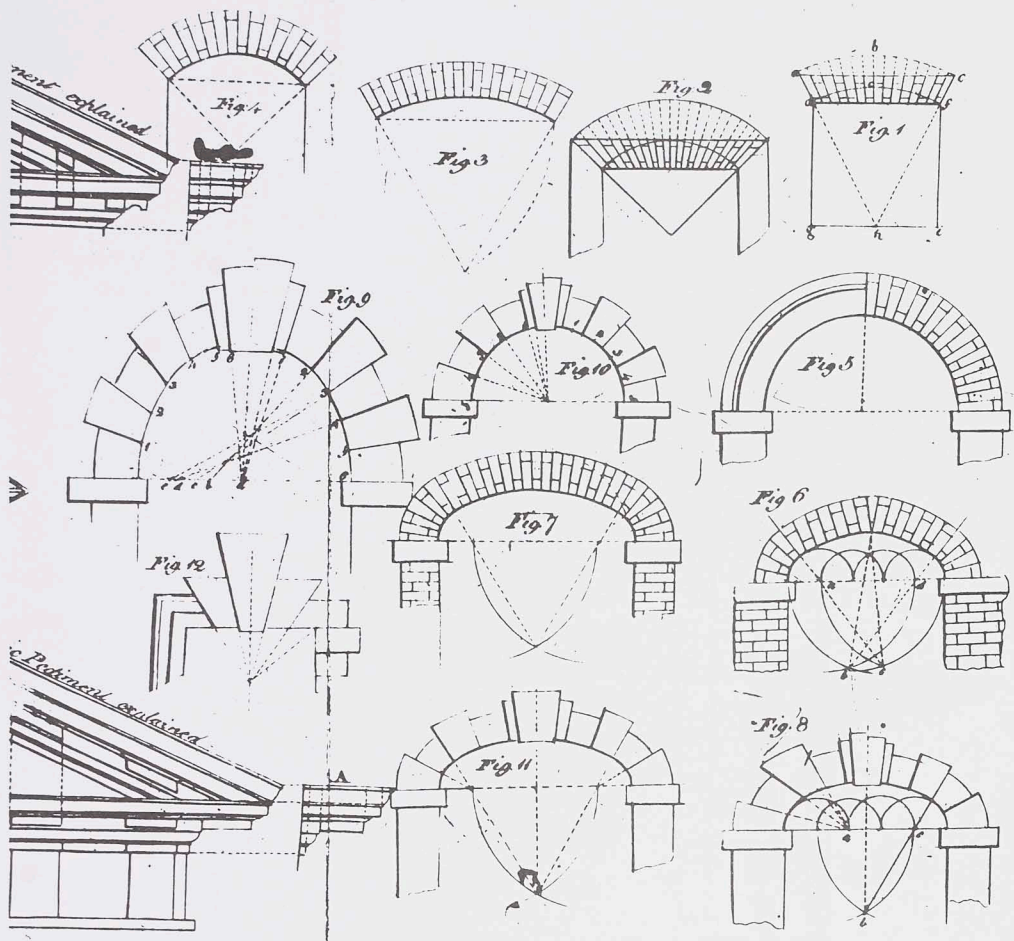
David L. Roberts, ATD, MA, PhD, FSA (Scot)

From the medieval period until the end of the nineteenth century, many Scottish builders employed arch designs having unusual characteristics. Although English masons, almost to a man, adhered to one orthodox type of setting-out, the Scot had several in his repertoire. These seem derived either from the result of experiment or the remnant of an earlier tradition. Several deviations from standard arch designs are discussed below and are illustrated by examples recorded in Scotland over the last ten years.

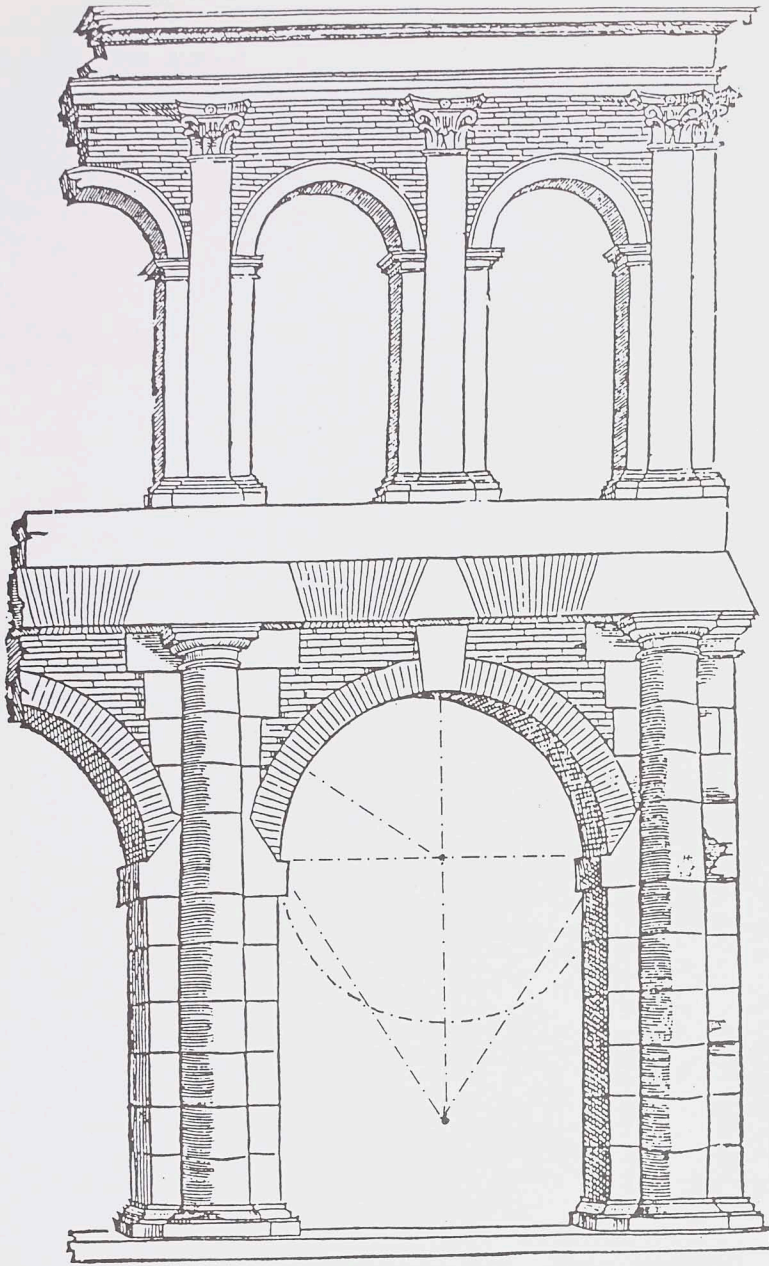
It is first necessary to define the orthodox arch from which unorthodox structures may then be separated into their classifications¹. Orthodox arches employ three basic components, the 'springing', the 'voussoir' and the 'keystone'. These are set radially, based on a centre-point or, in the case of elliptical, or two-, three- and four-centred arches, on several centres. All the mortar joints between the components meet the curve of the arch at right angles. Only at the apex of the particularly narrow lancet arches of the Early English Gothic style do the pattern-books admit any deviation. Straight arches and those segmental ones with slight curves form a separate category and were frequently condemned as weak and inappropriate by the writers of eighteenth century pattern-books. It must be emphasised that most arches in Scotland are set out in an entirely orthodox manner but the significant number of unorthodox variations makes investigation desirable.

Arches of some sophistication are built of stone or brick, cut or rubbed to a truncated wedge form having their mortared edges carefully worked to meet the curve of the arch at right angles. Where the arch-components are unworked, as where standard bricks or fissile rubble is used, the mortar joint is tapered instead but should still meet the curve at a right angle. In the unorthodox arch, some or all of the voussoirs do not meet the arch curve at right angles. In addition, the keystone or the springing may fail to meet the curve at right angles. Perhaps no better summary of arch construction has been published than that by the unknown compiler of *The Rudiments of Architecture* dated, in its second edition, 1778. This Edinburgh printing has a closely packed plate, XXXIII, of which the right hand side, illustrating arches, is here reproduced (figure 1). The only curiosity is the construction of a semi-elliptical arch with a vertical major axis, fig. 9 on this plate. Whilst the right-hand side is orthodox, an alternative is suggested on the left which may have some relationship, perhaps derivative, with the unorthodox forms discussed below.

Perhaps the earliest published example of one of these unorthodox forms of arch is to be found in the various editions of *The Booke of Architecture of Sebastianio Serlio*, first printed in an English translation in 1611 (figure 2). Earlier versions in Dutch, French and Italian appeared between 1540 and 1606. Robert



(figure 1) Orthodox arches showing their radial setting out resulting in voussoirs meeting the arch-curve at right angles. The illustration is taken from Anon. (perhaps George Jameson), *The Rudiments of Architecture...the manner of constructing Brick and Stone Arches*, 2nd edn, Edinburgh, 1778, reprinted Black and Harris as a limited edition, 1992.



(figure 2) A woodcut illustration of a Roman arcade from Serlio, 1611. The keystone of the lower arch carries the pier of an upper arcade, placing a loading on the arch below regarded by the writer of the commentary as 'oppressive'. This was thought to be counteracted by the use of the angled springing. Serlio obviously had the impression that the springing not only looked stronger but was functionally superior to an orthodox one.

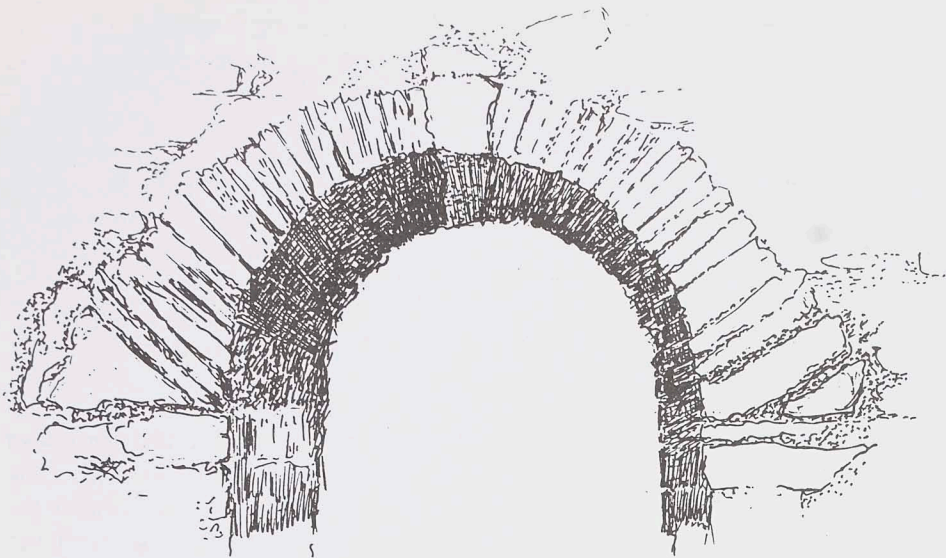
Peake's translation of 1611 from the Dutch has, in Book III, a woodcut illustration of an arch where the springing of the arch is more steeply cut than orthodoxy would allow². The text accompanying the woodcut observes:

The second order seemeth unsupportable, for that there is a weight of pilasters standing above an open hole; a thing which in trueth is false and erroneous to speak in reason, neverthelesse, for that the first order is so fast and strong, by means of the abutting stone above in the Arch; as also with the crosse stone upon it, with the fast Facie upon that, and by means of the good shoulders of the Arch, which altogether shew to be such a strength, as in effect it is, that the Pilasters that rest upon it, seem not to oppresse the worke.

Subsequently a whole family of such arches may be identified, descended from Serlio's fragmentary Roman example, the building then known as the 'Carabario', built in Rome on a site variously occupied by the later Ghetto, the church of S Salvatore and access to the Campo de' Fiori³. Arches in the gatehouse of Exeter Castle built shortly after 1067, have the same steeply angled springing found in Serlio's Roman arch. Here the vousssoirs are gradually adjusted to meet the arch curve at right angles rather than the 'gusset' of brickwork recorded by Serlio. As the Kerrs have pointed out, the use of triangular heads to windows in the adjacent masonry at Exeter 'may represent a continuation of Saxon building traditions'⁴. It is likely that masons formerly employed by Cytha, the mother of King Harold, who led the rebellion of 1067 against William I of England, were enslaved and made to work on the subsequent construction of the new castle, using their own techniques rather than those of their new masters. The castle was sited in a corner of the surviving Roman defences damaged in the siege and during the subsequent maltreatment of town and populace. It is now impossible to pin down the prototype from which the Exeter arch descended. It could conceivably be a copy taken from Roman work on the site rather than a representative of Saxon working practice.

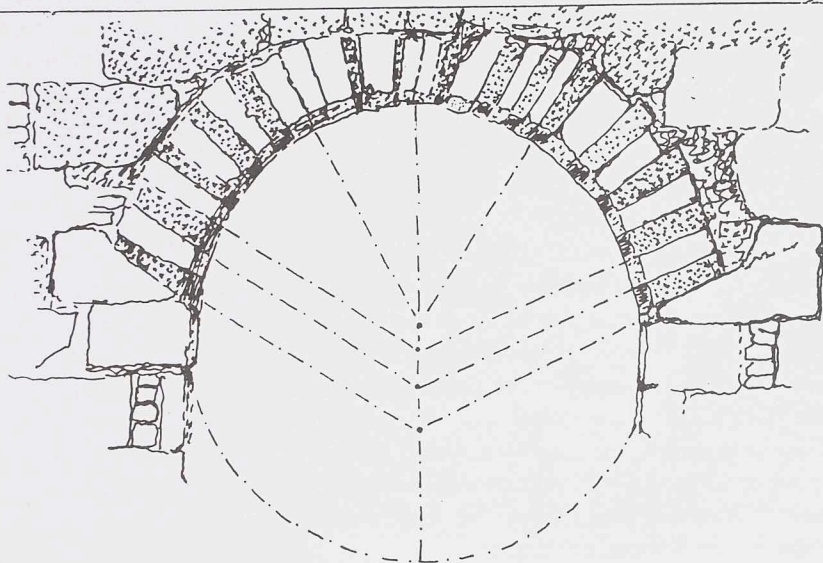
Increasing Norman influence in the south of Scotland in the late eleventh century, so ably outlined by Kapelle, is likely to have introduced this angled springing into Scotland, but so far no really early examples have been recorded⁵. Certainly the type was established by 1500 when it appears in an arch set in the lower courses of masonry of the gatehouse-keep of Rothesay Castle on the Isle of Bute (figure 3). This particular arch was probably erected during the earlier phase of works extending the gatehouse which commenced in the 1480s perhaps under the supervision of the Royal masons. From the sequence of these dated examples it seems likely that some tenuous link may be traced between Roman, Romanesque, medieval and Renaissance usage.

Subsequently there is evidence that this setting-out persisted in the Scottish vernacular tradition, albeit at an above-average social level because most simple



(figure 3) Rothesay Castle, Isle of Bute. Sketch of the setting-out of an arch over a doorway in the flank of the vaulted entrance passage through the outer extension of the Gatehouse.

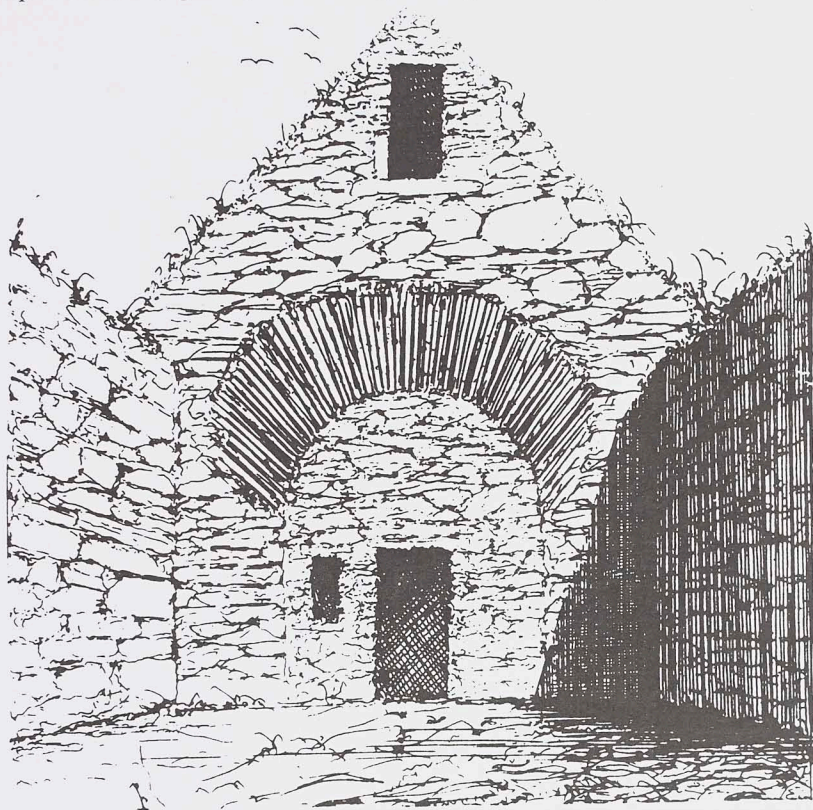
Scottish building rarely used arches, preferring lintels. At Portree in Skye, there was, until recently, a barn erected early in the nineteenth century in a context which might suggest the hand of Gillespie Graham, perhaps at one remove through the



(figure 4) Portree, Isle of Skye. Sketch of the arched entry to the threshing floor of the Home Farm Barn.

hand of an assistant. The barn, well built of roughly coursed rubble, was of five bays, two ashlar, blind arches, with gothicising slits, on either side of an open central arch formerly closed by doors to the threshing floor (figure 4). Whilst the arched heads of the flanking bays were orthodox, the central arch had wedged springings supporting worked and unworked voussoirs of two sorts of coloured stone, almost as though the builder sought to draw attention to the quality and idiosyncrasy of his work.

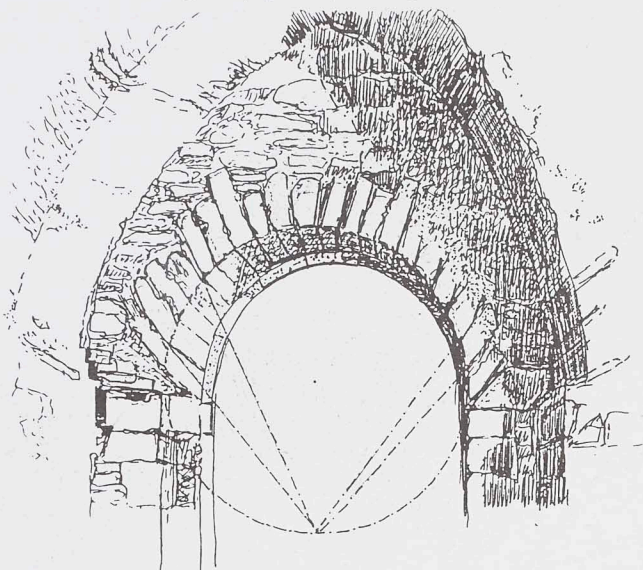
The second of the more frequently recorded types of unorthodox arch is one where the setting-out is based, not on a central point of a line across the diameter of the arch circle, but on a point set at the lowest point of the circumference of that complete, notional circle. To this point all the joints of the voussoirs converge. MacGibbon and Ross illustrate what is probably the largest arch of its type, the chancel arch of the early thirteenth century Kilvicoharmaig on Eilean Mhor off the Knapdale coast (figure 5)⁶. Their text, although describing the construction of the



(figure 5) The chancel arch of Kilvicoharmaig, Eilean Mhor, Argyll, taken from MacGibbon and Ross, 1, p.91, fig. 55.

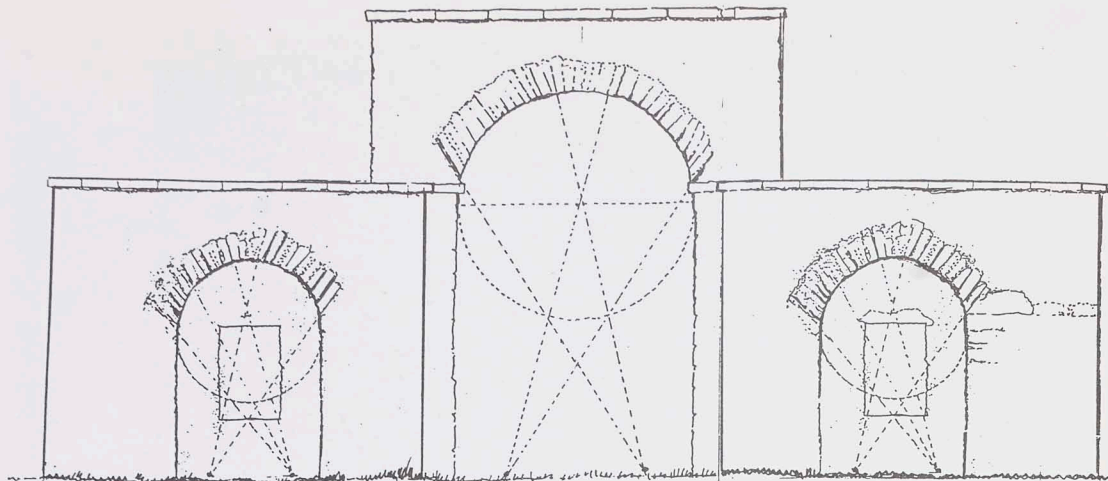
arch from long thin slates, makes no comment on the extraordinary setting-out. In England, the earlier Church of All Saints at Brixworth in Northamptonshire retains

a considerable mass of seventh century masonry in which are the remains of four arches constructed of reused Roman brick and set out in the same way subsequently employed at Kilvicoharmaig. Mutilation of the arches during successive 'restorations' has gone some way to conceal their original appearance but enough of the early work survives to show the setting out⁷. Above these arches of the Brixworth *porticus* are the arched lights of the clerestory where again the setting-out is unorthodox, following a pattern using the steeply angled haunch used at Exeter. Later in date than the Romanesque of Kilvicoharmaig, is the ruinous and much altered old Parish Church of Kilmore in Sleat at the south end of the Isle of Skye. The east window of this roofless church has a pointed, and perhaps late-medieval, gothic arch spanning an opening which may once have been divided into two or three mullioned lights (figure 6). The gothic arch is flared above the



(figure 6) Kilmore, Sleat, Isle of Skye. The archwork of the east window of the ruin of the former parish church showing the gothic arch and the seventeenth century round arch inset. The setting-out is indicated.

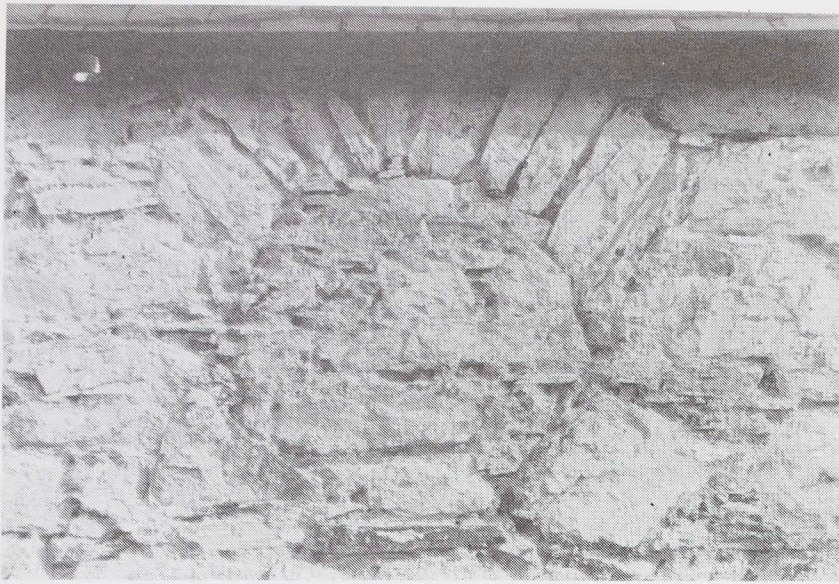
splay and is set out with steeply set, slate-like, voussoirs visible under decaying harl and plaster. Inside this arch is a later blocking pierced by a round arch set out in the same geometry used at Kilvicoharmaig. It is tempting to ascribe this inner arch as the work of masons employed here on one of the seventeenth century remodellings, of 1631 or of 1687⁸. Both are supposed to be dated by panels on the building but only that of 1687 survives. The ashlar, beaded, margin of the inserted seventeenth century window arch itself is set radially, in the orthodox way. This may here point to the supply of ready-cut voussoirs, for more highly finished detailing, direct from the quarry, a practice common enough in England from the late medieval period⁹.



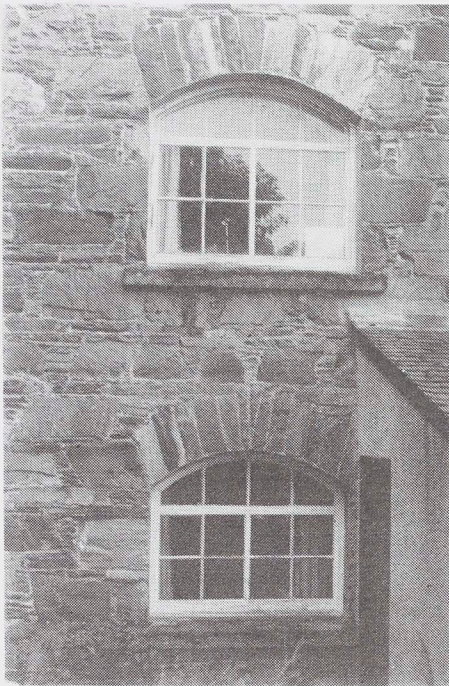
(figure 7) Strachur, Argyll. Sketch of the entrance-gate screen of c.1780.

Chronologically, the next arches having this second characteristic were recorded in the roadside gate-lodge to the park at Strachur in Argyll, forming the central opening and the two arches flanking it (figure 7)¹⁰. The carriage arch is very tall for its width, suggesting that it was built towards the end of the eighteenth century when sporting carriages with high, perch seats for the gentleman-driver (the crane's neck) were fashionable. The design is of patrician austerity, a mere frontis suggesting a Roman triumphal arch, with nothing to associate it with notions of the Picturesque. Analysis of the setting out of the three arches at Strachur suggests the method may have been even more extreme than that found in others. The convergence of the voussoir wedges seems intended to meet at points beyond the notional arch-circle on the ground-line of the elevation at a spacing within the span (figure 7 has these points indicated on a sketch elevation). Those on the left of the arch converge on a point a quarter of the span width from the right-hand pier, and vice versa. The cursory workmanship and the intractable nature of the stone have made any positive identification open to dispute. The selected stone had, by virtue of natural cleavage, edges too nearly parallel for them to radiate neatly from the setting out-points. This however did not prevent most other workmen from constructing arches of orthodox type from bricks having parallel sides, and an underlying, unorthodox notion must have been present to introduce the closely related anomalies of arches of the sort used at Strachur. The simple fact that here the three arches are of closely related setting-out, erected at the same time, to the same design and by the same workmen, underlines the conclusion that these unorthodox arches are certainly not the result of carelessness. It may be that the architect Robert Mylne (1734-1811) was involved in the design of the gate-screen in the early 1780s but there is no reason to connect him with the arch setting-out.

Most of these later descendants of the Kilvicoharmaig type are in workaday buildings, an association well illustrated by the circular opening found in the Steading at Balmacara in Wester Ross, intended either for a vent or window to a



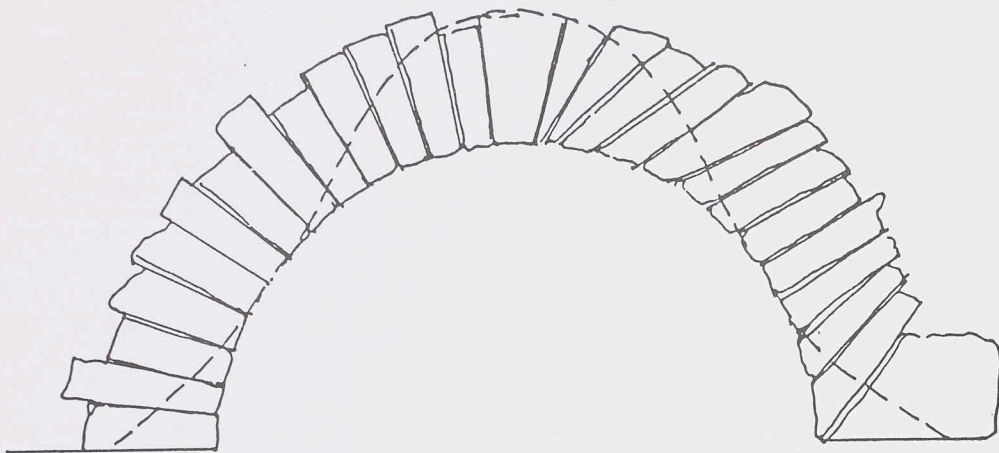
(figure 8) Balmacara, Wester Ross. The circular window of the Steading. Photograph by Paul L. Kershaw, 1994.



(figure 9) The segmental window arches of the Mill at Balmacara, Wester Ross. Photograph by Paul L. Kershaw, 1994.

first floor storage loft (figure 8). Only the upper part of this arch is built in voussoirs, the lower part being crudely built to complete the circle in rubble. Associated with this arch are the segmental arches over the windows of the former estate Mill (figure 9), and openings to admit wagons, and a variety of bridge arches, all of which seem to be set out using a point on the lower part of the circumference of the complete arch-circle. Some suggest another, and even more extreme type of setting-out, associated with that of the gate-screen at Strachur, where the radial point for the voussoirs is set mid way between the piers supporting the arch, at ground level.

The third type of unorthodox arch is not represented in any context earlier than that of the late middle ages but its period of use does extend well into the nineteenth century. The setting out employs the steeply angled spring of the first type, advocated by Serlio. Instead of gradually adjusting the voussoirs to meet at a keystone cut at an orthodox voussoir abutment, the voussoirs are gradually laid in ever-flatter alignment and then gradually steepened towards the highest point of the arch, meeting at an untidy rubble filling rather than a keystone proper (figure 10). The arches are, for the most part, built of fissile material ranging from slates



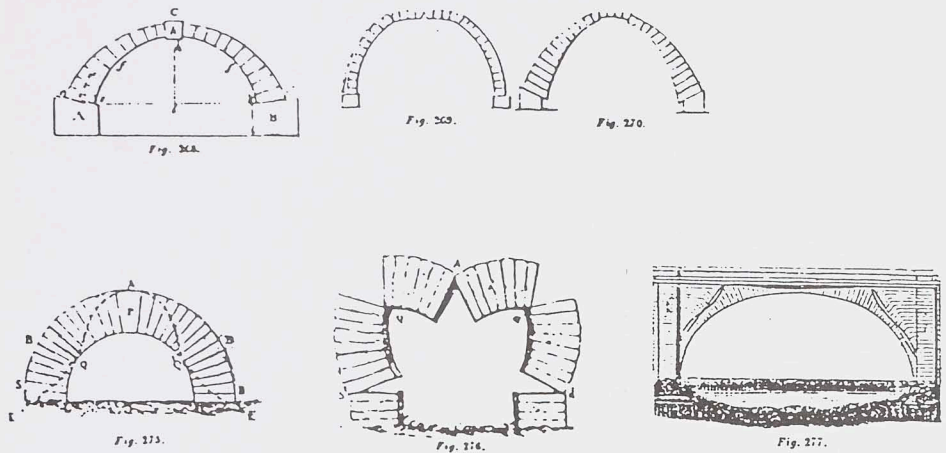
(figure 10) Diagram illustrating the orthodox setting-out of a round arch and the stress line suggested by Tomlinson, left, with, right, the irregularly aligned voussoirs found in many west of Scotland bridges shown meeting the stress line at right angles.

to attenuated, much rounded river boulders. There is, from the nature of the building material, a coarseness of workmanship which often obscures the real intention of the builder as to the setting-out, irregularities which sometimes appear to be, and probably are, the result of sheer carelessness. It is essential that the characteristics of each arc of the arch are compared with those opposite and, in the case of bridges, with those on the other side. In many cases it will be found that there is sufficient correlation between the arch quadrants to show what setting out was intended, however ham-handed the workmanship.

From comparison of several examples and a trawl through some of the more accessible nineteenth century references to bridge construction, and arches in general, it seems that there may be a contemporary structural, scientific basis for the seeming 'irregularities' of this third type. Several works, notably Tomlinson's *Cyclopaedia of Useful Arts and Manufactures* of 1854, present a summary of experimental research carried out since the mid eighteenth century into arch failure

under stress, particularly that undertaken by Emilian Marie Gauthey (1742-1806), and John Robison (1739-1805)¹¹. Their separate observations on collapsing arches are found to rely, to some extent, on the comments of experienced masons who observed the often protracted process of collapse. One particular arch, which was studied for more than a fortnight, displayed the first signs of collapse in flaking chips falling from the butted edges of the voussoirs as they turned ‘on the edges of one another after the manner of a hinge, or by the stones slipping upon one another’.

The *Cyclopaedia* has two rather poor woodcut illustrations showing the symptoms of collapse. An excessive load at its haunches causes one arch to rise at its crown and the haunches to fall. The second illustration (see figure 11) shows an



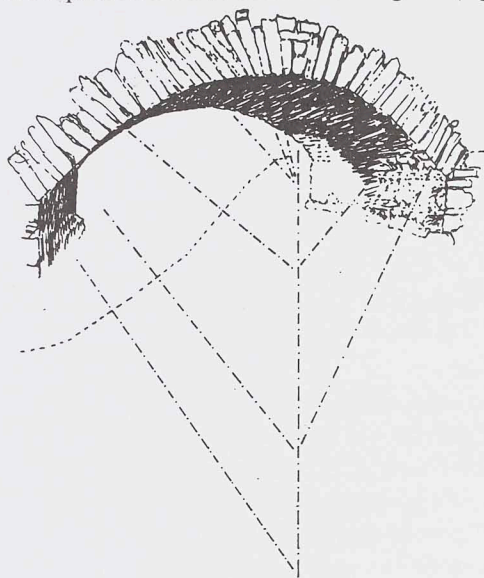
(figure 11) Illustrations from Tomlinson fig. 269 and fig. 270, arches under stress (note the angled springing of fig. 270). fig 273, orthodox round arch with stress line. fig. 274, diagram showing the final stages of collapse of an overloaded arch. fig. 277, bridge arch showing the effects of settlement after the removal of the wooden centres. The original straight lines cut to demonstrate the experiment are shown with, superimposed, the serpentine line which they became after settlement.

arch overloaded at the crown, its upper part flattened and its haunches forced apart. The arches are of different types, the one overloaded at its crown is orthodox but the other has the angled springing of Serlio's illustration, a characteristic not mentioned in the accompanying text. Another woodcut shows the points of fracture during the final stages of the collapse of an arch overloaded at its crown. The *Cyclopaedia* also illustrates the settlement to be expected when the centres of an arch are struck. The extent of the masonry movement was recorded by incising straight lines across the voussoirs. These ran at 45 degrees from the springing on both sides of the arch and horizontally through the keystone to meet the diagonals. The settlement of the arch was then clearly visible from the distortion of these

originally straight lines (in this context see also Kelly, p.49 and folding plate XVIII figure 4).

Perhaps the most significant of Tomlinson's illustrations, in the present context, is one showing the path followed by stress within the voussoirs of a round, orthodox arch. The line was probably identified by plotting the flaking of voussoirs under pressure at various parts of the arch. If the voussoirs of an arch were to be turned to meet the stress line shown in the diagram, at right angles, then the sequence of voussoir angles recorded in some Scottish bridges would result. It is perhaps significant that the lines shown on the *Cyclopaedia* illustration seem to be the result of observation rather than calculation, and may have been known to earlier generations of masons, of a more enquiring mind and long experience, at least as far back as the seventeenth century.

Several bridges carrying the old road from Lochgilphead to Campbeltown in Argyll exhibit these characteristics. One of these, now bypassed, at Rhunahoarin, is a good, late eighteenth or nineteenth century example where, despite the rough workmanship, each spandrel follows a similar setting-out (figure 12). There is some



(figure 12) Rhunahoarin, Argyll, bridge showing setting out of the voussoirs. On the left of the sketch the stress curve illustrated by Tomlinson is shown in relationship with lines produced from the voussoir joints. From a photograph by my daughter Kate Roberts.

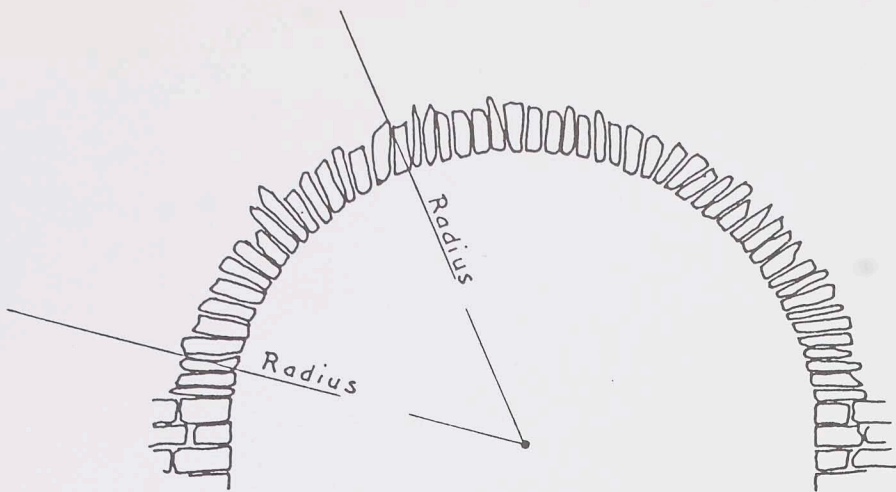
evidence for their use in earlier structures. The chancel arch of the ruinous Kirk of Ness, Shetland, recorded by MacGibbon and Ross, 1886, in a rather inadequate sketch, despite distortion from stress and exposure to the elements, shows much the same setting-out (figure 13).

Ted Ruddock is almost the only recent observer to have noted the curious, and apparently careless, setting of the voussoirs of some Scottish bridges. The unnamed bridge he chose to illustrate the cavalier voussoir setting is not untypical

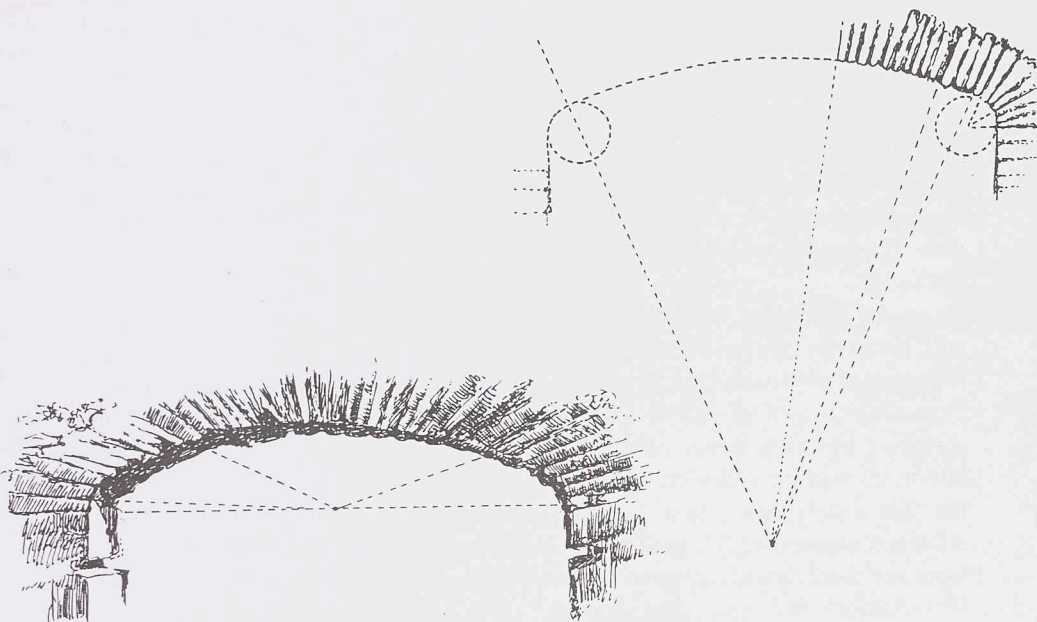


(figure 13) Kirk of Ness, Shetland, the Chancel arch. The detail shown by MacGibbon and Ross (1, p.156, fig. 126) beyond the arch into the chancel has been erased for clarity in showing the setting-out.

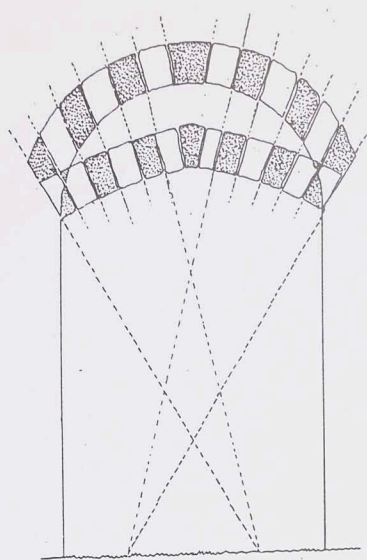
(figure 14). It is disappointing that in his wide-ranging discussion, the sporadic occurrence of the sort of arch seen at Rhunahoarin was not recognised. It might be suggested that the less intelligent of bridge-builders may have misinterpreted the quasi-scientific setting-out of bridges like Rhunahoarin as a licence to throw in voussoirs at any angle. Where the voussoir setting of vaulting in both churches and tower-houses has been exposed by partial collapse there are clear indications that no particular attention was paid to setting the stones to meet the arch-circle at right angles. In compartment vaulting of this sort, the arched section was never seen, but in bridges, where the vault runs out into the arch rather than a blind wall, the two ends were visible and had to be more carefully constructed. Where ashlar voussoirs were used for the bridge arches the rough workmanship of the vault could be concealed. In cruder bridges where a roughly laid, rubble vault ran out into the arch faces, it must have proved very difficult to correct and it is probably from this cause that the arches noted by Ted Ruddock are so inconsistent in their voussoir setting.



(figure 14) Ted Ruddock's illustration of a random rubble arch, unidentified, of careless workmanship. Ted Ruddock, *Bridges and Roads in Scotland 1400 - 1750*, Cambridge, [n.d], fig. 34. (reproduced courtesy of Cambridge University Press).



(figure 15) A nineteenth century arch in the ruinous coach-house of Dunstaffnage Castle; (a) the arch and its setting-out; (b) the orthodox setting-out which should have been used.



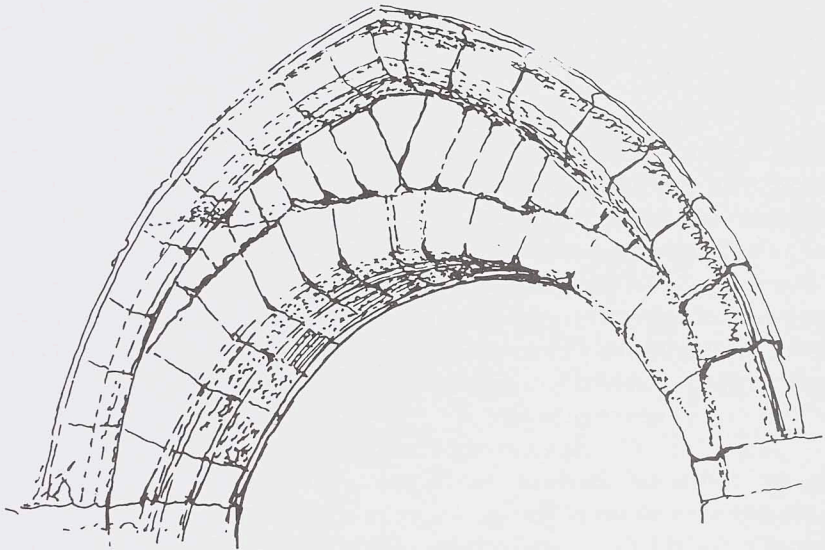
(figure 16) The setting-out of a two-centred depressed gothic arch shown with a round arch superimposed. The round arch voussoirs radiate from these points as do those of the Strachur gate-screen shown in figure G.

As though the number of unorthodoxies was still insufficient, a further aberration occurs in the early nineteenth century coachhouse at Dunstaffnage Castle (figure 15)¹². Here the orthodox setting-out for a round arch was incorrectly applied to a depressed, three-centred arch built of fissile rubble. The reasoning behind this bizarre choice is a mystery, any mason of the period would surely have known how to set out the tight quarter circle of voussoirs at each springing of the arch, even by guesswork rather than line. It may be suggested that the setting out of the arches in the gate-screen at Strachur is related to this idiosyncrasy too. The points used for the governance of the voussoirs there, are those of a two-centred depressed gothic arch. The setting out for the gothic arch and for a round arch are shown together in figure 16.

An illustration of the way in which a mason, in this case an octogenarian with over sixty years experience, could choose a similarly wrongheaded approach, happened at Greshornish in Skye only a year or so ago. It was proposed to build a three-centred arch of rubble voussoirs with a triple 'Gibbsian' keystone and springing blocks in heavy sandstone ashlar. Although the drawing given to the mason showed the orthodox, pattern-book setting out, he set out the voussoirs of the tight arcs at each side with the steeply angled springing described by Serlio. After some increasingly heated discussion the mason was tactfully removed to other work and the arch was completed 'correctly' by relatively inexperienced workmen. Unfortunately the mason died soon afterwards and it was not possible to find out where he had picked up his notions of the right and 'wrong' ways of doing things. Of course all this happened some time before these earlier unorthodoxies were recognised as something significant. At the time it seemed he was the one at fault.

Now it seems he may have been the last survivor of a long line of vernacular masons working in a Scottish tradition. In returning to the problem of the Dunstaffnage arch, it may well be that it was regarded as a relieving arch to a straight, wooden lintel. Relieving arches seem to have a law unto themselves as far as setting-out is concerned. Quite early examples, like one sandwiched between two orthodox arches at Middleham Castle in Yorkshire and formed of parallel-sided ashlar blocks meeting at a wedge keystone, show many inconsistencies (figure 17). In later building, a good set of irregular, segmental relieving arches is found over the windows of the shop at New Lanark built late in the eighteenth century.

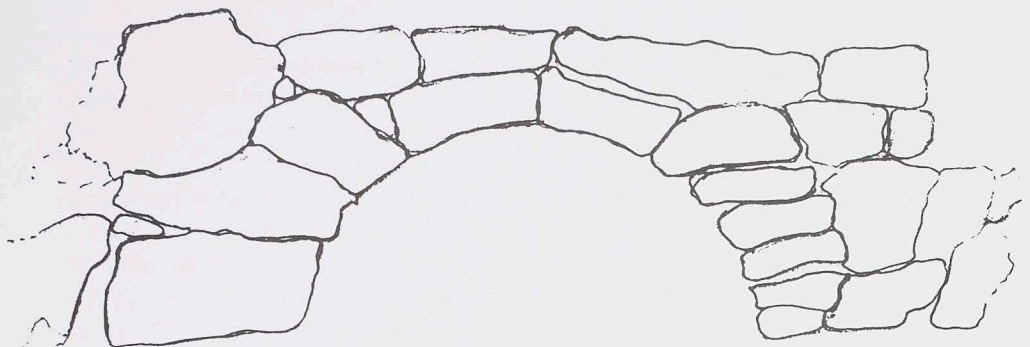
It might have been thought that there may have been an association between unorthodox arches of Kilvicoharmaig or Brixworth type and the later scholarly, antiquarian-picturesque favoured by a few dilettanti. There is, however, nothing to suggest such an association here. Having briefly mentioned the Picturesque earlier, it is appropriate that at least one arch associated with the movement is illustrated. Paul Sandby produced a design incorporating the requisite attributes of Roughness, Archaic Form (rather than Gothick) and nods in the direction of the *genius loci* and perhaps a tutelary *joss*¹³. The design was made between 1769 and 1782 (although dated 1805 by a later hand) (figure 18). His arch starts with corbelled springings. On these, a wedge-shaped block set at each side carried two curved stones completing the arch. A suitably attuned, contemporary observer might have taken in the corbelling as 'primitive' and the spring and curved stones, without the refinement of a keystone, as 'savage' - even 'Saxon' - in derivation. The underlying



(figure 17) Gate-arch at Middleham Castle showing the tympanum between the upper, two-centred arch and the lower round arch.

influence was almost certainly that of largely imaginary Anglo-Chinois garden building, peopled by a host of minor architectural accents and fantastic 'natural'

rockwork. It must be remembered that this bridge was built during a period of speculative investigation into the very beginnings of buildings, embracing the Abbe Laugier's primitive hut and 'Adam's House in Paradise' as well as the 'Cyclopaean' arch¹⁴. This facet of eighteenth and nineteenth century aristocratic building is one which many down-to-earth investigators of the vernacular may often miss.



(figure 18) The setting-out for a picturesque rustick arch, based on one of 1769-1782, by Paul Sandby. Sandby's heavily textured water-colour rendering of the weathered stones has been erased to show the 'primitive', and somewhat unstable, construction more clearly

The topic is far from exhausted. It is likely that many more examples, perhaps hundreds, of the types discussed here will be found throughout Scotland. Having tried previously to enlist the interest of SVBWG members in these unorthodox, and largely vernacular, arches, it is hoped the publication of this short account will attract more attention. Should a number of examples be found it would be interesting to plot their positions to provide a distribution which may prove or disprove the notion that they are more frequently to be seen in the west of Scotland. Anyone identifying the various unorthodoxies in their area is encouraged to send me a description, preferably with a sketch or photograph, and an OS reference so that their distribution may be plotted.

A word of caution is necessary. Photographs taken from oblique angles may often be misleading. Baldwin records one or two possible sightings¹⁵. A tall segmental arch with steeply angled voussoirs to the lower part of the draw-arch of a limekiln at Cat Craig near Dunbar is clearly seen in a frontal photograph. An oblique shot of the interior of the Cross Kirk at Peebles seemed to show steeply pitched voussoirs in the lower part of a semi-circular arch of late thirteenth century origin. The late Dr. Martynoga was kind enough to photograph these arches in the

Cross Kirk from a less oblique angle, showing the characteristic to be much less marked than at first appeared.

References

1. For example see, Batty Langley, *A Sure Guide to Builders*, 1729, 9 figures on plate. 58, &c.; Thomas Kelly, *Practical Masonry, Bricklaying and Plastering*, ... (with) ... ample detail on the theory and practice of constructing arches, domes, groins..., 1851, pp.2-4, plate I; Edward Tarbuck, *The Builder's Practical Director* [n.d. but 1855 -56], pp. 89-94, Nine figs. in text and figs. 20, 21 and 22 on plate 18.
2. Sebastiano Serlio, *The Book of Architecture of Sebastiano Serlio*, 1611, reprinted Blom, New York, 1970 with an introduction by A. Santaniello, (pages un-numbered except in ff.).
3. No mention is made of this open, arcaded building (thirteen bays by five) in Augustus J.C. Hare, *Walks in Rome*, 2 vols, [n.p.], 1893, or in H.V. Morton, *A Traveller in Rome*, London, 1957. It seems that the ground plan printed by Peake in 1611 must have been a reconstruction of that of a largely destroyed structure which has since vanished altogether.
4. Nigel and Mary Kerr, *A Guide to Norman Sites in Britain*, London, 1984, p.17.
5. William E. Kapelle, *The Norman Conquest of the North: The Region and its Transformation 1000-1135*, London, 1979.
6. David MacGibbon and Thomas Ross, *The Ecclesiastical Architecture of Scotland from the Earliest Christian Times to the Seventeenth Century*, I, Edinburgh, 1886, p.91. See also RCAHMS Argyll 7: *Mid Argyll and Cowal, Medieval and Later Monuments*, Edinburgh, 1992, pp.67-68, item 33.
7. Nigel and Mary Kerr, *A Guide to Anglo-Saxon Sites*, 1982, p.87
8. Samuel Lewis, *Topographical Dictionary of Scotland*, 1846, II, p.471 (s.n. Sleat).
9. For example see, W. Douglas Simpson, *The Building Accounts of Tattershall Castle*, Lincoln Record Society, 55, 1960, pp.44-45. In addition to 560 'free stones', presumably rectangular walling material, there were "...9 stones called perpont asshelers...forme p(i)eces... (and)...13 stones called odgyfes' sent from various quarries in 1534-1535 which were obviously ready-cut components.
10. RCAHMS, p.365, item 179, and illustration A.
11. *The Cyclopaedia of Useful Arts and Manufactures*, ed. by Charles Tomlinson, [n.p.], 1854, (s.n. Bridges). His figure numbering is shown on those reproduced here. Tomlinson's summary leans heavily on the work of E.M. Gauthey, *Traite Complet sur la Construction des Ponts et des Canaux Navigables*, 2 vols, [n.p.], 1809/1813, and that of J. Robison, *Elements of Mechanical Philosophy*, [n.p.], 1804.
12. Lorn MacIntyre, 'Castle of Memories: Dunstaffnage', *Scots Magazine*, 133, 3, (June 1990), pp.236-244. I am indebted to the Editor for a copy of the photograph from which figure 16 has been redrawn. This photograph was cropped at the top, omitting the tops of the voussoirs, but is clear enough to identify the unorthodoxy.
13. Paul Sandby, design for a Picturesque rockwork arch, 1769-1782 (dated 1805) V&A 3436/174. It seems associated with works at Virginia Water. There is perhaps yet another association, with the insinuating Chinese taste, see for example, the plate from J.C. Krafft, *Recueil d'Architecture Civile*, [n.p.], 1812, and another from G. Le Rouge, *Détails des Nouveaux Jardins à la Mode*, [n.p.], 1774-1789, reproduced in Patrick Connor, *Oriental Architecture in the West*, London, 1979, p.91, figure 55, and p.93, figure 56.
14. Joseph Rykwert, *On Adam's House in Paradise: The Idea of the Primitive Hut in Architectural History*, 2nd edn, London, 1981.
15. John R. Baldwin, *Exploring Scotland's Heritage: Lothian and the Borders*, 1985, Edinburgh, pp.48-49, and p.108.

Illustrations

All illustrations, except where otherwise stated, are by the author.

DESCRIPTIONS OF A CORRUGATED IRON BUILDING AND A HOODED FIREPLACE ON MULL

Robin Callander

Corrugated iron building, Gaodhail, Glen Forsa, Mull

NGR NM 6100 3855

Near the head of Glen Forsa, Mull, on the south side of the Gaodhail River, about five hundred metres ENE of a deserted township, is a rectangular corrugated iron building with a hipped roof.

Measuring overall 9.0 metres NNW/SSE by 4.25 metres transversely the building contains two rooms separated by a stone wall which extends to roof level and is surmounted by a squat natural stone chimney-head which has a string course above roof level. The backing for the corrugated iron cladding, which consists of full sheets on the lower part and half sheets above, is dressed timber except for the four corner posts which are round undressed timbers. The hipped roof, supported on rafters with a collar beam, is slated with zinc ridges and has no gutter at the eaves.

The room at the SSE end

The room measures 3.9 metres NNW/SSE by 3.7 metres transversely, and apart from the stone partition wall, which is plastered, the walls are lath and plaster from floor to the wall-head at 1.8 metres. The ceiling, which at its centre is 2.3 metres above floor level, is formed of lath and plaster affixed to the underside of the roof rafters and collar beams. There is a doorway, 0.75 metres wide, in the front wall which has its SSE margin 1.0 metres from that end wall. The door is missing but was probably hinged on its SSE side and similar to that in the front wall of the room at the NNW end.

In a recess, 0.8 metres deep, in the N corner, at the ENE end of the partition wall, is a further doorway, 0.7 metres wide and 1.88 metres high, connecting with the room at the NNW end. The doorway is framed and lined; hinged on its WSW side, it opens into the room and has a latch fastening.

The room has an earth floor but may originally have been wood-floored as the connecting doorway recess is wood-floored.

The room at the NNW end

The room measures 3.6 metres NNW/SSE by 3.7 metres transversely and, as in the other room, apart from the stone partition wall, the walls and ceiling are of lath and

plaster. There is doorway, 0.75 metres wide, in the front wall, with its NNW margin 0.25 metres from that gable. The door is in two halves, each framed and lined; hinged on the NNW side, it opens into the room. The upper half is secured by a latch, the lower half by a bolt. In the E corner, at the ENE end of the stone partition wall is the door from the room at the SSE end, and from the top margin of that door a timber batten is set into the partition wall as far as its WSW side.

In this room is the only window in the building. It is in the front wall with its NNW margin 0.55 metres to the SSE of the SSE margin of the doorway. The window, 0.75 metres wide and 0.9 metres high, with its sill 0.8 metres from the ground level, currently has two panes either side of a fixed vertical astragal, but these may not be original.

Set into the partition wall is a fireplace, its ENE margin 0.87 metres from the WSW margin of the internal connecting doorway. The fireplace is 1.0 metres wide and 0.45 metres deep; 0.9 metres above floor level a metal bar supports a lintel of semi-dressed stones. Inserts 0.45 metres high on either side of the fireplace reduce its width, forming a grate 0.4 metres wide raised above ground level and fronted by metal bars. Above this grate is a iron swinging arm affixed to the ENE side of the fireplace recess.

The floor of the room, which was turned into a byre, has been relaid in concrete with a drain leading to an outlet in the NNW end wall, but originally it was probably wood-floored as the connecting doorway recess in the room at the SSE end is wood-floored.

The enclosure

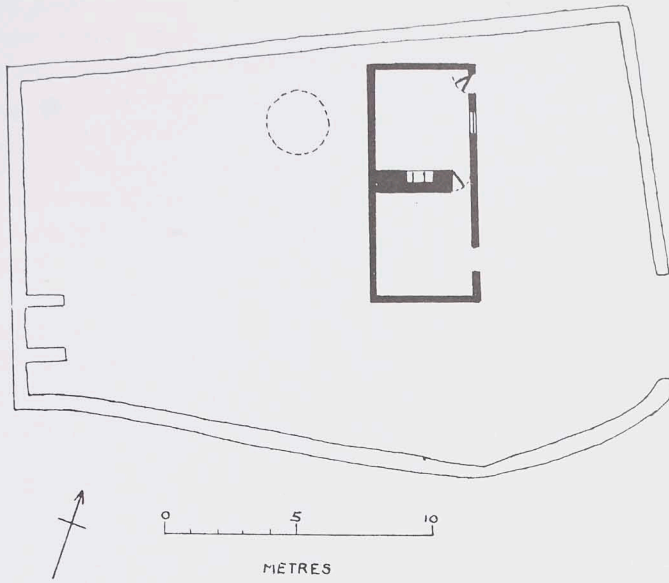
The building is within a sub-rectangular enclosure 23 metres ENE/WSW by 15 metres transversely within a turf and stone bank up to 1.0 metres thick and 0.5 metres high with an entrance at the SSE end of the ENE bank. In the SW corner are the founds of two spur walls built against the bank on the WSW side.

To the rear of the NNW end of the corrugated iron building is a circular stone base (possibly a peat stand) 2.5 metres in diameter.

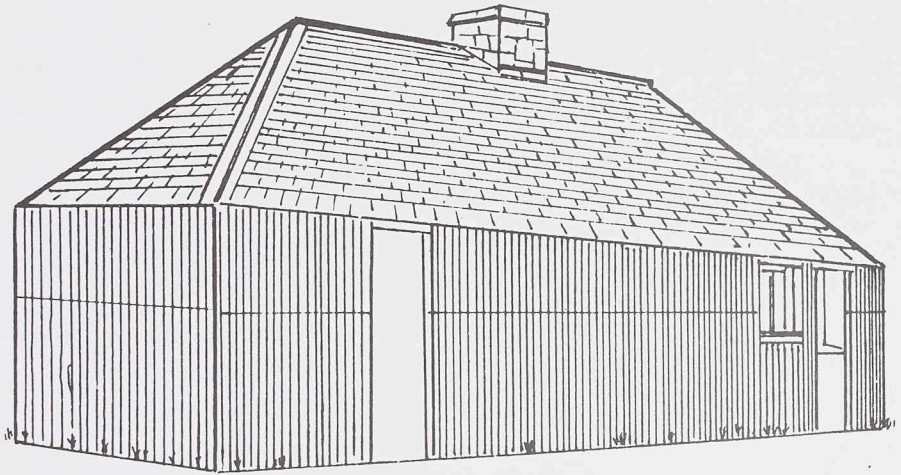
Date and purpose

The building was reputedly a schoolroom with living accommodation for the teacher. Its date has not been ascertained.

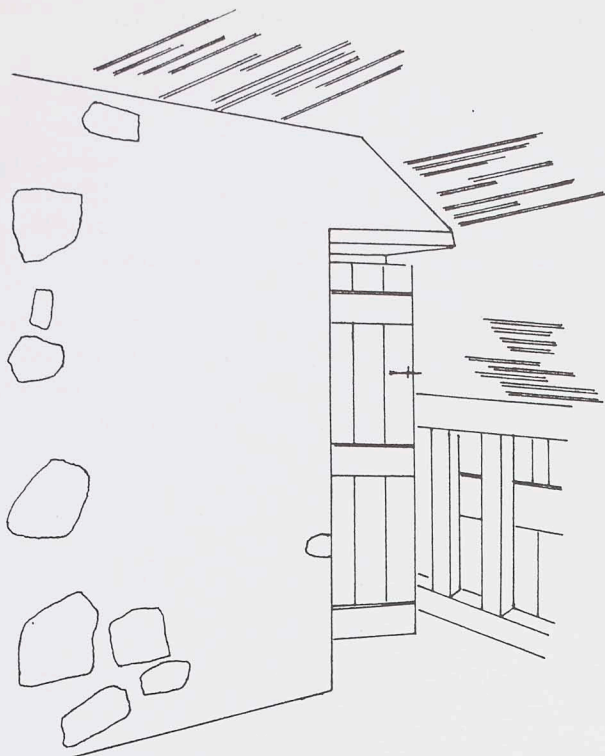
Illustrations



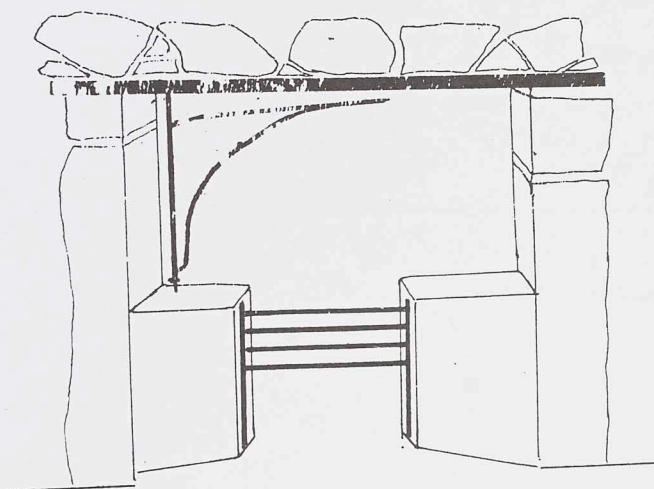
Plan of building and enclosure



The building from the SE



The communicating door from the SSE room



The fireplace in the NNW room

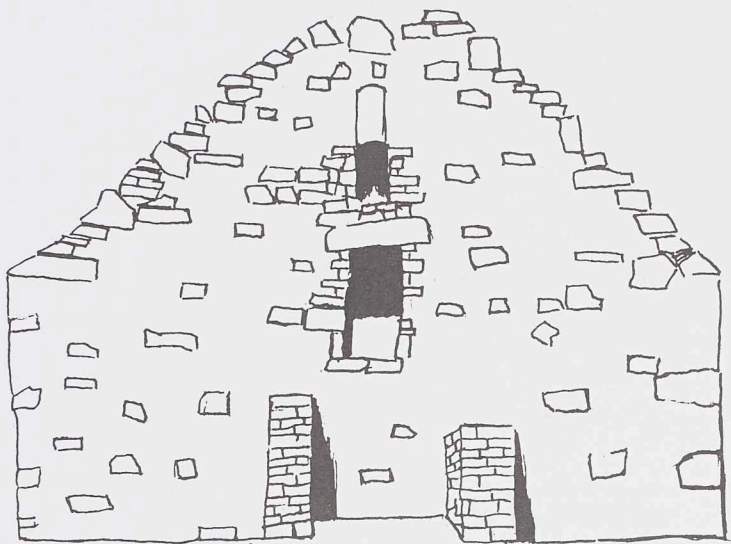
A hooded fireplace, Tor na Sean Airidh, Mull

NGR NM 375 201

At Tor na Sean Airidh on Mull is a ruined single storey building with a garret. It measures 9.5 metres NNE/SSW by 6 metres transversely within mortared semi-dressed stone walls, plastered on the inner face, 0.7 metres thick and standing to original height. In each side wall are two windows, and between them centrally on one side is the entrance. Within the building there are the founds of a central partition, creating a room at either end. Only the room to the north of the partition has a fireplace.

The fireplace, in the NNE gable, has short spur walls on either side forming what was probably a hooded fireplace. The hood is now missing, revealing an inclined slot leading back into the core of the gable. Above this slot a circular vent largely within the gable leads up to the chimney head which is now missing.

Illustration



Fireplace and flue in NNE gable

BUILDINGS AND ARCHITECTURAL TRADITIONS IN NORTH-EAST SCOTLAND c.1600-1914

Elizabeth Beaton

I developed a course under this title for the Centre for Continuing Education, University of Aberdeen, during the winter of 1994-5, teaching between February and June 1995. The course is one of a series emanating from the Centre, leading to (for those who wish) a Certificate of North-East Studies. Successfully completed courses have a 'points' value, each contributing specific or general credit towards degree awards: 'points' gained can also be transferred to the Open University. Essays, projects and exam papers are externally moderated to ensure that appropriate undergraduate standards are applied.

Other courses have been devoted to the Prehistory of the North-East; Place Names in North-East Scotland; Fishing and Fisherfolk in North-East Scotland; Land-Use in North-East Scotland; and Plant Ecology of North-East Scotland.

For my course, the subject matter was divided into five themes, each slanted to an aspect of traditional and vernacular building in rural and coastal North-East Scotland, but all overlapping and inter-dependent:-

1. Introduction and Building Materials of North-East Scotland;
2. Tower-houses, Lairds' and Merchants' Houses;
3. Rural Buildings: the Estate and the Farm;
4. Planned Villages in the North-East;
5. Fishertowns and Harbours.

The object of the course was to introduce students to building traditions and traditional buildings, and to indicate how 'vernacular architecture' grew in response to various influences and needs - social, economic, farming, fishing and geological. It was also to indicate how the same building type could be expressed differently in separate parts of the North-East, resulting in a different but individual built landscape. Another objective was to identify the difference between traditional buildings, and those consciously designed by architects. The subject matter covered a wide field, but I wanted students to be able to follow their own preferences and relate to the built environment with which they were familiar, while at the same time widening their experience of building traditions in the North-East.

Four Saturday study days were held in Aberdeen University and there was one whole day field trip. The course was supported by material developed in a 'workbook' containing relevant essays, excerpts, drawings and maps, and also by taped lectures. Each participant had to complete one essay and one project, the

latter on any traditional building, vernacular construction material, village or fishertown chosen by the student in agreement with me as a tutor.

Twenty-five students attended, from all over the North-East, bringing with them a variety of experience, knowledge and outlook. Of these, twenty completed all the work of the course for assessment purposes, including two serving offshore on oil-rigs.

The individual projects enabled each student to study and record a building or village in which he or she was interested. The results were a gold-mine. Many were totally professional in their production, with the texts accompanied by appropriate photographs, measured drawings, maps and bibliographies. Farm steadings were measured and drawn, fishertowns were written up, and there was even a study done by a student, undertaking some field work while pushing her mother's wheel-chair, of brickworks, demolished, and the site of a graveyard for at least a century.

I found the course and students stimulating and gained immeasurably, both in knowledge and friendship. I particularly learnt much about fishertowns and fisherfolk from those who had been brought up in that environment so often difficult for me as an 'incomer' to penetrate.

The course will be repeated in Elgin, commencing in February 1996.

Acknowledgements

I am grateful to Dr Melvin Dalgarno, Director, Centre for Continuing Education, University of Aberdeen, for reading the draft of this paper and for his helpful comments.

**The following two papers were submitted as part of the course
Buildings and Architectural Traditions in North-East Scotland
c.1600-1914.**

What matters to me, and I hope to my readers is the visual aspect of our (traditional) buildings, and the reason why they look as they do in one place, and perhaps so different only a few miles away

(Alec Clifton-Taylor)

William J. Howard

Alec Clifton-Taylor's great love was the vernacular architecture of England and it is from the introduction to his book *The Pattern of English Building* that the opening quotation is drawn¹. His observations, however, could equally apply to Scotland, or indeed any location in any country. Through his remark, Clifton-Taylor is directing his readers to ponder two fundamental aspects of vernacular architecture. Firstly, the buildings concerned should fit easily and comfortably into their surroundings. The second aspect, which is intrinsically linked to the first, is that it is largely the surroundings themselves which dictate the form of the buildings. These two features have certainly been true in the past, although in more recent times, imported materials, techniques and fashions have sometimes radically changed the scene, and not with universally happy results. This essay aims to expand on Clifton-Taylor's observations by considering the variety of North-East vernacular styles, and in so doing, to attempt to answer the question he raises.

The North-East's remarkable variety of building styles does not occur purely by chance. From castle to croft there is an unmistakable architectural flavour which has no parallel elsewhere, a flavour which is a blend of several ingredients - geological, cultural, commercial, climatological and environmental.

Of these ingredients, the geology of the North-East exerts the most readily apparent influence. The Granite City and the ubiquitous presence of this material throughout the region tends to divert attention from other equally worthy building materials. Moray, for instance, boasts many splendid buildings, private and public, constructed of the finely textured, pale ochre sandstone from the quarries around Elgin and along the adjacent coast. Further east, outcrops of old red sandstone provide a range of subtle colours, from pinkish gold to warm red, seen in buildings throughout Banffshire. Less apparent is the significance of clay as a building material. Clay, puddled with organic material such as straw, provided a very acceptable bonding agent for the abundant supply of water washed boulders from rivers or the foreshores. This 'clay and bool' technique provides a very serviceable result, particularly when protected by a limewash. Once neglected, however, it succumbs to the elements and in the space of a couple of centuries can literally return to the soil. In some areas, walls were built of clay and organic material alone. However, even if these were faced with stone for weather resistance, persistent

water penetration and winter frosts would eventually take their toll. Consequently, there is now only a scattering of surviving examples of these clay construction techniques to be found in the North-East. Should that same clay be fired, however, it is more capable of resisting the climate.

In the past there were many brickworks around the coast from Banff to Aberdeen. Originally producing field drainpipes during the great agricultural expansion of the eighteenth and early nineteenth centuries, these works subsequently diversified into brick and tile manufacture. Whilst drainpipes were used extensively throughout the region, the use of brick and tile for building tends, with a few exceptions, to be confined to localities close to the production sources such as Banff and Cullen. A cheaper alternative to building in stone, bricks also offered opportunities for embellishment, either through variations in the bonds and courses, or by use of specially moulded bricks. Fired clay tiles, usually of the pantile variety, found a ready market in those areas whose distance from the region's sources of roofing slates, notable Enzie and Foudland, resulted in disproportionately high transport costs.

Occurring at a few exposures throughout the region such as those at Sandend, Dufftown and Tomintoul, limestone fulfils an important part in North-East architecture. Burned in kilns, it produces the quicklime traditionally used for mortar, wet-harl or limewash.

This rich geological diversity provides the basis for the widely differing architectural styles in what is a relatively small geographical area. Thus an Elgin town house of finely dressed, mellow Covesea sandstone will present a very different appearance from its rather stern, solid and grey counterpart in Aberdeen. Different again is a family home in Turriff, whose warm red sandstone provides ample opportunity for embellishment, or again an Inverurie house with its random rubble walls presenting a delightfully subtle variety of colours and textures. Clearly, however, other influences are also at work.

Whilst local culture may have influenced general architectural patterns, contacts with cultures outwith the region, often through commerce, have produced modifications. The previously mentioned style of pantiles for instance, owes more to continental Europe than to Scotland's southern neighbour. Attractive Italianate gate lodges are to be found at Keith Hall near Inverurie. Further north however, near Forres, the lofty arched Tuscan style cart shed of Altyre House must have seemed a little impractical to a rain-soaked groom wrestling to harness up his coach and pair in the teeth of a January gale. Baronial houses show variously French and Rhineland influences, as, for example, at Balbithan House and Pitcaple House. Elsewhere, such as at Kirkhill House, Oldmeldrum, ornate Dutch gables hint at long-established trading links with the Netherlands.

Commerce within the region also leaves its mark on architectural style. The Victorian working population in one of the more prosperous burgh towns would have different aspirations in terms of style to those of farm workers in the isolated rural areas. A three bay, one and a half storey house in a more prosperous area of

Aberdeenshire, whilst offering the same in terms of accommodation space and general overall shape, will display distinctive differences from a house in a remote part of the Garioch. The former may show expressions of style; there might be ornate skewputts, a string course of masonry along the front elevation, or an eye-catching blend of red and grey dressed granite. In the rural area, however, harsh practicality would dictate a style that is more down-to-earth, but that is, in its own way, equally attractive in its simple, unembellished use of natural materials. At the other end of the scale, one can sometimes detect a subtle distinction between a tower house that has evolved over many centuries in the hands of an aristocratic dynasty, and a more contrived edifice, where extravagant contemporary fashion combined with a quest for historical atmosphere have occasionally resulted in something approaching the Disneyesque. Generally, where any building style is more than purely utilitarian, it will make a statement about the owner's perceived position in society, and by inference, his commercial success. The breath-taking extravagance of the gate lodge to Dunecht House, near Aberdeen, was clearly intended to impress on all who approached it that here was the property of a man of some considerable importance.

Climate may be the least apparent of all influences. Consider the pantiles again. They are appropriate in a warm continental climate, but perhaps not so well suited to decades of winter frosts, weeks of rain, and the Buchan haar. Glazed tiles, though expensive, are not unknown. A more usual, though rather inelegant, solution is either to coat old, porous tiles with a mortar slurry, or to paint them with pitch. This latter technique is most often seen in coastal villages (coincidentally the most common area for pantiles) where pitch would be readily available for boat maintenance. The coating of basic surfaces with a protective layer is seen also in the use of various harls. Whilst the purpose of this may be partly to disguise a less than attractive walling material, its primary function is protective. This was particularly so in the past, when in the absence of gutters and drainpipes, water run-off would cause serious erosion to clay or mortar. Individual areas of the North-East will display different types of harl with variations in texture and colour as a result of differing local aggregates used in the mix. The warm pink harl noted on many tower houses is perhaps one of the most attractive. Less so, to some, are those using imported aggregates such as Skye marble chips. Effective drainage will also be a factor in determining roof pitch, which itself can significantly influence the appearance of a building. Slates, tile or thatch will all demand different optimum angles of pitch to effect efficient drainage. Roof pitch can also be modified by other factors such as the creation of accommodation space or the whims of fashion.

In some respects, environmental influences approach those of geology in their significance. Earlier fishertowns often demonstrate random development pattern with houses joined together, gable end to the shore to give maximum mutual protection from the raw weather. However, with the late nineteenth century expansion of the herring fishing industry, these villages developed dramatically,

frequently adopting a gridiron pattern, as at Portknockie or Cullen. This provided a system of parallel roads and wynds leading directly to the occupants' workplace at the shoreline, and giving ready access for the transport of bulky equipment requiring maintenance - sails, nets, masts and even smaller boats. This economical gridiron access pattern is also found in many planned inland villages, where architects were able to start with a fresh site. Such villages, of which Fochabers is a prime example, generally have wide, straight streets giving fine perspectives and uninterrupted views of house frontages. They have a charm of their own, which is quite different from that of other communities that have developed gradually over the centuries.

The nature of the land will determine the type of farming undertaken. The emphasis may be on arable farming in many different forms, or on livestock, where the methods of sheep or cattle rearing can also be very different. Each type of farming will result in distinctively different types of farm buildings.

Environmental changes also alter building patterns. Past disturbance of the fragile ecology of coastal dune areas resulted in the prohibition of the use of marram grass for thatching. Drainage and taking out of the higher moorland areas limited the availability of turf for roofing. Subsequently, when repair or replacement was required, it was often with Welsh slate or corrugated iron. Both these materials became widely available, at moderate cost, with the coming of the railways. For protection, corrugated iron may be treated with red or green paint, or perhaps pitch, any of which can give a pleasingly attractive appearance when combined with white limewashed walls. The arrival of the railways also introduced concrete as a building material, its characteristic drabness often being disguised with cleverly executed paintwork.

The wide variation in appearance and style is the result not of any one of the above influences, but of a combination of many. Materials common to one area will also be found elsewhere in the region. Thus bricks will be used for chimneys or a walled garden in a predominantly sandstone area. Tooled granite masonry is used with red sandstone to great effect in Banffshire, and there is extensive use of sandstone ridge tiles and window rybats in the Granite City. This infinite architectural diversity is one of the North-East's most attractive facets. Despite dramatic changes in the pattern of new buildings over recent years, it is still the older, vernacular styles which truly reflect the character of the landscape in which they are set.

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Plan of Portknockie as it appears on the Ordnance Survey first edition map, 1870. Focused on the arc of Portknockie Hythe, the oldest part of the town is in the centre and displays a fairly random disposition of houses. To the immediate east and more particularly to the south of this centre, a markedly more formalised layout of straight streets is apparent, the result of nineteenth century planning. Further east still, twentieth century developments have continued with this formal pattern.

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THE HOME WAS ALSO THE WORKPLACE - FISHER HOUSING

William S. Hossack

Our title, framed in the past tense, is presented as a statement of fact. The task is to test that statement supported by our knowledge of fisher housing traditions, with particular reference to siting and plan form. As no chronology is specified, we cannot deal with this subject on a 'snapshot in time' basis; it is an ever changing scene. Differing methods of fishing carried out by successive cohorts of fishermen determined the nature and degree of involvement in the home.

A brief reference to fishing methodology is necessary. White fish were caught on lines prior to the advent of seine-net in the 1920s. Inshore small line fishing required heavy domestic input due to daily baiting and repair of lines in the

home, well described by Margaret King in 'Partnership of Equals'¹. Wives and families were integral in the work scene. Deep water great-lines, baited at sea, involved the home to a lesser extent. Work relating to trawl and seine-net gear was mostly done at sea. Repair of herring drift-nets was carried out in the garret. Coastal salmon fishing was centred on bothies which, as well as being work areas, were home for some families and crew members during the season; perhaps in this instance we should turn our title on its head and state that 'the workplace was also the home'. It is enough to say that the degree of interdependence between trade and home was determined by the type of fishing.

What of the historicity? The dichotomy of fisher and farm folk, so prominent in later years, was hardly in evidence in the eighteenth century when fishing settlements were attempting to gain a toe-hold along the coast. Archaeologists refer to estuary settlements in the pre-Christian era, probably in pursuit of salmon and shellfish. Documented evidence exists of a cluster development at the 'Fishtoun of Doune', now Macduff, in 1440. A clearer picture emerges at the time of *The Statistical Account of Scotland* of the 1790s when there were seventy small villages from the Tay to the Ness². On average there were six boats with a crew of six men operating from each village, making thirty to forty families in all.

Selection of housing sites was crucial. Prime determinants were closeness to the shoreline, and safety of access and egress for small craft. In geophysical terms, the North-East coastline is mainly rocky, interspersed with stretches of sand. Sand was by no means benign. It was useless for house foundations, unsuitable for drying fish and hazardous for boat operation. Thus, sandy bays did not often play host to fishing communities as is seen between Aberdeen and Newburgh, at Lunan Bay, Cruden Bay and the area to the west of Burchhead.

Rocky sites with inlets and shingle beaches were preferred options providing sound foundations and raw materials for the erection of houses and harbours; these were classified according to the profile. Low rocks, submerged at high tide, provided poor shelter. St Combs and Ratray are examples. Medium profile, as seen in the Banff and Macduff areas, was more suitable. Cliff locations provided an option in respect of domestic sites. Where a convenient shelf was available adjacent to the beach, houses were erected in linear fashion, often gable end on to the sea and buttressed against the base of the cliff, as is exemplified at Crovie. In the absence of such a shelf, cliff-top house building was undertaken as is evidenced at Bullers of Buchan. Such sites were very exposed and involved the carrying of fish and gear up a steep cliff face. Many, such as Longhaven, founded in 1696 and abandoned by 1790, did not survive; Portknockie is an example of a cliff-top site that survived, extended and prospered. Many low sites such as Boatlea, Botany and Drumlinie were considered to be inappropriate and were abandoned around 1800.

Safety and suitability were not the only determinants in the siting of fishing villages. Proprietorial influence played a part. At the end of the eighteenth century,

where no fishing village existed within estate boundaries, the laird would set up communities, sometimes inappropriately placed, to establish a presence. There was often insufficient consideration to geophysical characteristics and safety. Some such villages, for example Rattray, which was set up by Mr Harvey of Broadland, and Drumlinie, set up by Mr Ferguson of Pitfour, failed to survive. Lairds veered away from the random disposition favouring the planned format as at Inverallochy and St Combs, both of which survive but are not functional as harbours. A very different situation is seen at Footdee which presents a closed external wall to the outside world as the houses all look inwardly to their little secluded squares. By the beginning of the twentieth century, some fishermen were able to fund the acquisition of houses, often choosing to stay at some distance from the shore and build to their own specifications.



Crovie, looking west. Note the sewers which would discharge into the sea

These, then, were the principal factors in the selection of suitable sites. What of the houses themselves? Externally and internally there were wide regional and district variations. For example the front stair, ground level store, ‘living above the shop’ type of dwelling seen at Ferryden bore little resemblance to those at the seatown at Cullen. The original villages were clusters of thatched cottages with small shuttered windows, constructed of foreshore or field rubble and bonded with clay, so randomised in disposition as to give the impression that they had been dropped out of the sky and allowed to take root wherever they happened to fall. When houses were back to back and gable end to sea, a channel about two feet in width usually separated them. At Macduff this was known as the ‘gless hole’, presumably due to the fact that it provided access to clean and repair windows; strangely it often seemed to be also a repository for broken glass. In Sandhaven, Pittulie, and Broadsea near Fraserburgh, some cottages had a masonry projection

from the gable to facilitate 'redding' of lines. The earthen floor with a supply of fresh sand deposited daily was an asset when it came to cleaning up after line baiting. A step down from outside ground level was common. There were no ceilings. Ropes, nets and drying fish were suspended from the couples. Smoke from a peat fire percolated through a hole in the roof, or via a hanging lum. Rain would seep through the roof. Laundering and drying of fishermen's clothes and the maintenance of basic standards of hygiene were difficult. Where no adjacent clothes drying area was available, women often had to carry the wet clothes to a communal drying area. Outhouses were common in the form of tarred sheds or upturned boats beside or near the cottage. These were used for the storage of gear and the cleaning and smoking of fish. The putrefying by-products of domestic fish processing were in evidence in the ubiquitous adjacent midden heaps; these were often sold to crofters for manure.

Some features of fisher housing in the early twentieth century are well described by nonagenarian former fisherman and historian James Slater of Portsoy, whom the writer interviewed. Delineation of feus was extremely difficult. An area known as the 'drap o' a slate' was usually allowed as an extra beyond the foundations on all sides. In the traditional three bay, single storey house, there were two rooms. One of these, the kitchen or 'kitchie' functioned as a multipurpose sitting room, store room, dining room, cooking area, bedroom, and locus for line baiting and net mending. The earthen floor, clearly remembered, had given way to cement construction with a linoleum covering, scrubbed at the end of each working day. The other room, referred to simply as 'the room', was rarely used except for prestigious visitors and laying out of the deceased. A recess in the small hallway or 'trance' was known as the 'pail hole' where a supply of fresh water carried from the well was kept. In the kitchie the blackleaded fireplace with 'binks' and ovens was in continuous use. Here also was the boxed-in bed with storage space underneath for dry vegetables, hidden from view by a valance. Another similar curtained recess for storage was known as the 'glory hole'. Food was kept in a recessed press.

The advent of the herring boom necessitated a different form of domestic input. A garret for net mending was essential. New buildings in freestone or granite, often with curved quoins, ornate lintels and finials occurred, as did the modification of existing houses with more conscious design features as funds allowed. Some larger houses had loft doors at the gable end with hoists for nets. Others had back stairs to the loft to avoid carrying the nets through the house. Small windows with internal shutters were constructed on the gable end to allow ropes to be pulled in. Lofts were floored but not lined. The exposed couples were ideal fixing points for nets. Working equipment and other utilities were stored in the angle formed at the meeting of the floor and the eaves, known as the 'crap o' the wa'. As late as the 1930s in houses without outside stairs or hoists, which were in the majority, nets still had to be taken in at the front door and carried up the main steep staircase. For several decades at the beginning of the twentieth century

versatility was an imperative. Any one household might well be involved, according to the season, in varying activities relating to herring, small line or seine-net fishing. With the demise of the drift-net herring industry, and the replacement of lines by seine-net, domestic input was drastically scaled down. Net garrets were converted to bedrooms. Dormers replaced cast-iron skylights. Cement floors were replaced by wood. The house was the domicile, but no longer the workplace.

Our title has been validated. It has been demonstrated that in the past, the fisherman's home was inextricably bound up with how he and his family lived, moved, and maintained their existence. 'Adapt or perish' was the unofficial motto. Modes of fishing dictated the type and degree of domestic input. Categorisation of sites as described was common to all areas. There is no neat universally applicable classification of house plans and forms; these varied externally and internally from district to district in sympathy with the terrain and according to resources. The close interplay between home and workplace was to diminish progressively over the years. Our present day fisherman often resides at some distance from the port of operation. The household is no longer involved.

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THE DOOCOTS OF MORAY

Nick Brown

The following paper is an outline of research for a part-time Master of Philosophy research degree course (which is nearing completion of its second year) in association with Robert Gordon's University, Aberdeen.

Dooocots are to be found generally throughout the arable lands of Scotland, and although they all have common denominations, it seems that no two doocots are identical. They are widely thought to be, as in France, associated with 'seigniorial privilege'¹, providing 'fresh food in the days before the development of feeding stuffs made it possible to keep all the livestock in the winter'², but thereafter 'doomed when the turnip and swede were introduced to British agriculture'³.

The district of Moray has a high proportion of surviving doocots - twenty-seven still remain, excluding lofts - which is possibly a reflection of the area's historic wealth and status during the period when Moray was commonly regarded as the 'Granary of the North'. The result is an existing but fragile collection of some of the finest vernacular and architectural structures of their type, very worthy of recording and analysing before external forces erase them further than they have at present. Since the time when Robert Douglas first mentioned Moray doocots in 1931⁴, followed by Dr Niven Robertson in 1958⁵, and then Elizabeth Beaton in 1978⁶, whole doocots appear to have been lost, many have been altered and most have been neglected, in some cases to the point of irretrievable ruin.

The objectives of the study are therefore:

1. to evaluate critically existing theories about doocots in general;
2. to place the existing doocots of Moray in a historical, social and architectural context;
3. to identify common design details, particularly those relating to pigeon ecology;
4. to develop a technical understanding of the construction techniques, structural mechanics, materials and design details;
5. to encourage owners to execute physical repair work;
6. to produce an archive.

In order to achieve these aims, the study is hinged around an analysis of data compiled from (a) fieldwork and (b) a literature search, culminating in a catalogue of all the doocots in the area.

The entry for each doocot in the catalogue will contain a scale location and siting map, plans, sections, elevations, photographic prints, a site analysis sheet and site sketches. There will also be a written exposition based on site findings, previous writings and a search of local material such as kitchen and farm accounts, maps, wills, letters, diaries, statistical accounts, newspapers, paintings, annals, agricultural reviews and Kirk Session records.

Analysis of each doocot will take place within the background of related studies in architecture, history and ornithology, hopefully leading to the establishment of original form, construction date and bird sub-species where not already known. If sufficient background can be ascertained, it is presupposed that an assertion of purpose can be made for each structure.

Written work on doocots by both amateur and professional enthusiasts has documented them reasonably well, but with no disrespect meant to previous authors, the scope for research is unlikely to have been exhausted. The International Council on Monuments and Sites (ICOMOS) states that there are 'no better means of understanding a building than the preparation of a full record survey'⁷. Therefore it is hoped that the catalogue section will be a valuable exercise in its own right.

Professor Alexander Fenton once said in conversation that doocots are an index of the local vernacular. In Moray, the existing structures span a period from the mid to late sixteenth century to the mid nineteenth century, and in today's age of rapid change, these curious but redundant decaying landmarks are greatly valued by those for whom their familiarity confirms a sense of place, individuality and continuity with the past.

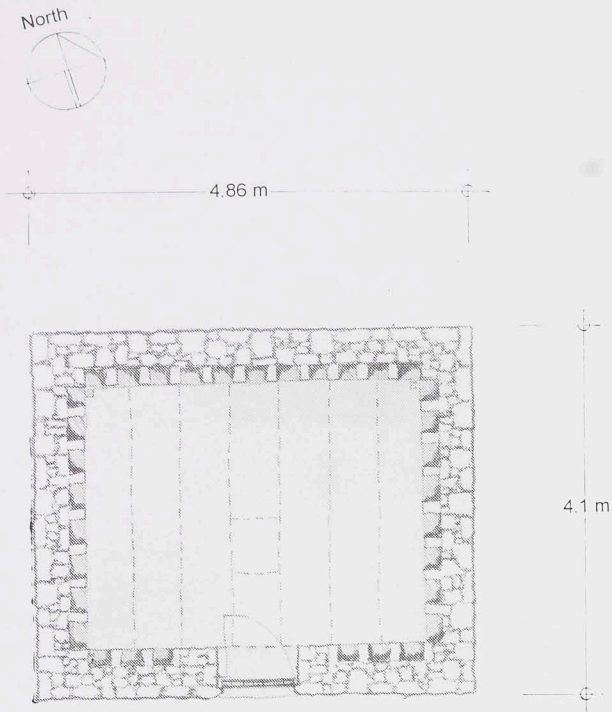
This study therefore seeks to increase the understanding of the structures whilst they still remain.

Knockando Doocot

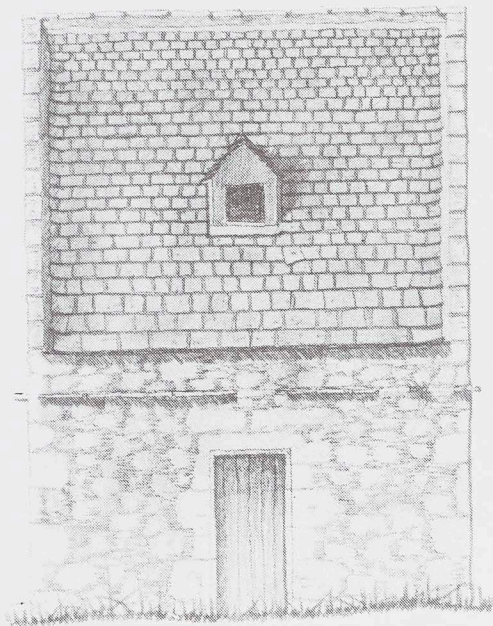
Typical example of the lean-to doocot design which was fashionable throughout Scotland during from the early seventeenth century until the mid eighteenth century (possibly as a result of French influence).

Sited approximately 120 metres to the east of the eighteenth century Knockando House, it sits on a hillside overlooking the Spey valley and contains approximately four hundred boxes, some of which are blocked up. Re-roofing and cement concrete repairs carried out during the early part of the twentieth century have perhaps contributed to a slight loss of original form and finish, but otherwise this doocot retains much of its dignity and integrity.

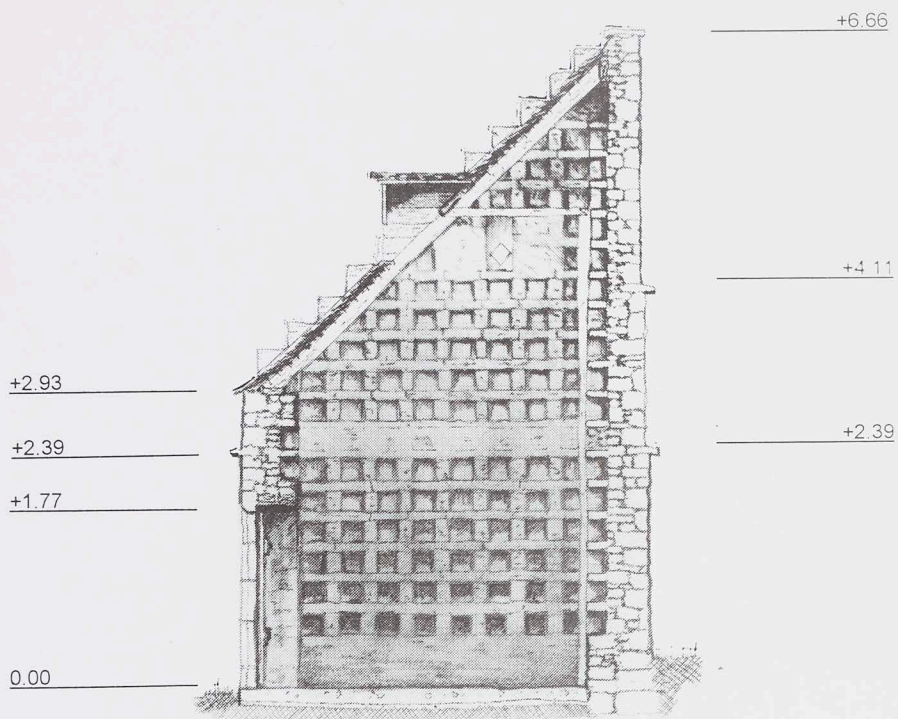
Illustrations of Knockando Doocot



Plan



South elevation



Cross section

Nick Brown would be interested to hear from any readers with information on the doocots of Moray, and can be contacted at Ellyside Cottage, Lintmill, Cullen, AB56 2XP.

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2. D.C. Bailey and M.C. Tindall, 'Dovecotes of East Lothian', *Transactions of the Ancient Monuments Society*, New Series 11, 1963, pp.23-52, (p.23).
3. Cooke, p.33.
4. Robert Douglas, *The Dovecotes of Moray*, Elgin, 1931.
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ST KILDA EXPLORED

Meg Buchanan

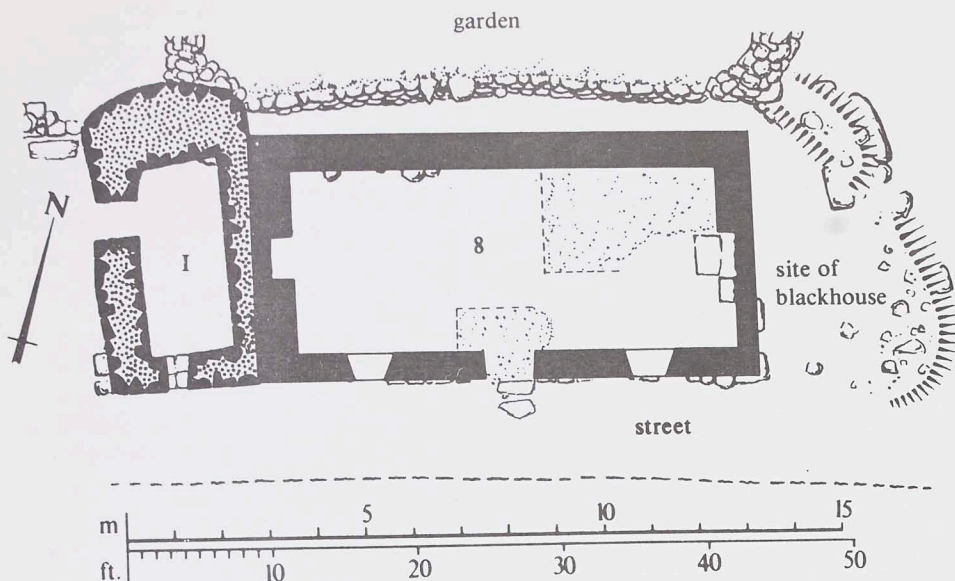
The St Kilda archipelago, sixty-four kilometres west of the outer Hebridean chain, has much to interest the student of vernacular buildings. The islands contain one of the most concentrated groups of vernacular buildings in Britain with remains dating from prehistoric times to the 1930s. They record the life of a small population of farmers, fowlers and fishermen, which was eventually evacuated in 1930.

The dwelling houses, estate buildings, enclosures and storage cleitean present a daunting assemblage, difficult to unscramble. Mary Harman began a systematic attempt to do so in the 1970s. In 1983 the National Trust for Scotland, owners of St Kilda, invited the RCAHMS, in association with Mary Harman, to complete a survey of the Village and some outlying areas. This culminated in the publication of *Buildings of St Kilda* in 1988. The Commission's work formed a basis for future conservation and archaeological investigation in the islands. From 1986 to 1990 the Department of Archaeology, Durham University, excavated two of the houses, a blackhouse and a corn-drying kiln. Since 1991 the Department of Archaeology, Glasgow University, has continued survey work and excavation, particularly on structures and cultivation remains at An lag bho 'n Tuath and Ruaival.

Alongside this work of particular interest to *Vernacular Building* readers has been the long-term study of St Kilda's important seabird colonies, under the auspices of Scottish Natural Heritage, and of the primitive Soay sheep by Cambridge University.

In Glasgow Museums we hold our own and the National Trust for Scotland's St Kilda collections. In 1980, to commemorate the fiftieth anniversary of the evacuation, we held a conventional historical exhibition on St Kilda which aroused great interest. In 1995-96 we are attempting something much more difficult, but potentially very rewarding. The aim is to tell the story of St Kilda since the evacuation through the work of the scientific and conservation bodies. Such a story is not told with artefacts with immediate visual appeal. Some of the concepts are difficult for the general visitor to grasp. To engage his attention and encourage his understanding, we will involve him in the process of investigation, not just the end results.

Of particular interest to *VB* readers will be our full size reproduction of House 8, one of the houses built in the 1860s. One half is shown roofless, as it was in 1938 when visited by Robert Atkinson. The other half is in plan. With the assistance of RCAHMS we are setting up a plane table for visitors to measure the house and learn simple principles of surveying. Plans and drawings will relate to the three-dimensional reconstruction and help people to understand the connection between this and the drawings.



Plan of House 8, 1986 (Crown Copyright: RCAHMS)

Other activities include a simple simulated excavation based on Durham University's excavation of House 8. Brief leaflets on survey techniques, buildings and archaeology can be picked up in the exhibition and taken home.

At workstations visitors can look at samples of building materials from the islands, sift through archaeological samples and access a variety of source material to build up a picture of island life. The multi-disciplinary theme of the exhibition is reinforced by cross-referencing to workstations on birds, marine life and mammals.

The exhibition is aimed at the general public and school parties, but we hope it will also provide something of interest to the specialist. We hope SVBWG members will visit and enjoy the exhibition. We would value your comments on its success, and how we might improve it.

St Kilda Explored runs from 20 October 1995 to 25 August 1996. Admission free.

BOOK REVIEWS

Flitting the Flakes: The Diary of J. Badenach, a Stonehaven Farmer 1789-1797.

Ed. by Mowbray Pearson. (In Our Own Words). Edinburgh. Aberdeen University Press and the National Museums of Scotland. 1992. viii + 325pp. now £9.00.

ISBN 1 85752 008 4.

At Brechin with Stirks: A Farm Cash Book from Buskhead, Glenesk, Angus 1885-1898.

Ed. by Alexander Fenton. (Sources in Local History 1). Edinburgh. Canongate Academic in association with the European Ethnological Research Centre and the National Museums of Scotland. 1994. viii + 95pp. £14.99.

ISBN 1 898 410 09 7.

More Frost and Snow: The Diary of Janet Burnet 1758-1795.

Ed. by Mowbray Pearson. (Sources in Local History 2). Edinburgh.. Canongate Academic in association with the European Ethnological Research Centre and the National Museums of Scotland. 1994. viii + 127pp. £14.99.

ISBN 1 898 410 08 9.

A Salmon for the Schoolhouse: From the Diaries of Robert and Elsie Thomson.

Ed. by John Love and Brenda McMullen. (Sources in Local History 3). Edinburgh. Canongate Academic in association with the European Ethnological Research Centre and the National Museums of Scotland. 1994. xi + 160pp. £8.99.

ISBN 1 898 410 19 4.

Copies may be obtained from Dorothy Slee, EERC, c/o National Museums of Scotland, York Buildings, Queen Street, Edinburgh, EH2 1JD.

These four books are enlightening complements to the study of vernacular buildings in that they are about the lives of the people who built, inhabited and used the structures which we observe. They are of the same series (In Our Own Words became Sources in Local History), and they deal with the factors that shaped and affected these buildings - the elements, the cost and availability of materials, farming practices and the fortunes of their inhabitants.

Flitting the Flakes is the story of James Badenach, who farmed in Kincardineshire from 1776 to 1797. The diary itself covers the period from 1789 to 1797, and is in the archives of Glenbervie House. Mowbray Pearson has analysed the diary's contents, producing a thematic introduction with emphasis on subjects including climate, agricultural practices, and building and reconstruction. Graphs and tables are used to illustrate the points made. The original form of the writing of the diary has been retained, and there is a useful glossary; the diary's

title refers to moving temporary sheep and cattle pens. The human aspect of the diary often has a poignant immediacy; three weeks before the final entry on 25 November 1797, an entry states 'self Indisposed'. There are references throughout the diary to the farm buildings, with descriptions of journeys to Montrose and Flemington for wood and slates, including the bringing from Flemington of 2688 slates on twenty-seven carts in August 1789. In July 1791 specially designed pigeon holes were brought from Flemington for the new pigeon house. The demolition of old byres is described, followed by the use of the waste material for the foundations of their replacements. The community spirit of the area features when over the period from May to October 1793, a bridge was built across the River Bervie with the assistance of the neighbours. Through other entries one may also gauge the speed of work in such projects as canal digging and roof stripping.

There is similar empathy with the builders and inhabitants of vernacular buildings in *At Brechin with Stirks*, which presents a cash book compiled by Archibald Stewart for his farm in Glenesk from 1885 to 1898. Alexander Fenton's analysis demonstrates how the bare bones of ingoings and outgoings may be fleshed out into a story of people's lives, wages and deaths; the practices and forms of agriculture; and the construction of buildings. Through payment for materials and the hire of men, a picture may be built up of the construction, furnishing and maintenance of a farm house and its working buildings. Alongside payments for wall plastering in November 1889 is one for 11/8 to a paperhanger, which shows that the best room would have had a superior wall covering. Payments for fire insurance show that care was taken of the buildings. Other entries relate to farming structures; the purchase of wire and larch posts, and the hire of a man for dyke building tell of temporary field divisions. The introductory analysis also contains useful percentage comparisons of expenditure, showing how a typical farmer would have used his income.

Two other books in the Sources in Local History series show different aspects of rural life. *More Frost and Snow* is the diary for the years 1758 to 1795 of Janet Burnet of Kenmay and Disblair in Aberdeenshire. She was particularly interested in the weather, and her account shows its effects, both good and bad, on the farm and garden crops over the period. Also mentioned is the filling of the ice house on occasions. Again there is analysis by Mowbray Pearson.

A Salmon for the Schoolhouse comprises the diaries of Robert and Elsie Thomson, who lived in the parish of Ardclach, Nairnshire from 1874 to 1900. Although this book is more concerned with the lives and teachings of the family, it contains descriptions of farms analysis of beekeeping and tenantry procedures, and, in an essay by Robert Thomson quoted as an appendix, details of water and drainage systems.

Veronica Steele

Contributors

Malcolm Bangor-Jones is a civil servant at The Scottish Office. He is engaged in research on various aspects of Highland economic and social history.

Elizabeth Beaton is a retired Assistant Inspector of Historic Buildings and is Chairman of SVBWG. She has published *Ross and Cromarty* and *Sutherland* in the RIAS Illustrated Architectural Guide series.

Nick Brown studied at Scott Sutherland School of Architecture. Having worked in private architectural practises, he now works with Moray District Council as a Senior Planner in the Conservation Section.

Meg Buchanan is a curator in the History Department of Glasgow Museums, and is responsible for the St Kilda collection. Her publications include *St Kilda: A Photographic Album*.

Robin Callander, a retired CA, obtained a Glasgow University Certificate in Field Archaeology in the early 1980s and has been involved in archaeological field survey for many years.

William Hossack is the son of a fisherman from MacDuff. He practised medicine in the Banff and MacDuff area. For over thirty years he has been interested in the history of fishing communities.

William Howard is ex-RAF, and now a commercial pilot. He has a long standing interest in history.

David L. Roberts lectured in architectural history and painting. His main research subject is the Elizabethan architect, John Thorpe. He now has an art gallery on Skye, and paints.

Veronica Steele works in the National Monuments Record of Scotland.

Geoffrey Stell is head of Architecture at the Royal Commission on the Ancient and Historical Monuments of Scotland. He was founder-Secretary and Chairman of SVBWG. His publications include, as co-author *Buildings of St Kilda*, and as co-editor, *Materials and Traditions in Scottish Building*.

SCOTTISH VERNACULAR BUILDINGS WORKING GROUP

The Scottish Vernacular Buildings Working Group was set up in 1972 to provide a focus for all those interested in the traditional buildings of Scotland.

To some, Scottish 'vernacular' may mean cottages, croft-houses and farmsteads; to others, its essence may be to urban tenements and terraces, industrial watermills and smithies, or even the older traditions of tower-house buildings. All - and more besides - find a place within SVBWG.

The Group embraces those whose interests are centred on general settlement social patterns, as well as those who have a specialised interest in building function, or in traditional building trades and crafts. The subject brings together architects, surveyors, archaeologists, historians, geographers, ethnologists, and above all, those who simply want to know how and why the traditional buildings of Scotland have such variety and character. The Group thrives on this refreshing blend of interest and attitudes, all of which are quite clearly evident in its activities.

Members of the Group are invited to attend annual conferences held at different venues in Scotland each year. The 23rd Conference was held in the spring of 1995 on the Isle of Bute, and the autumn meeting was based in Cullen.

The Group's publications include *Vernacular Building*, an annual miscellany of articles issued free to members and to which members and interested readers are invited to contribute.

Annual subscription rates 1995-1996

Ordinary membership (UK only)	£10
Ordinary membership (outside UK)	£15
Joint membership (one copy <i>Vernacular Building</i> journal annually)	£15
Corporate membership	£15
Student membership	£5

For membership application forms and details of publications, please contact:

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